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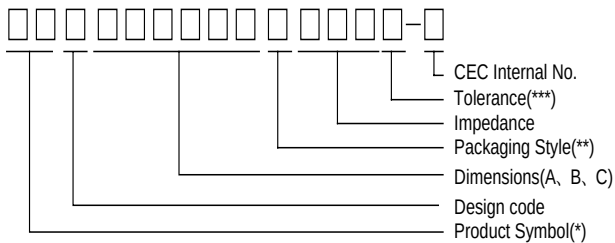
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MULTILAYER FERRITE CHIP BEADS

CLS offers hundreds of multi-layered ferrite chip beads with various sizes, frequency characteristics, and a board range of impedance values to provide a powerful solutions for EMI problems.

Three formulas of ferrite comprise several types of EMI suppression chip beads that are classified into six categories- SB, GB, PB, UP, NB and BA series.

Product Identification

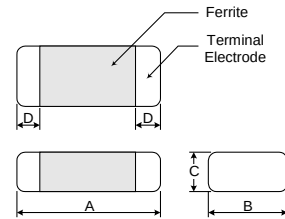


* SB, PB, UP, NB, GB

** T : Tape and Reel ; B : Bulk

*** Y = $\pm 25\%$ M = $\pm 20\%$

Shapes and Dimensions



Dimensions in mm

TYPE	A	B	C	D
①B100505	1.0 $\pm$ 0.15	0.50 $\pm$ 0.15	0.5 $\pm$ 0.15	0.25 $\pm$ 0.15
②B160808	1.6 $\pm$ 0.20	0.80 $\pm$ 0.15	0.8 $\pm$ 0.15	0.3 $\pm$ 0.2
②B201209	2.0 $\pm$ 0.20	1.25 $\pm$ 0.20	0.9 $\pm$ 0.20	0.5 $\pm$ 0.3
②B321611	3.2 $\pm$ 0.20	1.60 $\pm$ 0.20	1.1 $\pm$ 0.20	0.5 $\pm$ 0.3
③B321616	3.2 $\pm$ 0.20	1.60 $\pm$ 0.20	1.6 $\pm$ 0.20	0.5 $\pm$ 0.3
③B322513	3.2 $\pm$ 0.20	2.50 $\pm$ 0.20	1.3 $\pm$ 0.20	0.5 $\pm$ 0.3
④B451616	4.5 $\pm$ 0.25	1.60 $\pm$ 0.20	1.6 $\pm$ 0.20	0.5 $\pm$ 0.3
④B453215	4.5 $\pm$ 0.25	3.20 $\pm$ 0.20	1.5 $\pm$ 0.20	0.5 $\pm$ 0.3

① : S / P / N ② : S / P / U / N / G

③ : S / G ④ : S / P / G

SB series, for general use

Features

- Standard type used to suppress lower-frequency, lower current signals.
- Impedance over a broad frequency range.
- Suitable for flow and reflow soldering
- Available in 8 sizes.

Applications

- I/O ports, DC power lines, and Signal lines
- computer and peripheral products
- consumer electronic products

Electrical Characteristics

Part Number	Test Frequency (MHz)	Impedance ($\Omega \pm 25\%$)	DC Resistance (Ω) max.	Rated current (mA) max.
SBY100505T-060Y-S	100	6	0.05	500
SBY100505T-100Y-S	100	10	0.05	500
SBY100505T-400Y-S	100	40	0.30	300
SBY100505T-800Y-S	100	80	0.40	200
SBY100505T-121Y-S	100	120	0.50	200
SBY100505T-241Y-S	100	240	0.50	200
SBY100505T-481Y-S	100	480	0.80	100
SBY100505T-601Y-S	100	600	1.00	100

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Electrical Characteristics

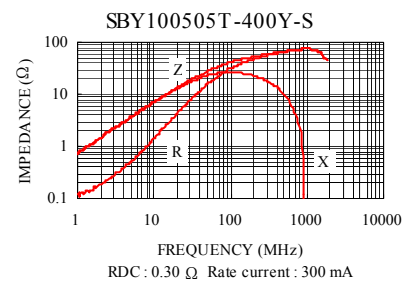
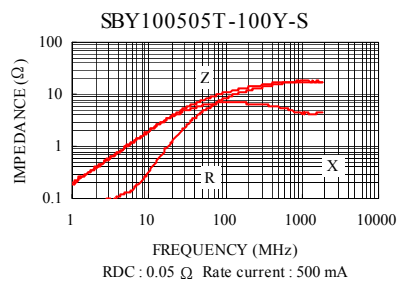
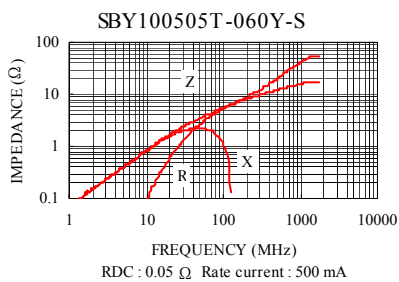
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SBK160808T-110Y-S	100	11	0.05	500
SBK160808T-190Y-S	100	19	0.08	500
SBK160808T-300Y-S	100	30	0.10	400
SBK160808T-400Y-S	100	40	0.10	400
SBK160808T-600Y-S	100	60	0.10	300
SBK160808T-800Y-S	100	80	0.15	300
SBK160808T-121Y-S	100	120	0.25	300
SBK160808T-221Y-S	100	220	0.30	200
SBK160808T-301Y-S	100	300	0.40	200
SBK160808T-451Y-S	100	450	0.50	200
SBK160808T-601Y-S	100	600	0.50	200
SBK160808T-751Y-S	100	750	0.70	200
SBK160808T-102Y-S	100	1000	0.70	200
SBK160808T-152Y-S	100	1500	1.00	50
SBK160808T-222Y-S	100	2200	1.20	50
SBK160808T-272T-S	100	2700	1.30	50
SBY201209T-070Y-S	100	7	0.10	600
SBY201209T-090Y-S	100	9	0.10	600
SBY201209T-110Y-S	100	11	0.10	600
SBY201209T-170Y-S	100	17	0.10	600
SBY201209T-320Y-S	100	32	0.10	600
SBK201209T-600Y-S	100	60	0.15	500
SBK201209T-700Y-S	100	70	0.15	500
SBK201209T-800Y-S	100	80	0.15	500
SBK201209T-121Y-S	100	120	0.25	300
SBK201209T-151Y-S	100	150	0.25	300
SBK201209T-221Y-S	100	220	0.30	300
SBK201209T-301Y-S	100	300	0.30	300
SBK201209T-401Y-S	100	400	0.30	300
SBK201209T-501Y-S	100	500	0.40	300
SBK201209T-601Y-S	100	600	0.40	300
SBK201209T-751Y-S	100	750	0.50	200
SBK201209T-102Y-S	100	1000	0.50	200
SBK201209T-152Y-S	100	1500	0.60	200
SBK201209T-202Y-S	100	2000	0.80	100
SBK201209T-222Y-S	100	2200	1.00	100
SBK201209T-252Y-S	100	2500	1.0	100
SBK201209T-272Y-S	100	2700	1.5	100
SBY321611T-190Y-S	100	19	0.05	600
SBY321611T-260Y-S	100	26	0.05	600
SBY321611T-320Y-S	100	32	0.05	600
SBY321611T-500Y-S	100	50	0.10	500

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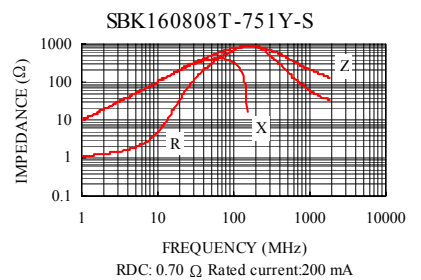
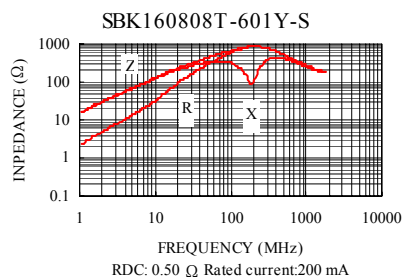
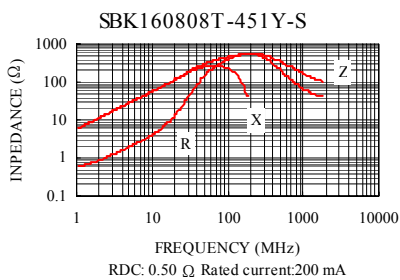
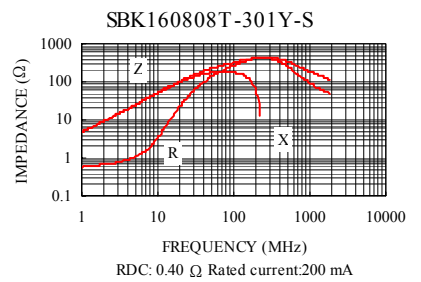
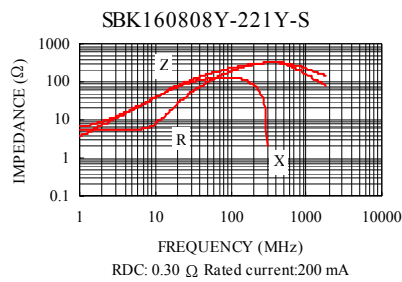
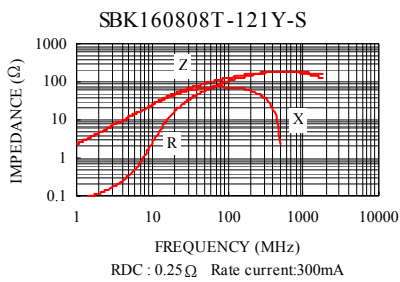
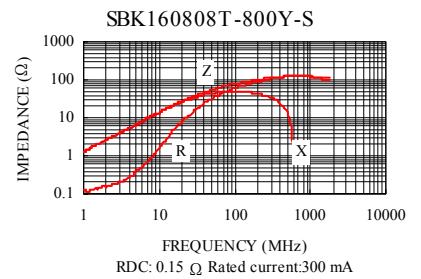
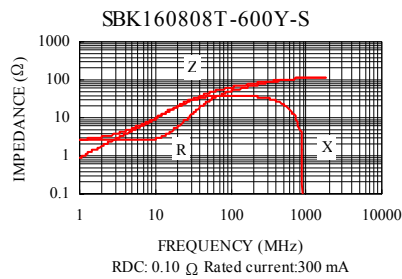
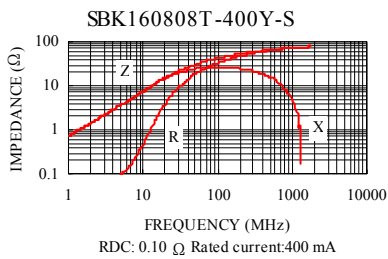
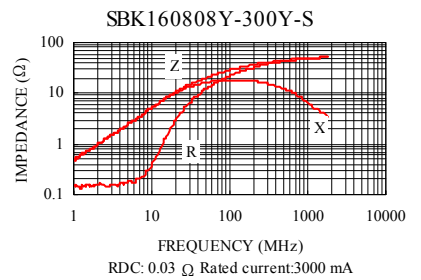
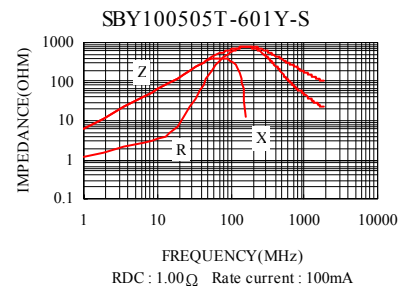
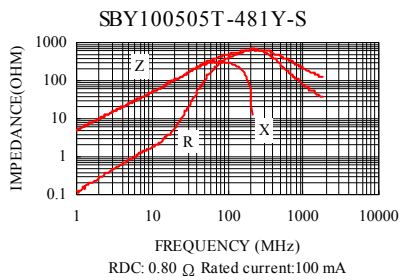
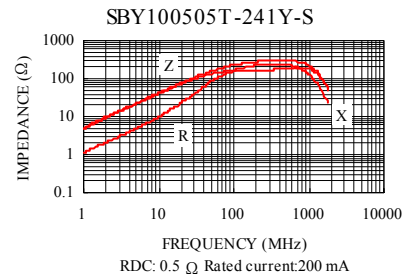
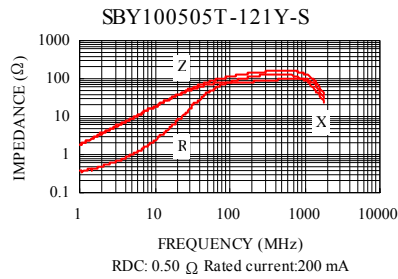
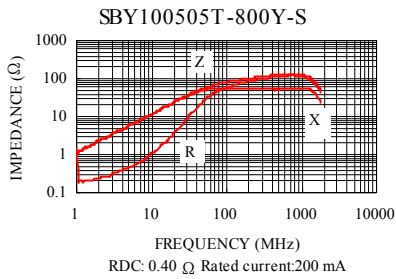
Part Number	Test Frequency (MHz)	Impedance ($\Omega \pm 25\%$)	DC Resistance (Ω) max.	Rated current (mA) max.
SBY321611T-600Y-S	100	60	0.10	500
SBK321611T-700Y-S	100	70	0.10	500
SBK321611T-900Y-S	100	90	0.15	500
SBK321611T-121Y-S	100	120	0.15	500
SBK321611T-151Y-S	100	150	0.15	500
SBK321611T-201Y-S	100	200	0.20	400
SBK321611T-401Y-S	100	400	0.20	400
SBK321611T-501Y-S	100	500	0.20	400
SBK321611T-601Y-S	100	600	0.30	400
SBK321611T-102Y-S	50	1000	0.40	200
SBK321611T-122Y-S	50	1200	0.40	200
SBK321611T-152Y-S	50	1500	0.45	200
SBK321611T-202Y-S	30	2000	0.60	200
SBK321611T-272Y-S	30	2700	0.60	200
SBY321616T-250Y-S	100	25	0.10	500
SBY321616T-600Y-S	100	60	0.20	500
SBK321616T-700Y-S	100	70	0.20	500
SBY322513T-320Y-S	100	32	0.20	500
SBY322513T-600Y-S	100	60	0.20	500
SBY322513T-900Y-S	100	90	0.20	500
SBY451616T-500Y-S	100	50	0.20	600
SBY451616T-600Y-S	100	60	0.20	600
SBY451616T-800Y-S	100	80	0.20	600
SBY451616T-101Y-S	100	100	0.30	500
SBK451616T-151Y-S	100	150	0.30	500
SBK451616T-171Y-S	100	170	0.30	500
SBY453215T-700Y-S	100	70	0.30	500
SBY453215T-121Y-S	100	120	0.30	500

Test Instruments : HP4291A Impedance / Material Analyzer



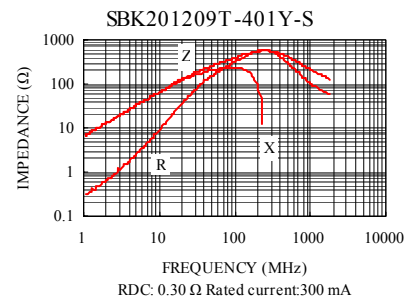
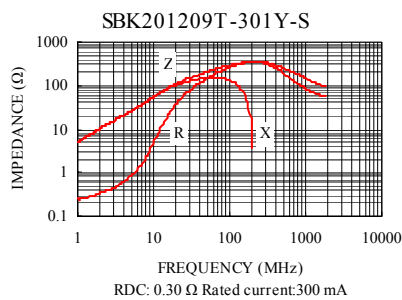
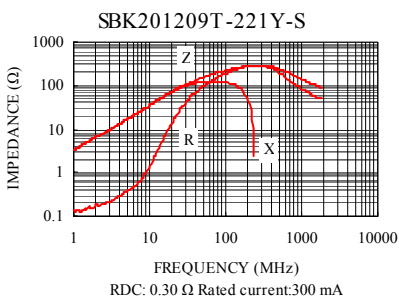
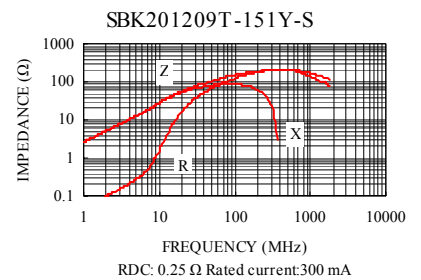
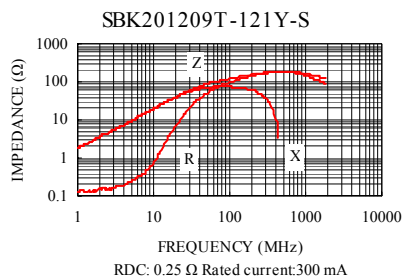
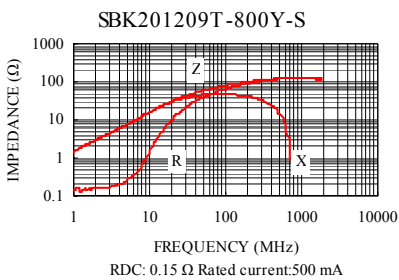
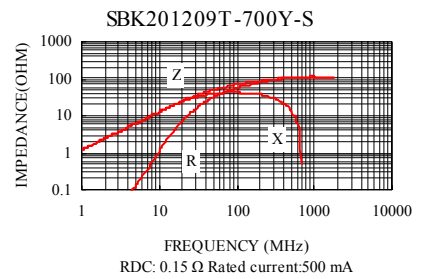
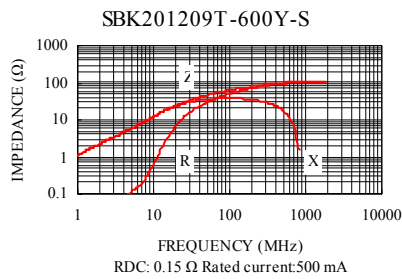
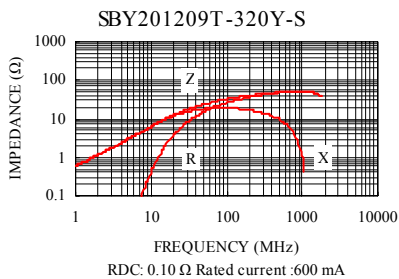
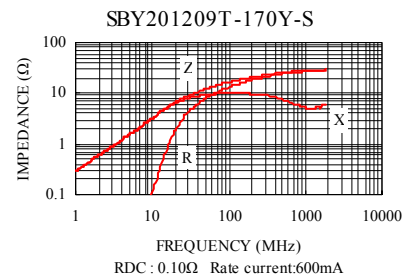
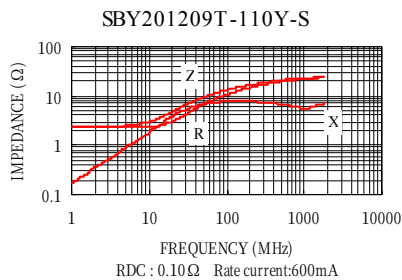
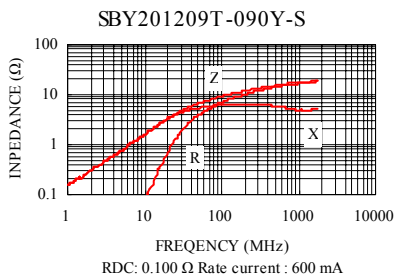
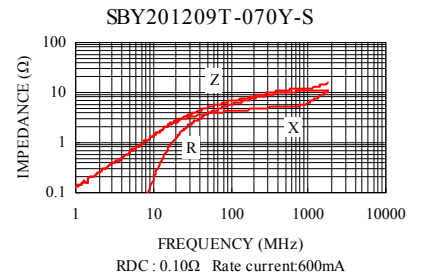
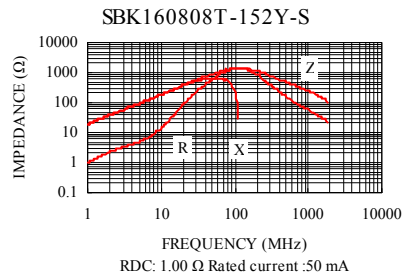
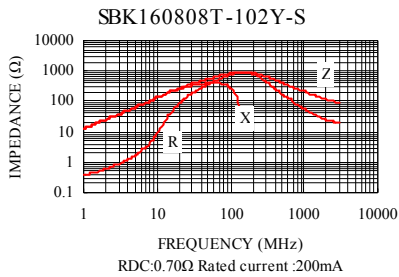
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Test Instruments : HP4291A Impedance / Material Analyzer



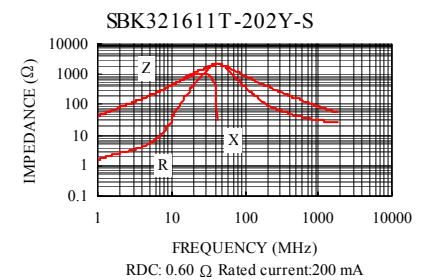
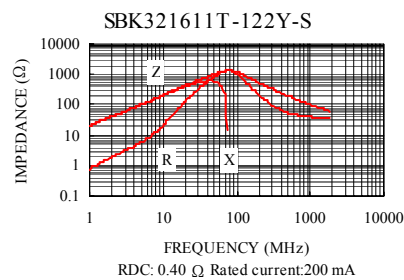
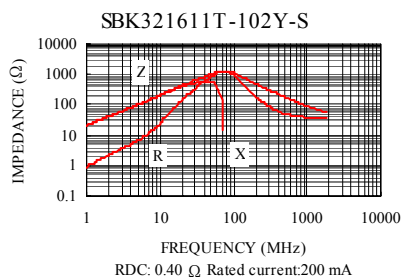
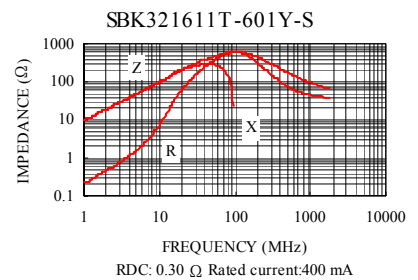
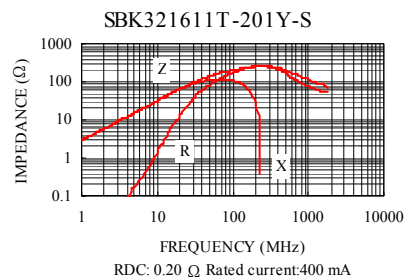
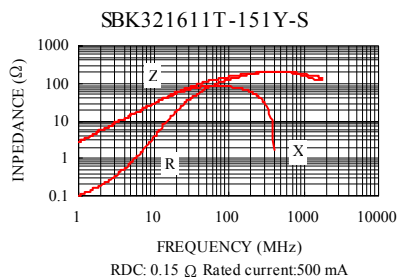
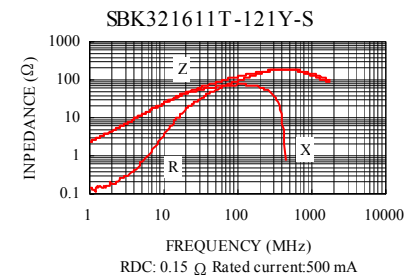
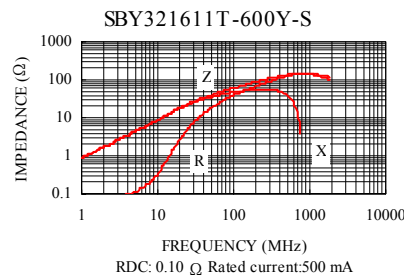
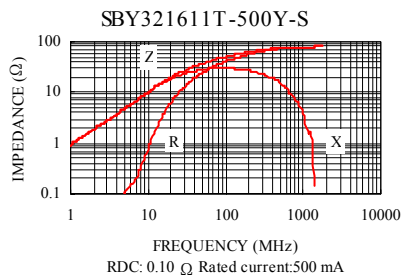
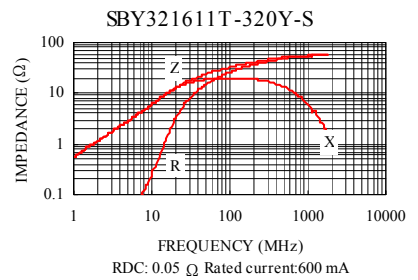
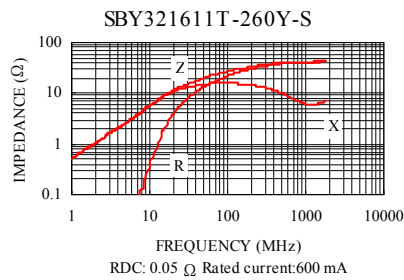
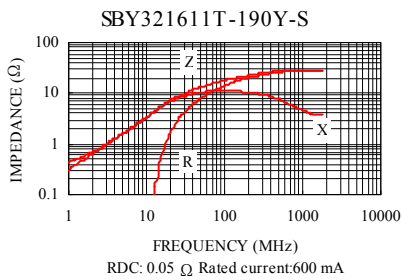
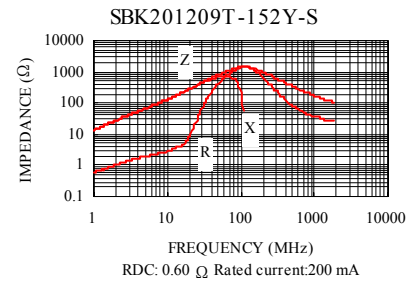
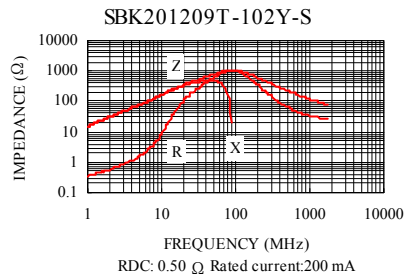
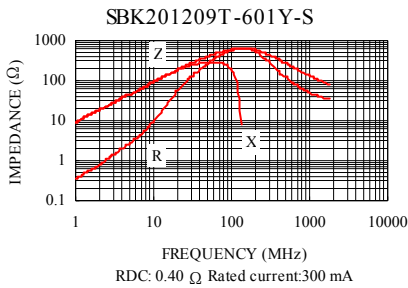
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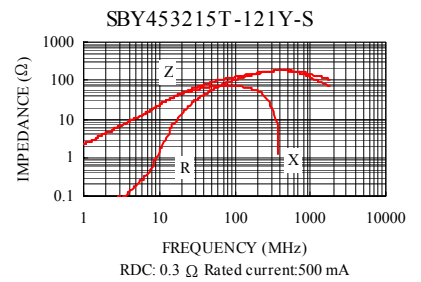
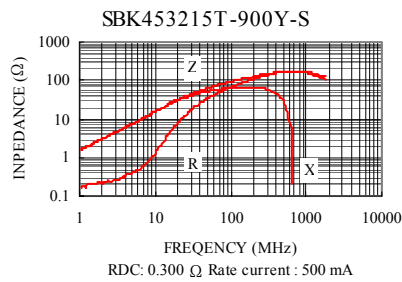
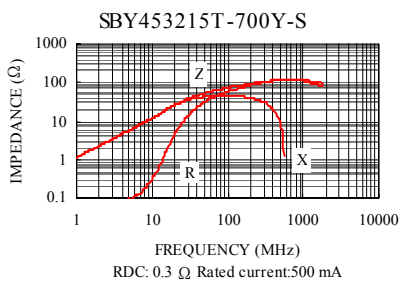
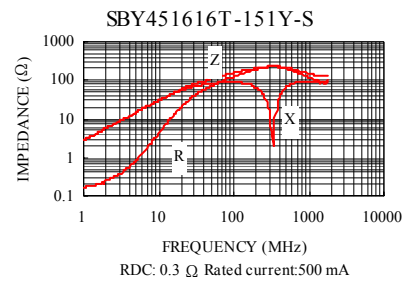
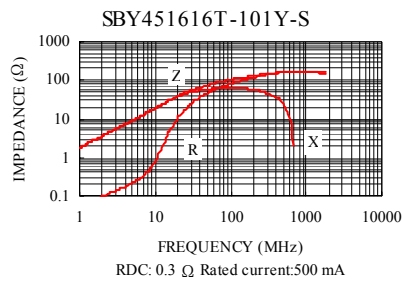
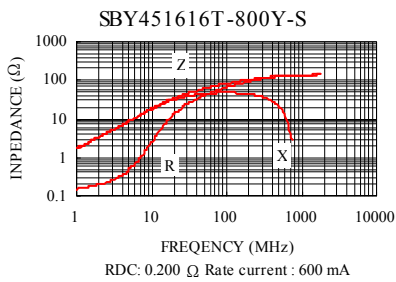
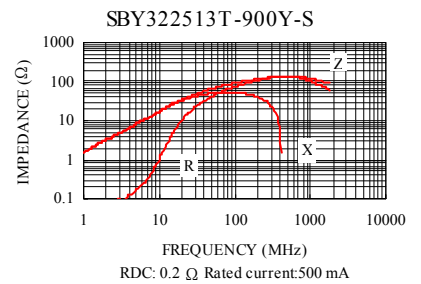
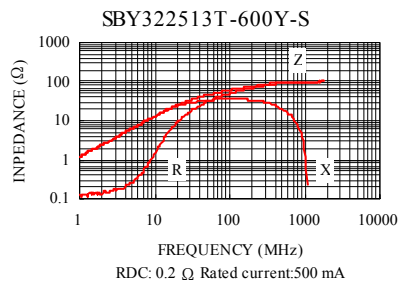
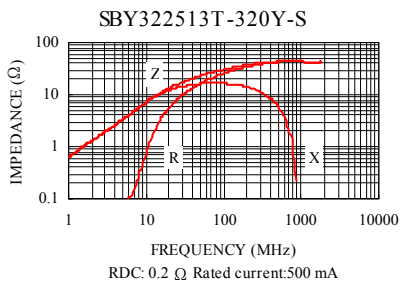
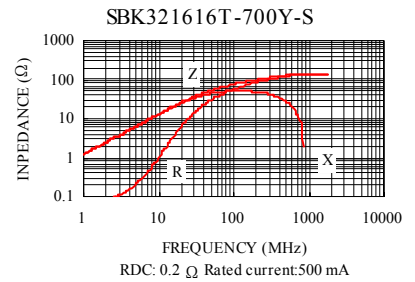
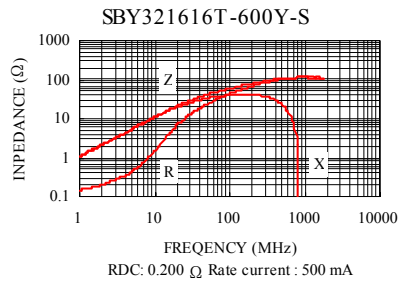
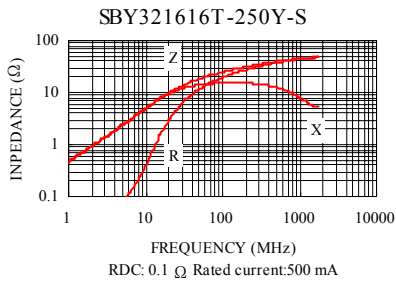
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MULTILAYER FERRITE CHIP BEADS

Test Instruments : HP4291A Impedance / Material Analyzer



MULTILAYER FERRITE CHIP BEADS / GB SERIES

GB series, for mid current use

Features

- This series exhibits a low DC resistance across a wide range of impedances.
- Low DC resistance characteristics make the chip beads suitable for use on signal lines handling larger currents.

Applications

- Computers
- Modems
- CD-ROMs
- Hard Drives
- Televisions
- Wireless Device

Electrical Characteristics

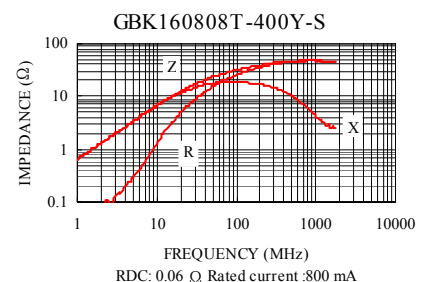
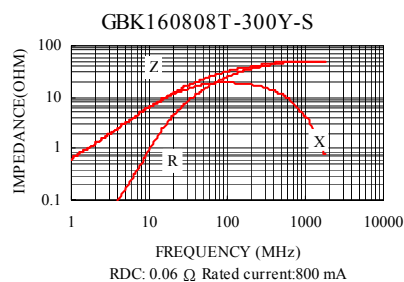
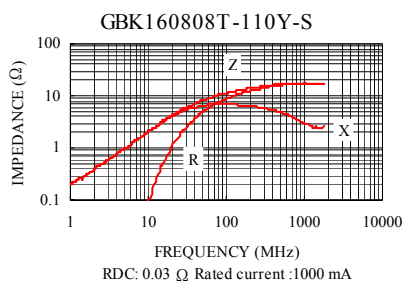
Part Number	Test Frequency (MHz)	Impedance ($\Omega \pm 25\%$)	D.C. Resistance (Ω) max.	Rated current (mA) max.
GBK160808T-110Y-S	100	11	0.03	1000
GBK160808T-190Y-S	100	19	0.05	1000
GBK160808T-300Y-S	100	30	0.06	800
GBK160808T-400Y-S	100	40	0.06	800
GBK160808T-600Y-S	100	60	0.06	600
GBK160808T-800Y-S	100	80	0.10	600
GBK160808T-121Y-S	100	120	0.15	600
GBK160808T-221Y-S	100	220	0.18	400
GBK160808T-301Y-S	100	300	0.25	400
GBK160808T-451Y-S	100	450	0.30	400
GBK160808T-601Y-S	100	600	0.30	400
GBK160808T-751Y-S	100	750	0.45	300
GBK160808T-102Y-S	100	1000	0.45	300
GBY201209T-070Y-S	100	7	0.06	1000
GBY201209T-090Y-S	100	9	0.06	1000
GBY201209T-110Y-S	100	11	0.06	1000
GBY201209T-170Y-S	100	17	0.06	1000
GBY201209T-320Y-S	100	32	0.06	1000
GBK201209T-600Y-S	100	60	0.10	800
GBK201209T-700Y-S	100	70	0.10	800
GBK201209T-800Y-S	100	80	0.10	800
GBK201209T-121Y-S	100	120	0.15	600
GBK201209T-151Y-S	100	150	0.15	600
GBK201209T-221Y-S	100	220	0.18	600
GBK201209T-301Y-S	100	300	0.18	600
GBK201209T-401Y-S	100	400	0.18	600
GBK201209T-501Y-S	100	500	0.25	500
GBK201209T-601Y-S	100	600	0.25	500
GBK201209T-751Y-S	100	750	0.30	400
GBK201209T-102Y-S	100	1000	0.30	400
GBK201209T-152Y-S	100	1500	0.40	300
GBK201209T-202Y-S	100	2000	0.55	200

MULTILAYER FERRITE CHIP BEADS / GB SERIES

Electrical Characteristics

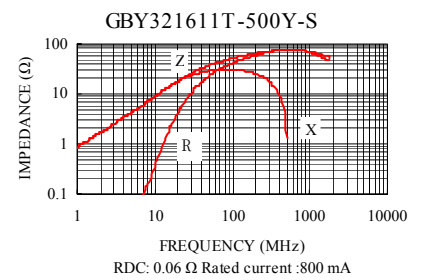
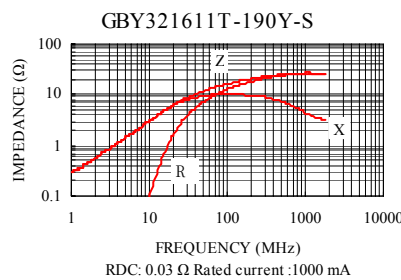
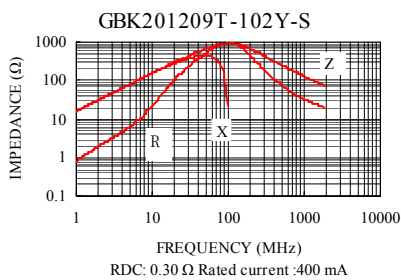
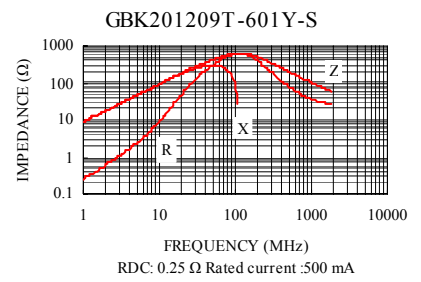
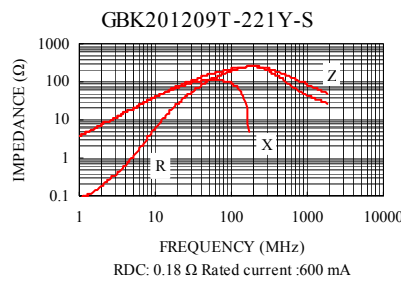
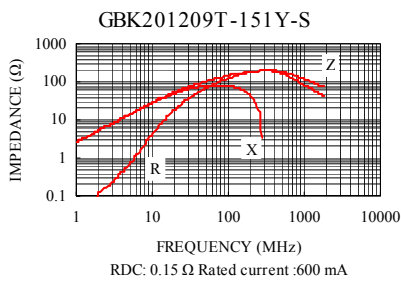
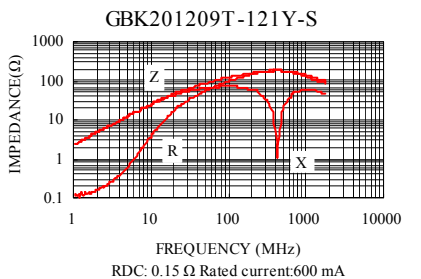
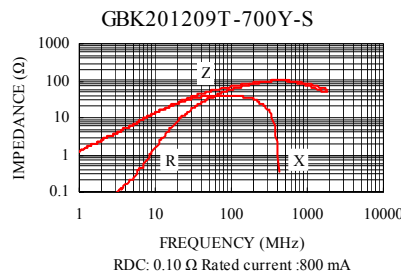
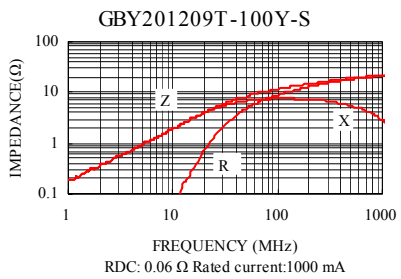
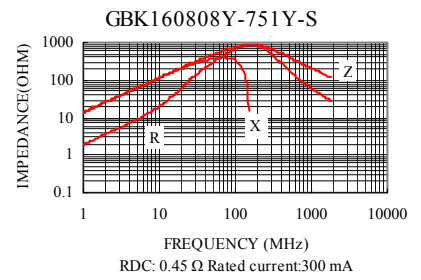
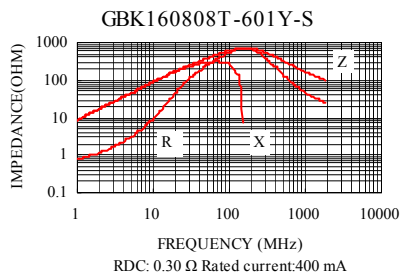
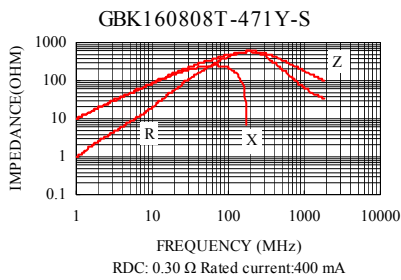
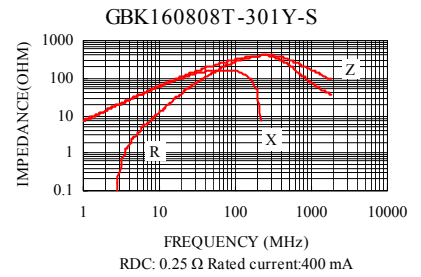
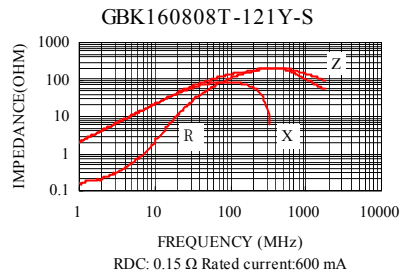
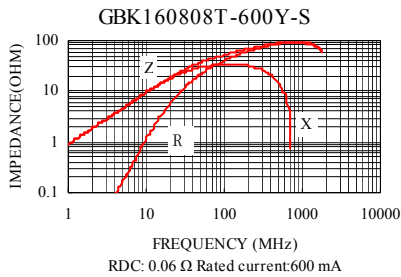
Part Number	Test Frequency (MHz)	Impedance ($\Omega \pm 25\%$)	D.C. Resistance (Ω) max.	Rated current (mA) max.
GBY321611T-190Y-S	100	19	0.03	1000
GBY321611T-260Y-S	100	26	0.03	1000
GBY321611T-320Y-S	100	32	0.03	1000
GBY321611T-500Y-S	100	50	0.06	800
GBY321611T-600Y-S	100	60	0.06	800
GBK321611T-700Y-S	100	70	0.06	800
GBK321611T-900Y-S	100	90	0.10	800
GBK321611T-121Y-S	100	120	0.10	800
GBK321611T-151Y-S	100	150	0.10	800
GBK321611T-201Y-S	100	200	0.15	600
GBK321611T-401Y-S	100	400	0.15	600
GBK321611T-501Y-S	100	500	0.15	600
GBK321611T-601Y-S	100	600	0.20	500
GBK321611T-102Y-S	50	1000	0.25	400
GBK321611T-122Y-S	50	1200	0.25	400
GBK321611T-202Y-S	30	2000	0.35	400
GBY321616T-250Y-S	100	25	0.10	1000
GBY321616T-600Y-S	100	60	0.10	1000
GBK321616T-700Y-S	100	70	0.10	1000
GBY322513T-320Y-S	100	32	0.10	1000
GBY322513T-600Y-S	100	60	0.10	1000
GBY322513T-900Y-S	100	90	0.10	1000
GBY451616T-500Y-S	100	50	0.10	1000
GBY451616T-600Y-S	100	60	0.10	1000
GBY451616T-800Y-S	100	80	0.10	1000
GBY451616T-101Y-S	100	100	0.18	800
GBK451616T-151Y-S	100	150	0.18	800
GBK451616T-171Y-S	100	170	0.18	800
GBY453215T-700Y-S	100	70	0.18	800
GBY453215T-121Y-S	100	120	0.18	800

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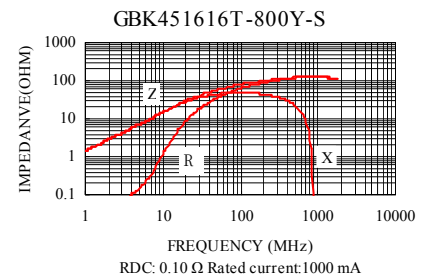
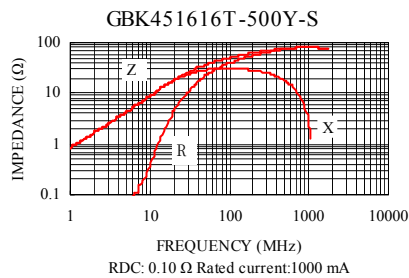
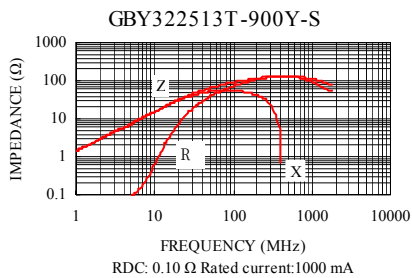
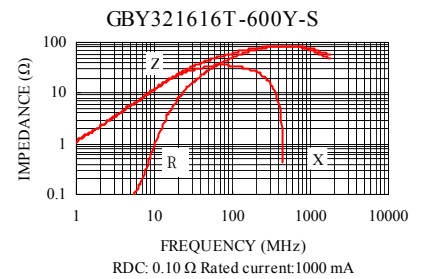
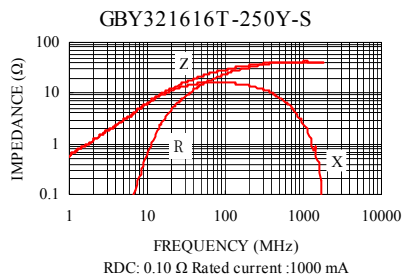
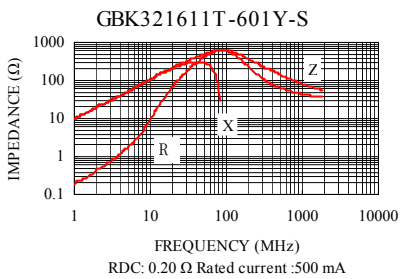
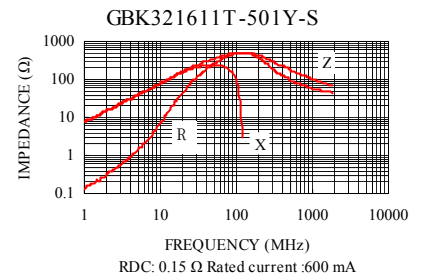
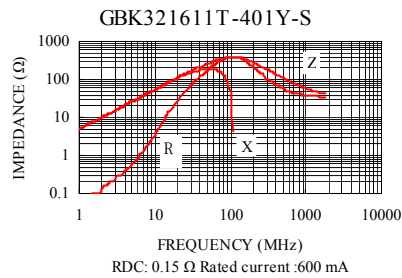
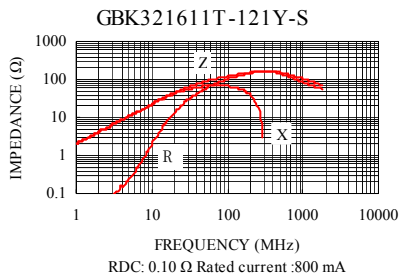
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MULTILAYER FERRITE CHIP BEADS / PB SERIES

PB series, for high current use

Features

- Suitable for high current applications
- Small package size—EIA STD 0402/0603/0805/1206/1806 and 1812
- Nickel barrier terminations provide excellent solder heat resistance
- Current rating up to 6 AMPS (max) (high current handling capacity)
- Low DCR
- Suitable for flow and reflow soldering
- Available in 6 sizes

Applications

- High current DC power lines for USB interface circuitry, personal computers, electronic games, hard disk drives, and other general electronic equipment.

Electrical Characteristics

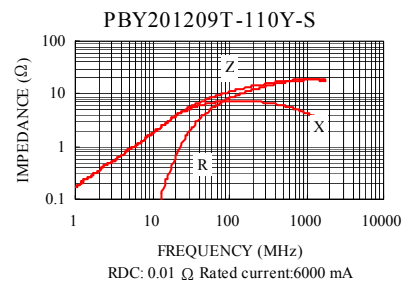
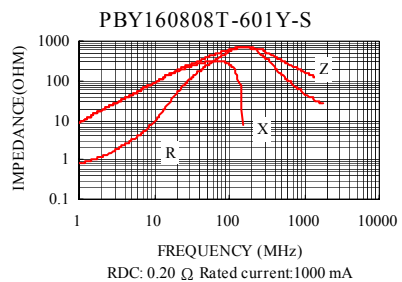
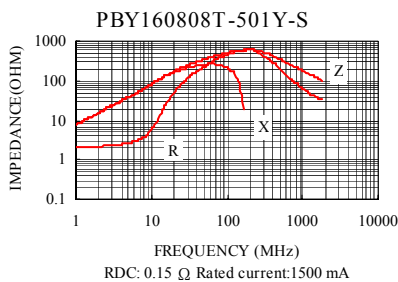
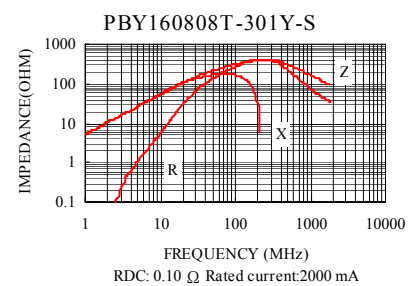
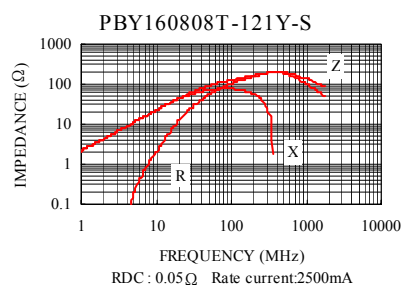
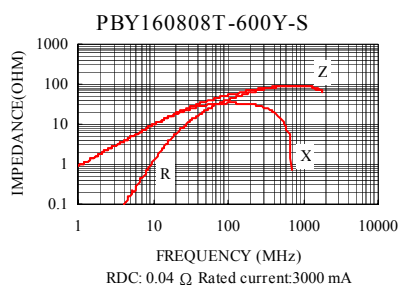
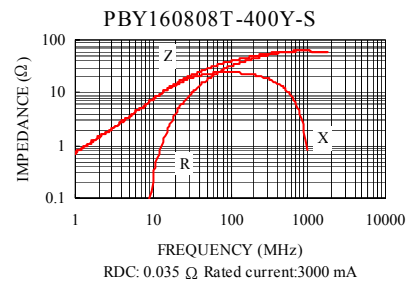
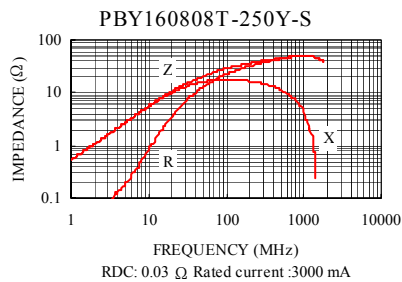
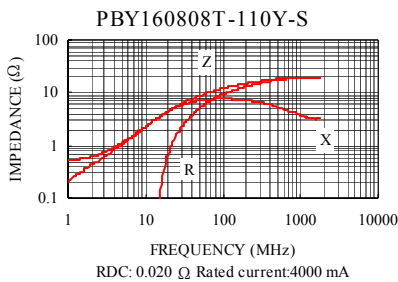
Part Number	Test Frequency (MHz)	Impedance ($\Omega \pm 25\%$)	D.C. Resistance (Ω) max.	Rated current (mA) max.
PBY100505T-100Y-S	100	10	0.03	1000
PBY160808T-110Y-S	100	11	0.02	4000
PBY160808T-250Y-S	100	25	0.03	3000
PBY160808T-400Y-S	100	40	0.035	3000
PBY160808T-600Y-S	100	60	0.04	3000
PBY160808T-121Y-S	100	120	0.08	2500
PBY160808T-301Y-S	100	300	0.10	2000
PBY160808T-501Y-S	100	500	0.15	1500
PBY160808T-601Y-S	100	600	0.20	1000
PBY160808T-102Y-S	100	1000	0.25	800
PBY201209T-110Y-S	100	11	0.01	6000
PBY201209T-170Y-S	100	17	0.02	5000
PBY201209T-300Y-S	100	30	0.02	4000
PBY201209T-500Y-S	100	50	0.025	3000
PBY201209T-600Y-S	100	60	0.03	3000
PBY201209T-800Y-S	100	80	0.04	3000
PBY201209T-121Y-S	100	120	0.04	3000
PBY201209T-201Y-S	100	200	0.05	2500
PBY201209T-301Y-S	100	300	0.08	2000
PBY201209T-601Y-S	100	600	0.10	2000
PBY201209T-102Y-S	100	1000	0.12	1500
PBY321611T-190Y-S	100	19	0.015	6000
PBY321611T-320Y-S	100	32	0.015	4000
PBY321611T-500Y-S	100	50	0.02	4000
PBY321611T-800Y-S	100	80	0.025	3000
PBY321611T-101Y-S	100	100	0.03	2500
PBY321611T-301Y-S	100	300	0.06	2000

MULTILAYER FERRITE CHIP BEADS / PB SERIES

Electrical Characteristics

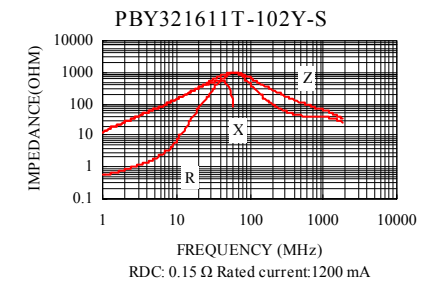
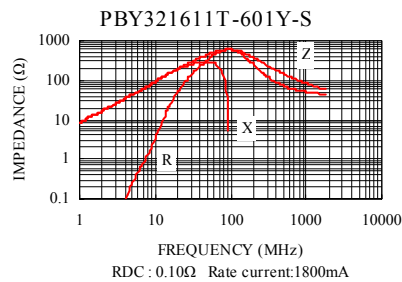
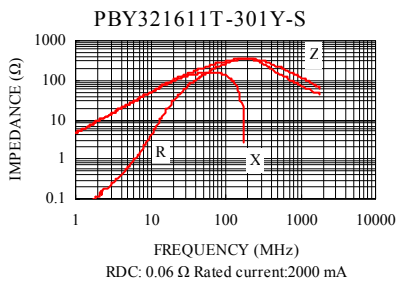
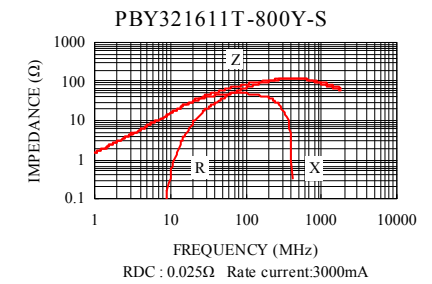
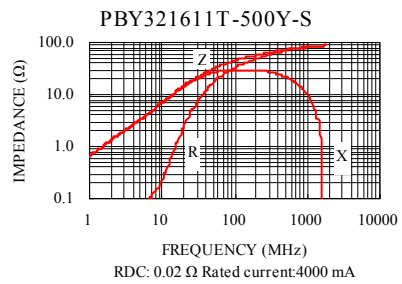
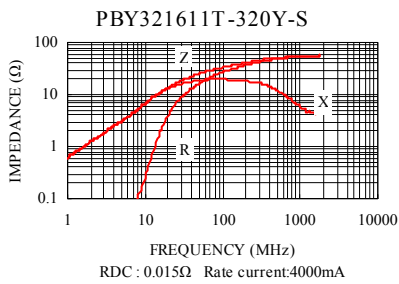
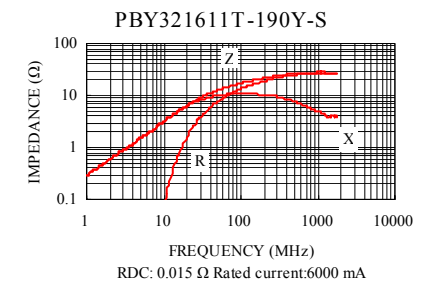
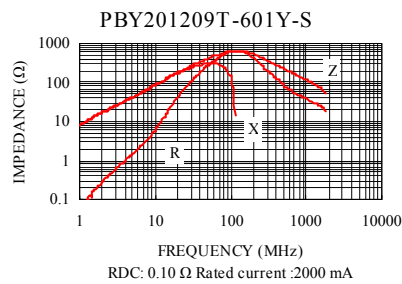
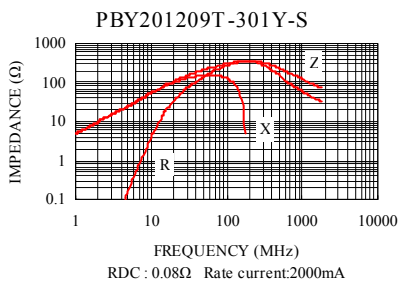
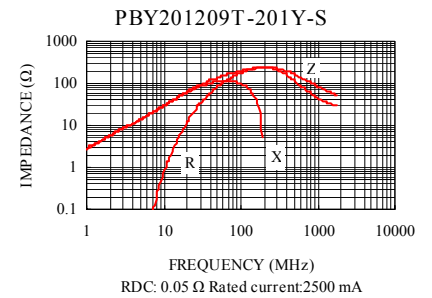
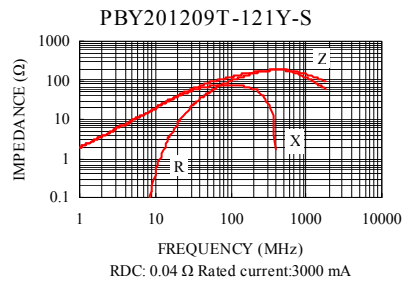
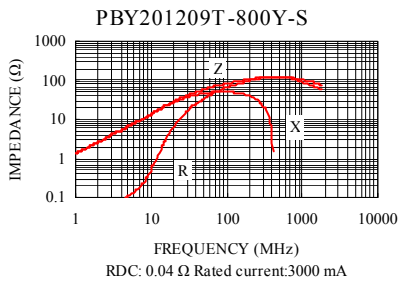
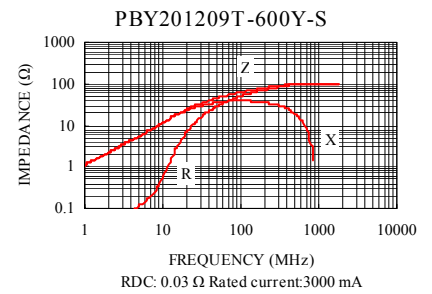
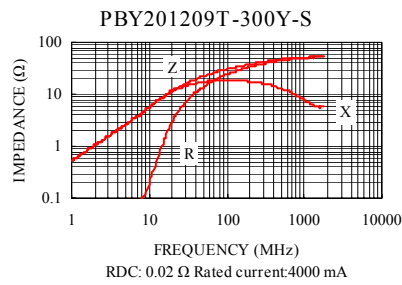
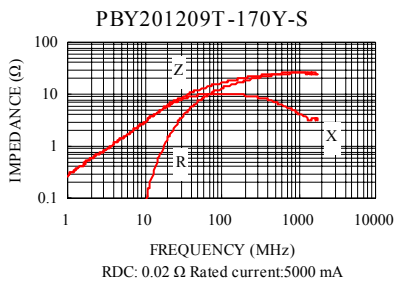
Part Number	Test Frequency (MHz)	Impedance ($\Omega \pm 25\%$)	D.C. Resistance (Ω) max.	Rated current (mA) max.
PBY321611T-601Y-S	100	600	0.10	1800
PBY321611T-102Y-S	50	1000	0.15	1200
PBY321611T-122Y-S	50	1200	0.18	1000
PBY321611T-152Y-S	50	1500	0.20	800
PBY322513T-600Y-S	100	60	0.025	4000
PBY322513T-900Y-S	100	90	0.025	3000
PBY451616T-500Y-S	100	50	0.020	6000
PBY451616T-600Y-S	100	60	0.020	5000
PBY451616T-800Y-S	100	80	0.025	4000
PBY451616T-151Y-S	100	150	0.100	2000
PBY453215T-700Y-S	100	70	0.03	6000
PBY453215T-121Y-S	100	120	0.03	4000

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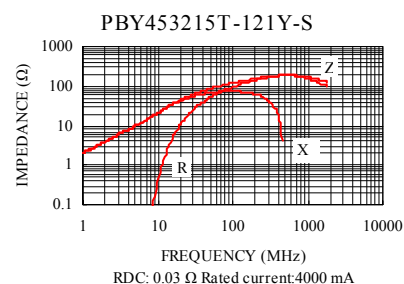
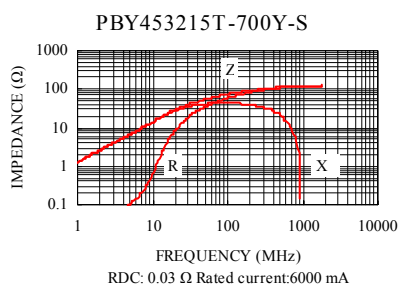
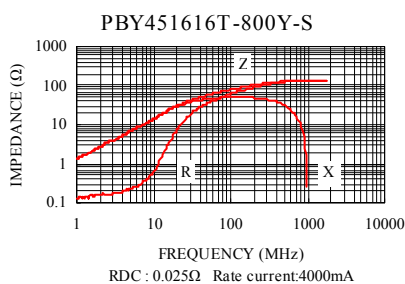
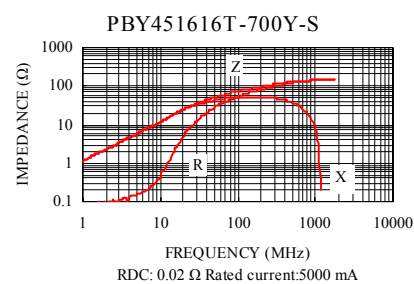
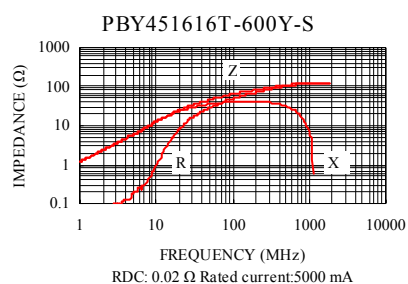
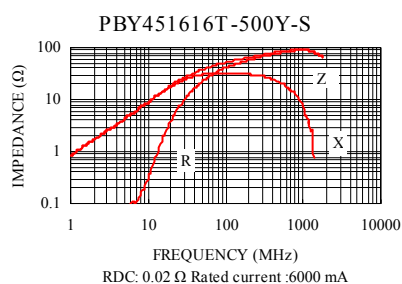
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MULTILAYER FERRITE CHIP BEADS / UPB SERIES

UPB series, for ultra high current use

Features

- High current performance.
- Low D.C. resistance minute mΩ typically.
- Impedance character of broad frequency.

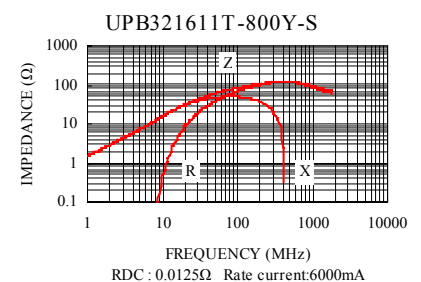
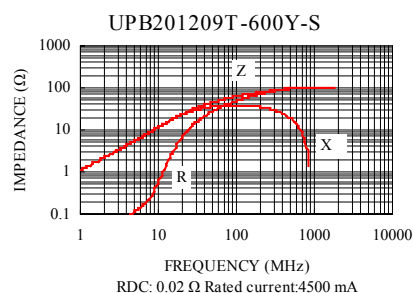
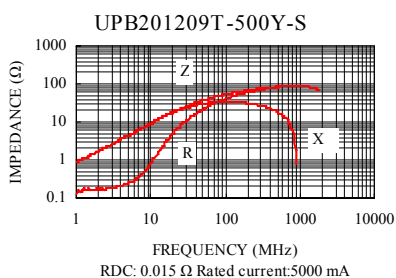
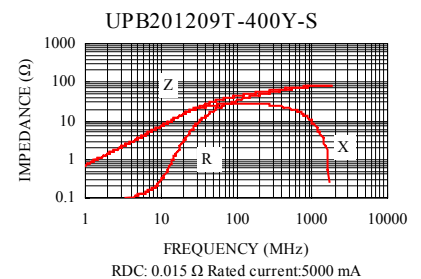
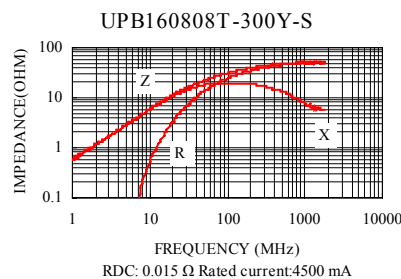
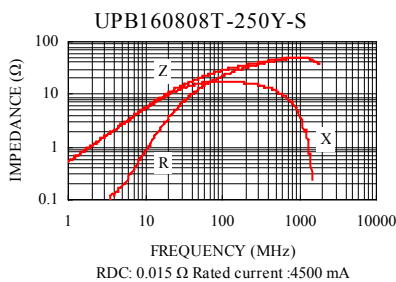
Applications

- Preventing of electronics magnet interference in power line of PC, Printer, & CD ROM.
- High frequency filtering of medium speed clocks and video signals.

Electrical Characteristics

Part Number	Test Frequency (MHz)	Impedance (Ω)	D.C. Resistance (Ω) max.	Rated current (mA) max.
UPB160808T-250Y-S	100	25	0.015	4500
UPB160808T-300Y-S	100	30	0.015	4500
UPB201209T-400Y-S	100	40	0.015	5000
UPB201209T-500Y-S	100	50	0.015	5000
UPB201209T-600Y-S	100	60	0.020	4500
UPB321611T-600Y-S	100	60	0.012	6000
UPB321611T-800Y-S	100	80	0.012	6000
UPB321611T-101Y-S	100	100	0.012	6000
UPB321611T-121Y-S	100	120	0.012	6000
UPB321611T-151Y-S	100	150	0.020	4500

Test Instruments : HP4291A Impedance / Material Analyzer



MULTILAYER FERRITE CHIP BEADS / NB SERIES

NB series, for high speed signals use

Features

- Exhibiting high impedance with sharp increase at high speed signal frequencies with minimal diminishing the desired wave form.
- Suitable for flow and reflow soldering
- Available in 4 sizes

Applications

- High speed circuits for computer & peripheral equipments and communication devices.
- Cellular phone
- Suitable for circuits with unstable ground

Electrical Characteristics

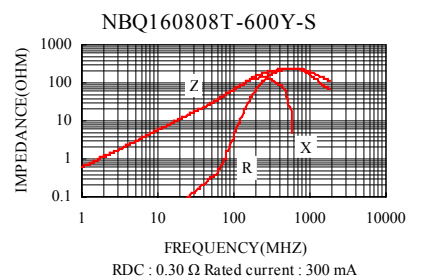
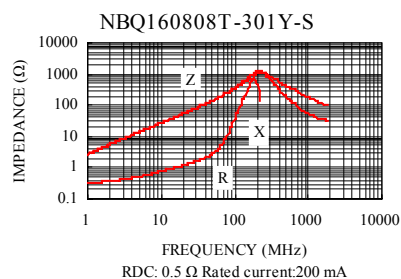
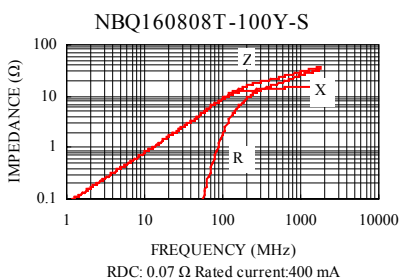
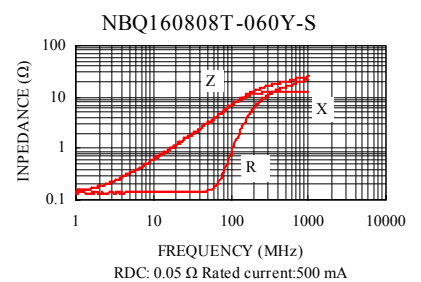
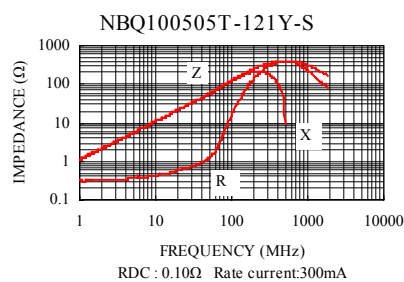
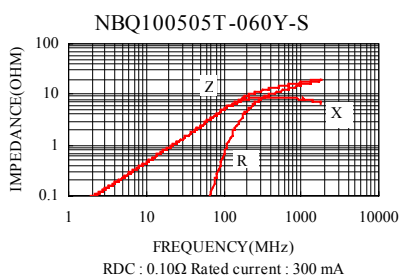
Part Number	Test Frequency (MHz)	Impedance ($\Omega \pm 25\%$)	D.C. Resistance (Ω) max.	Rated current (mA) max.
NBQ100505T-060Y-S	100	6	0.10	300
NBQ100505T-100Y-S	100	10	0.20	200
NBQ100505T-400Y-S	100	40	0.40	150
NBQ100505T-800Y-S	100	80	0.60	100
NBQ100505T-121Y-S	100	120	0.80	50
NBQ160808T-060Y-S	100	6	0.05	500
NBQ160808T-100Y-S	100	10	0.07	400
NBQ160808T-400Y-S	100	40	0.30	300
NBQ160808T-600Y-S	100	60	0.30	300
NBQ160808T-800Y-S	100	80	0.40	300
NBQ160808T-121Y-S	100	120	0.40	300
NBQ160808T-241Y-S	100	240	0.40	200
NBQ160808T-301Y-S	100	300	0.50	200
NBQ160808T-481Y-S	100	480	0.60	150
NBQ160808T-601Y-S	100	600	0.60	100
NBQ160808T-102Y-S	100	1000	0.70	100
NBQ160808T-122Y-S	100	1200	0.70	100
NBQ160808T-152Y-S	100	1500	0.80	100
NBQ160808T-182Y-S	100	1800	0.95	100
NBQ201209T-060Y-S	100	6	0.07	800
NBQ201209T-110Y-S	100	11	0.10	700
NBQ201209T-260Y-S	100	26	0.20	600
NBQ201209T-320Y-S	100	32	0.20	600
NBQ201209T-600Y-S	100	60	0.30	500
NBQ201209T-750Y-S	100	75	0.30	500
NBQ201209T-900Y-S	100	90	0.30	500
NBQ201209T-121Y-S	100	120	0.40	400
NBQ201209T-151Y-S	100	150	0.40	400
NBQ201209T-171Y-S	100	170	0.50	400
NBQ201209T-221Y-S	100	220	0.50	300
NBQ201209T-301Y-S	100	300	0.50	300

MULTILAYER FERRITE CHIP BEADS / NB SERIES

Electrical Characteristics

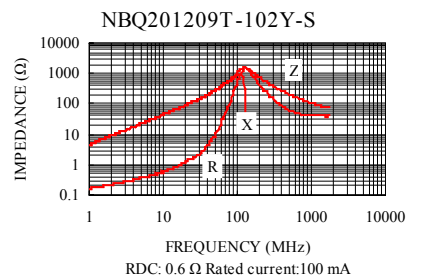
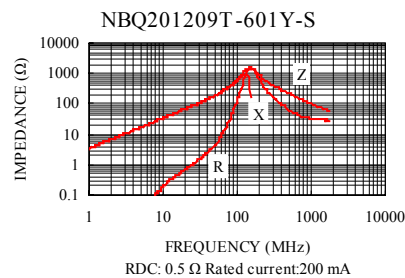
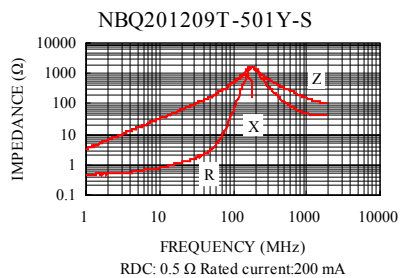
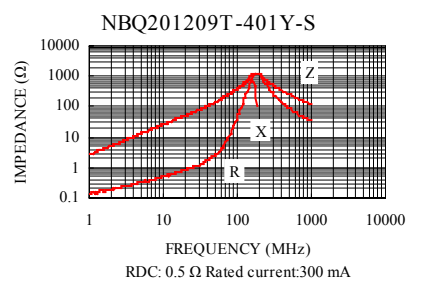
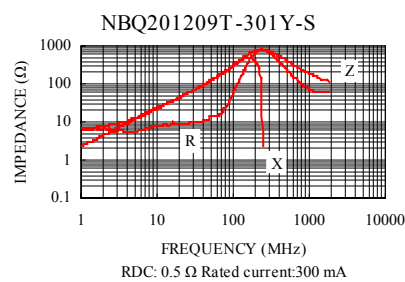
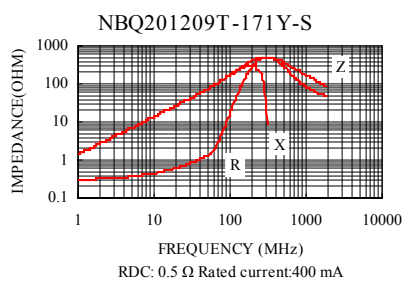
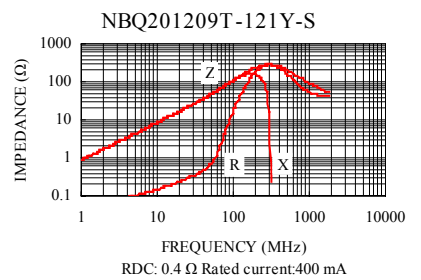
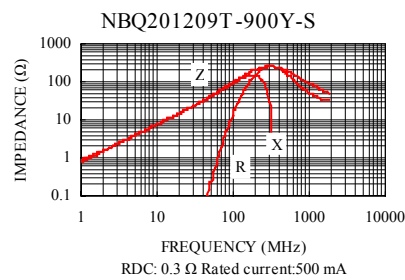
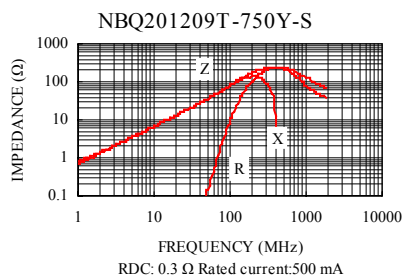
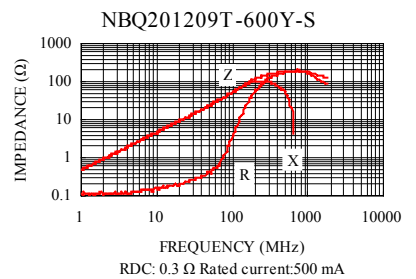
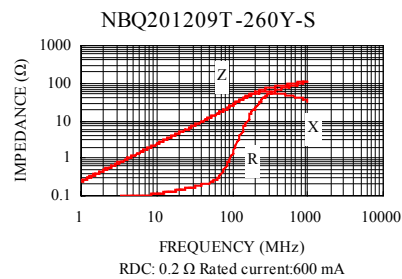
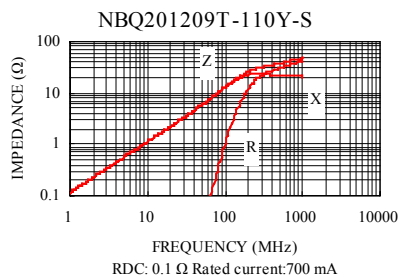
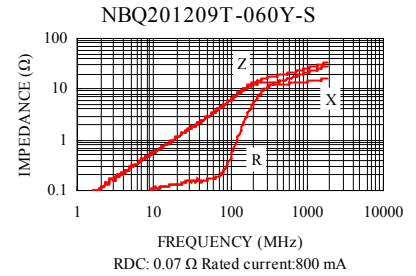
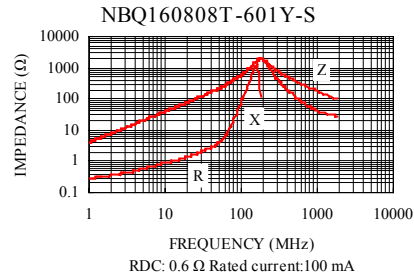
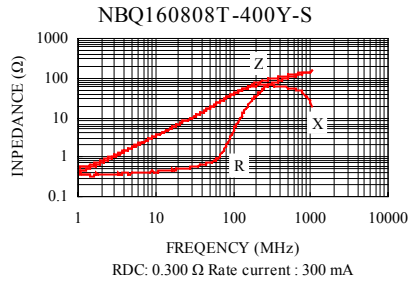
Part Number	Test Frequency (MHz)	Impedance ($\Omega \pm 25\%$)	D.C. Resistance (Ω) max.	Rated current (mA) max.
NBQ201209T-401Y-S	100	400	0.50	300
NBQ201209T-501Y-S	100	500	0.50	200
NBQ201209T-601Y-S	100	600	0.50	200
NBQ201209T-102Y-S	100	1000	0.60	100
NBQ201209T-122Y-S	100	1200	0.70	100
NBQ201209T-152Y-S	100	1500	0.70	100
NBQ201209T-222Y-S	100	2200	0.75	100
NBQ201209T-272Y-S	100	2700	0.85	100
NBQ321611T-320Y-S	100	32	0.20	600
NBQ321611T-600Y-S	100	60	0.30	500
NBQ321611T-800Y-S	100	80	0.30	500
NBQ321611T-900Y-S	100	90	0.30	500
NBQ321611T-121Y-S	100	120	0.40	400
NBQ321611T-151Y-S	100	150	0.40	400
NBQ321611T-201Y-S	100	200	0.50	300
NBQ321611T-221Y-S	100	220	0.50	300
NBQ321611T-351Y-S	100	350	0.60	300
NBQ321611T-401Y-S	100	400	0.60	300
NBQ321611T-601Y-S	100	600	0.80	300
NBQ321611T-122Y-S	100	1200	1.00	200
NBQ321611T-152Y-S	100	1500	1.20	150

Test Instruments : HP4291A Impedance / Material Analyzer



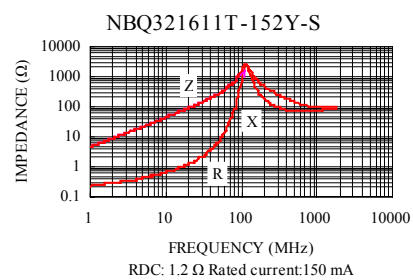
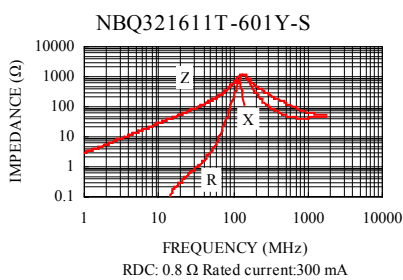
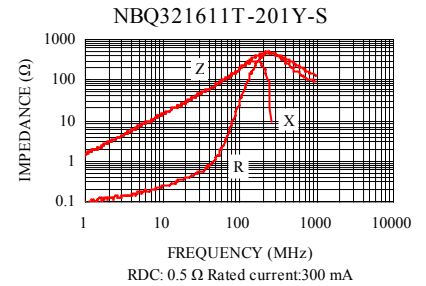
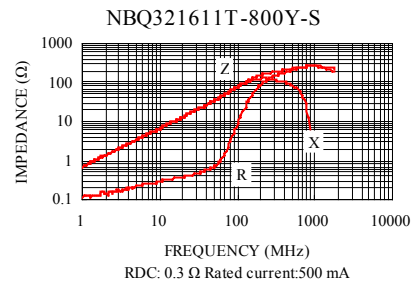
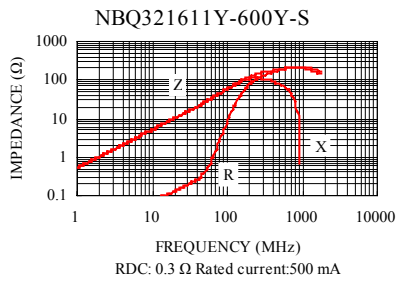
MULTILAYER FERRITE CHIP BEADS / NB SERIES

Test Instruments : HP4291A Impedance / Material Analyzer



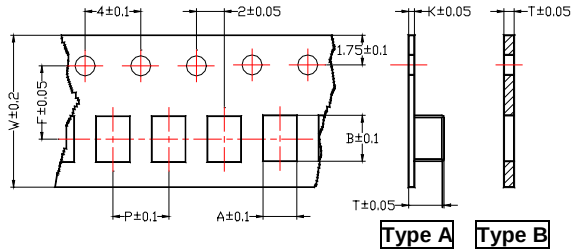
MULTILAYER FERRITE CHIP BEADS / NB SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

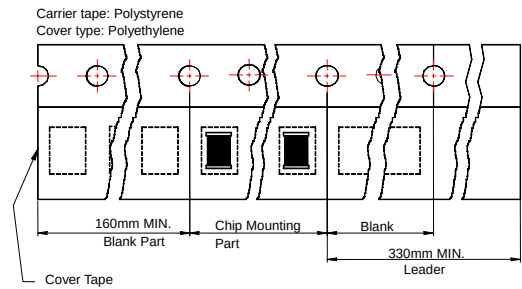


MULTILAYER FERRITE CHIP BEADS

Tape Dimensions

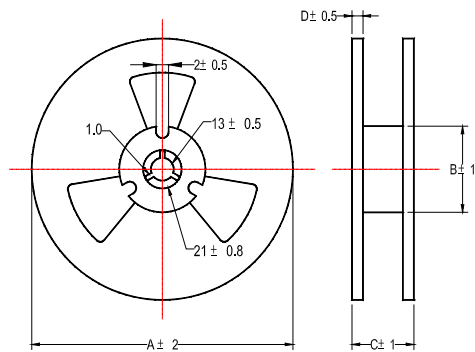


Tape Material

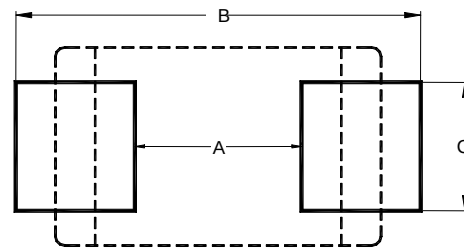


- ① : S / P / N ② : S / P / U / N / G
③ : S / G ④ : S / P / G

Reel Dimensions



Recommended Pattern



- * Don't apply narrower pattern than listed above to PBY.
Narrow pattern might cause excessive heat or open circuit.

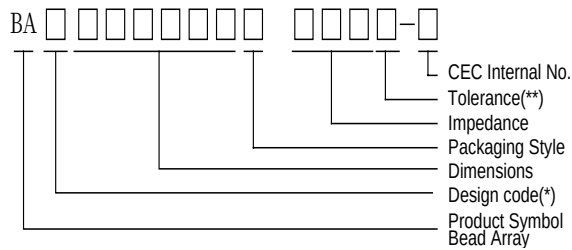
Dimensions in mm

TYPE	Tape Dimensions								Reel Dimensions				Recommended Pattern			Quantity /Reel
	A	B	T	W	P	F	K	TapeTyp.	A	B	C	D	A	B	C	
①B100505	0.62	1.15	0.7	8.0	2.0	3.5	-	B	178	60	10	2	0.4	1.2 ~ 1.4	0.4	10000
②B160808	1.05	1.80	0.95	8.0	4.0	3.5	-	B	178	60	10	2	0.8	2.4 ~ 3.4	0.6	4000
②B201209	1.42	2.30	1.05	8.0	4.0	3.5	0.2	A	178	60	10	2	1.2	3.0 ~ 4.0	1.0	4000
②B321611	1.88	3.50	1.27	8.0	4.0	3.5	0.2	A	178	60	10	2	2.0	4.2 ~ 5.2	1.2	3000
③B321616	1.88	3.64	1.90	8.0	4.0	3.5	0.2	A	178	60	10	2	2.0	4.2 ~ 5.2	1.2	2000
③B322513	2.77	3.42	1.65	8.0	4.0	3.5	0.2	A	178	60	10	2	2.0	5.5 ~ 6.5	1.8	2500
④B451616	1.88	4.95	1.90	12	4.0	5.5	0.3	A	178	60	14	2	3.0	5.5 ~ 6.5	1.2	2000
④B453215	3.66	4.95	1.85	12	8.0	5.5	0.3	A	178	60	14	2	3.0	5.5 ~ 6.5	2.4	1000

MULTILAYER FERRITE CHIP BEADS ARRAY

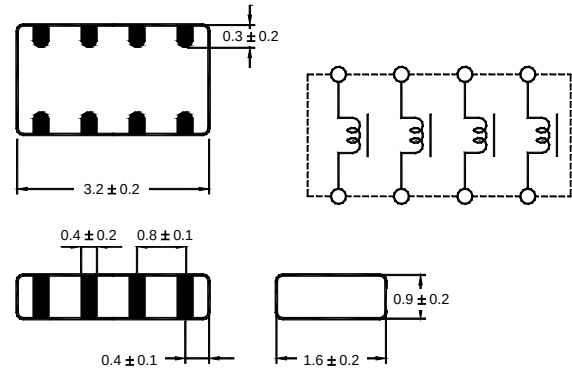
BA series, for higher density circuit design

Product Identification



* Y=General purpose Q=Narrow band
** Y = $\pm 25\%$

Shapes and Dimensions



Parts dimension: 3.20 x 1.60 x 0.90 mm

Features

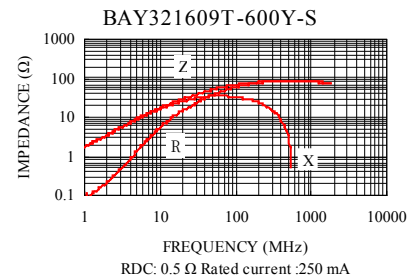
- These multi-layered chip bead arrays are surface mounting EMI components.
- For suppressing noise of four line in one chip.
- It's suited for higher density circuit design.

Test Instruments :

HP4291A Impedance / Material Analyzer

Applications

- Computers
- LCD Monitor
- Hard Disk Drive
- CD-ROMs
- Motherboard

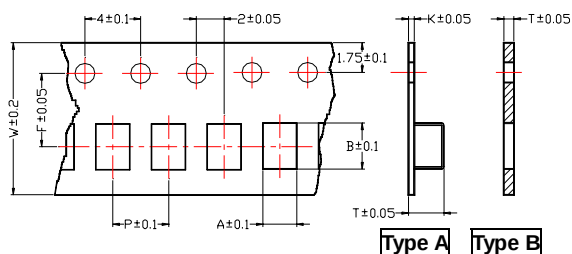


Electrical Characteristics

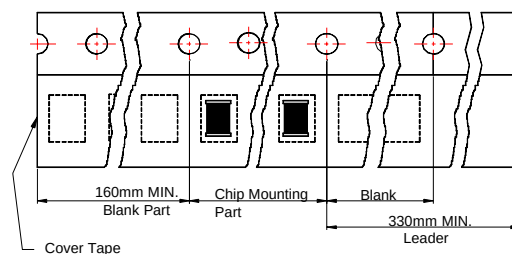
Part Number	Test Frequency (MHz)	Impedance ($\Omega \pm 25\%$)	DC Resistance (Ω) max.	Rated current (mA) max.
BAY321609T-300Y-S	100	30	0.4	350
BAY321609T-600Y-S	100	60	0.4	250
BAY321609T-121Y-S	100	120	0.8	150
BAY321609T-241Y-S	100	240	0.8	150
BAY321609T-301Y-S	100	300	0.8	150
BAY321609T-471Y-S	100	470	1	100
BAY321609T-601Y-S	100	600	1.5	100
BAY321609T-102Y-S	100	1000	1.7	50
BAQ321609T-600Y-S	100	60	0.8	150
BAQ321609T-121Y-S	100	120	0.8	150
BAQ321609T-221Y-S	100	220	0.8	150
BAQ321609T-471Y-S	100	470	1	150
BAQ321609T-601Y-S	100	600	1.5	100
BAQ321609T-102Y-S	100	1000	1.8	100

MULTILAYER FERRITE CHIP BEADS ARRAY

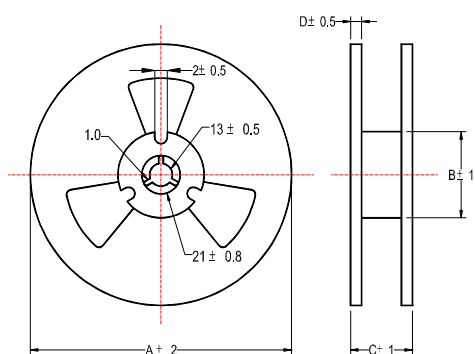
Tape Dimensions



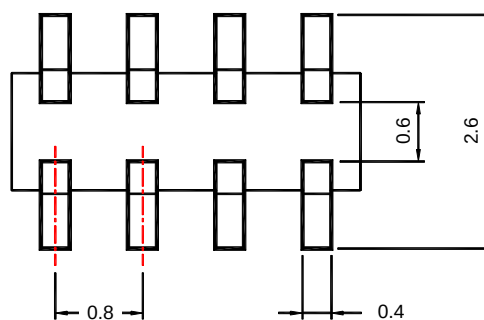
Tape Material



Reel Dimensions



Recommended Pattern

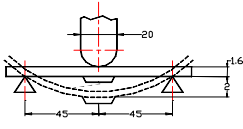


Dimensions in mm

TYPE	Tape Dimensions							Reel Dimensions				Quantity /Reel
	A	B	T	W	P	F	K	A	B	C	D	
B321609	1.94	3.54	1.29	8.0	4.0	3.5	0.2	178	60	10	2	3000

MULTILAYER FERRITE CHIP BEADS ARRAY

1-1.Mechanical Performance

No	Item	Specification	Test Method
1-1-1	Flexure Strength		Test device shall be soldered on the substrate Substrate Dimension: 100x40x1.6mm Deflection: 2.0mm Keeping Time: 30sec *For 100505, substrate dimension is 100x40x0.8mm
1-1-2	Vibration	Appearance: No damage Z change: within $\pm 20\%$ RDC: within specification	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
1-1-3	Resistance to Soldering Heat	Appearance: No damage	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 260 $\pm$ 5°C Immersion Time: 10 $\pm$ 1sec
1-1-4	Solderability	The electrodes shall be at least 90% covered with new solder coating	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 230 $\pm$ 5°C Immersion Time: 4 $\pm$ 1sec
1-1-5	Terminal Strength Test	100505 series : ≥ 0.2 kg 160808 series : ≥ 0.5 kg 201209 series : ≥ 1.0 kg other series : ≥ 2.0 kg	Test device shall be soldered on the substrate 

MULTILAYER FERRITE CHIP BEADS ARRAY

1-2.Environmental Performance

No	Item	Specification	Test Method		
Temperature Cycle	Appearance: No damage Z change: within±20% RDC: within specification		One cycle:		
			Step	Temperature (°C)	Time (min)
			1	-55±3	30
			2	25±2	3
			3	125±3	30
			4	25±2	3
Total: 100cycles					
Measured after exposure in the room condition for 24hrs					
1-2-2	Humidity Resistance		Temperature: 40±2°C Relative Humidity: 90 ~ 95% Time: 1000hrs Measured after exposure in the room condition for 24hrs		
1-2-3	High Temperature Resistance		Temperature: 125±3°C Relative Humidity: 0% Applied Current: Rated Current Time: 1000hrs Measured after exposure in the room condition for 24hrs		
1-2-4	Low Temperature Resistance		Temperature: -55±3°C Relative Humidity: 0% Time: 1000hrs Measured after exposure in the room condition for 24hrs		

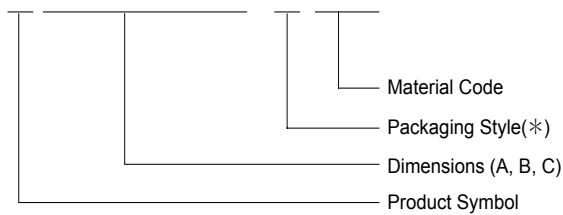
SURFACE MOUNT BEADS / FB SERIES

CLS surface mount beads are similar impedance levels to leaded shield beads.

These beads have high current carrying capacities and compact sizes which are good for use with flow or reflow soldering processes.

Product Identification

FB□□□□□□ □-□□



*B: Bulk ; T: Tape and Reel

Features

- Special designs for surface mounting equipment, are available in various sizes which allow them to wide rang of application and usage.
- High resistance fights heat and humidity.

Applications

- For Stereo, Car radio, Mobile telephone, VCRs, Computer disk drive and PC board to filter the EMI from the outside.

Shapes and Dimensions

Figure 1

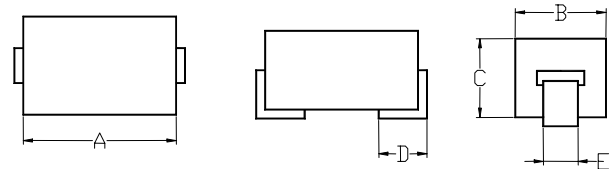
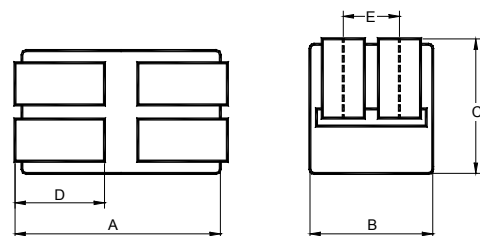


Figure 2



Dimensions in mm

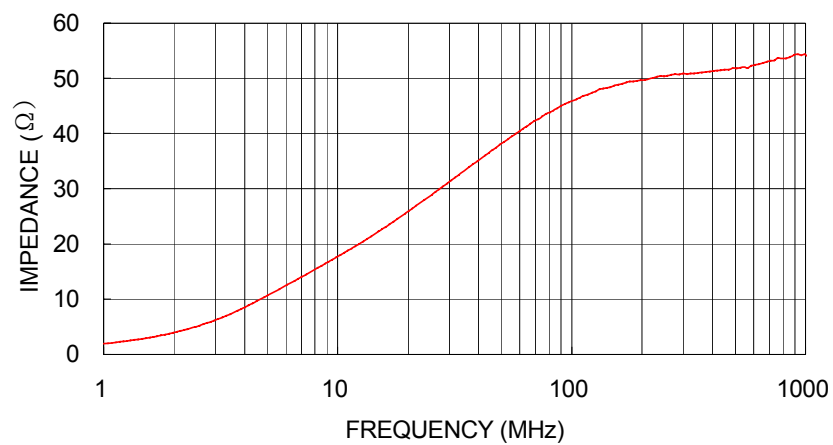
TYPE	A	B	C	D	E	TAPE Width	Fig
FB423226	3.81~4.32	2.92~3.18	2.41~2.67	1.27	1.3	12	1
FB784729	7.62~8.13	4.50~5.00	2.66~3.18	2.03	1.3	16	1
FB863226	8.40~8.75	2.92~3.18	2.41~2.67	1.27	1.35	16	1
FB865626	8.9±0.3	5.6±0.2	2.85±0.2	1.35±0.25	2.54±0.1	16	2

Electrical Characteristics

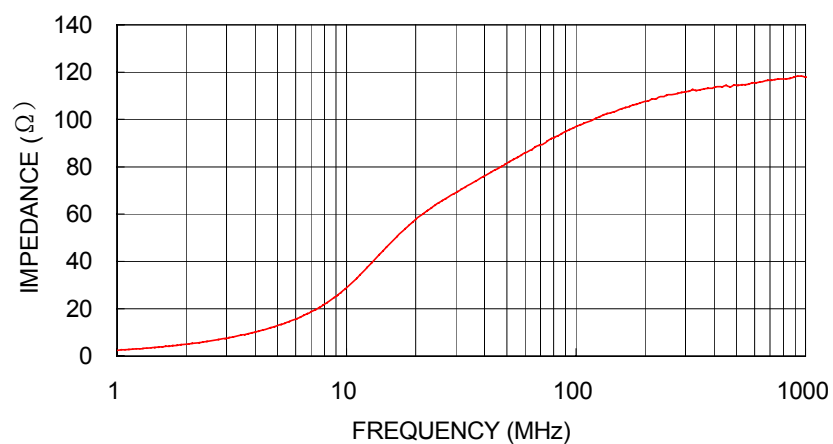
Part Number	Test Frequency		DC Resistance (Ω) Max.
	25MHz	100MHz	
FB423226-Y7	24 Ω^0	36 Ω^0	0.6
FB784729-Y7	48 Ω^0	72 Ω^0	0.9
FB863226-Y7	48 Ω^0	72 Ω^0	0.9
FB865626-Y7	30 Ω^0	60 $\Omega \pm 20\%$	-

Test Instruments : HP4191A RF Impedance Analyzer

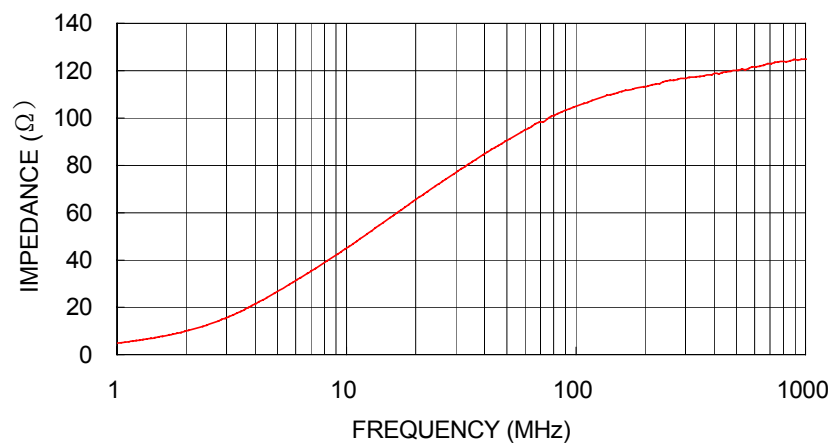
FB423226-Y7



FB784729-Y7

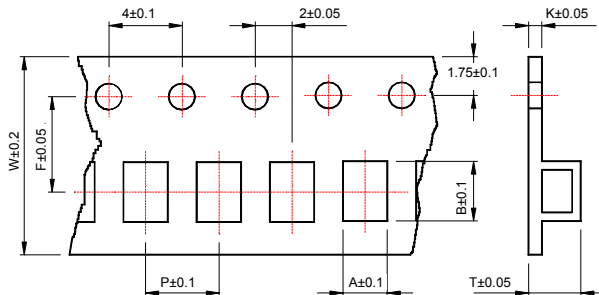


FB863226-Y7

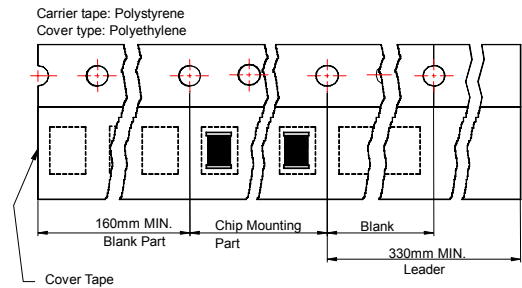


SURFACE MOUNT BEADS / FB SERIES

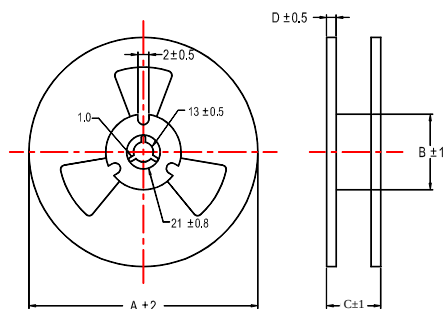
Tape Dimensions



Tape Material



Reel Dimensions



Recommended Pattern

Figure 1

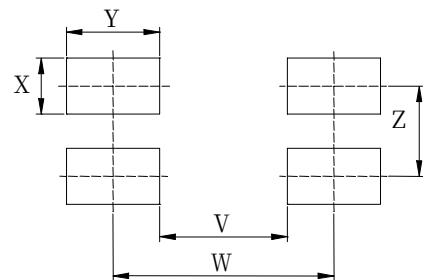
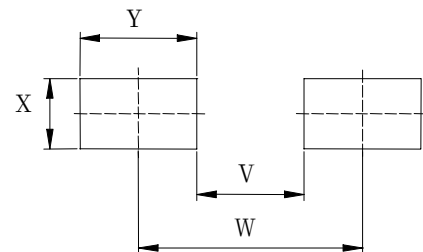


Figure 2



Dimensions in mm

TYPE	Tape Dimensions							Reel Dimensions				Recommended Pattern						Quantity /Reel
	A	B	T	W	P	F	K	A	B	C	D	V	W	X	Y	Z	FIG	
FB423226	3.64	5.30	3.10	12	8	5.5	0.3	178	60	16	1.5	1.0	4.0	1.8	3.0	-	2	500
FB784729	5.24	8.77	3.69	16	8	8.0	0.3	178	60	20	1.5	5.0	8.0	1.8	3.0	-	2	500
FB863226	3.42	9.30	3.00	16	8	7.5	0.3	178	60	20	1.5	4.5	7.5	1.8	3.0	-	2	500
FB865626	6.30	9.30	3.10	16	8	7.5	0.27	330	100	21	2	4.5	7.5	1.8	3.0	2.54	1	2400

1-1 Mechanical Performance

No	Item	Specification	Test Method
1-1-1	Vibration	Appearance: No damage Z change: within $\pm 20\%$ RDC: within specification	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs

1-2 Environmental Performance

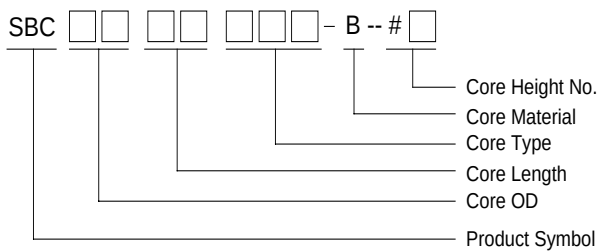
No	Item	Specification	Test Method															
1-2-1	Temperature Cycle	Appearance: No damage Z change: within±20% RDC: within specification	One cycle: <table><tr><th>Step</th><th>Temperature (°C)</th><th>Time (min)</th></tr><tr><td>1</td><td>-55±3</td><td>30</td></tr><tr><td>2</td><td>25±2</td><td>3</td></tr><tr><td>3</td><td>125±3</td><td>30</td></tr><tr><td>4</td><td>25±2</td><td>3</td></tr></table> Total: 100cycles Measured after exposure in the room condition for 24hrs	Step	Temperature (°C)	Time (min)	1	-55±3	30	2	25±2	3	3	125±3	30	4	25±2	3
Step	Temperature (°C)	Time (min)																
1	-55±3	30																
2	25±2	3																
3	125±3	30																
4	25±2	3																
1-2-2	Humidity Resistance		Temperature: 40±2°C Relative Humidity: 90 ~ 95% Time: 1000hrs Measured after exposure in the room condition for 24hrs															
1-2-3	High Temperature Resistance		Temperature: 125±3°C Relative Humidity: 0% Time: 1000hrs Measured after exposure in the room condition for 24hrs															
1-2-4	Low Temperature Resistance		Temperature: -55±3°C Relative Humidity: 0% Time: 1000hrs Measured after exposure in the room condition for 24hrs															

EMI PC BEADS

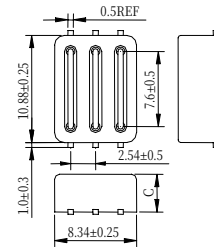
CLS EMI PC Beads provide a powerful means of EMI/RFI attenuation for electronic equipment. Multiple single turn printed circuit beads or multi-turn printed circuit beads are available in three sizes in B material.

These beads are supplied with tinned copper jumper wires which complete the desired winding configuration on the printed circuit boards.

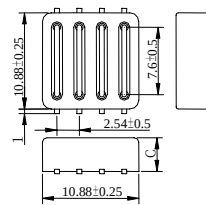
Product Identification



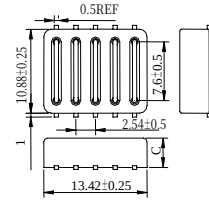
Shapes and Dimensions



SBC0810F6H-B#□



SBC1010F8H-B#□



SBC1310F10H-B#□

Features

- Jumped wires are oxygen free, and high conductivity copper with 95/5 tin/lead coating.
- Compact and high performance.
- Easy installation.

Applications

- The PC Beads mainly used in the PC board of personal computers, microcomputers and relative devices to filter the EMI from the outside.

Dimensions in mm

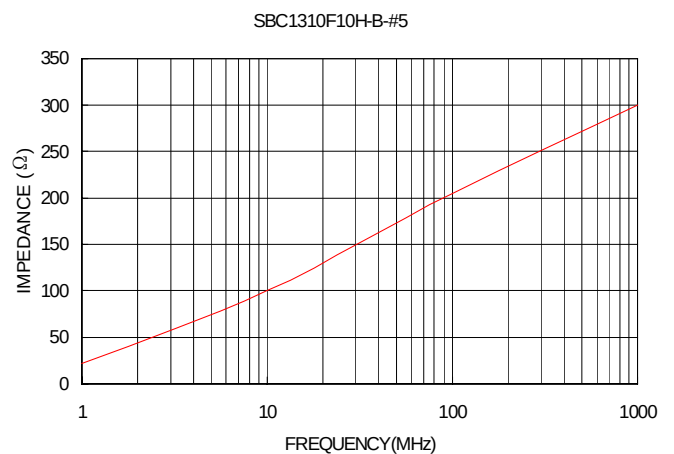
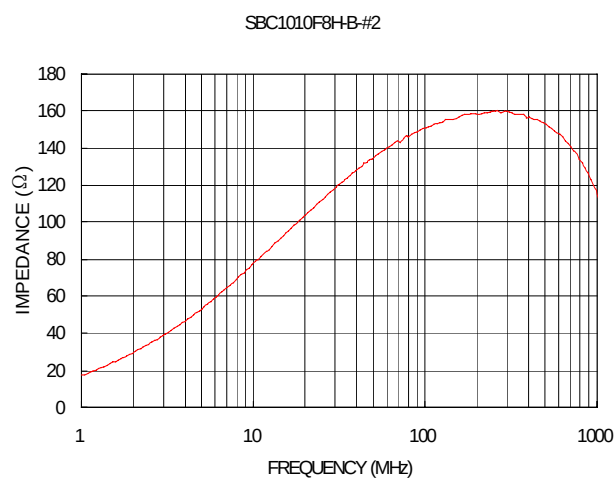
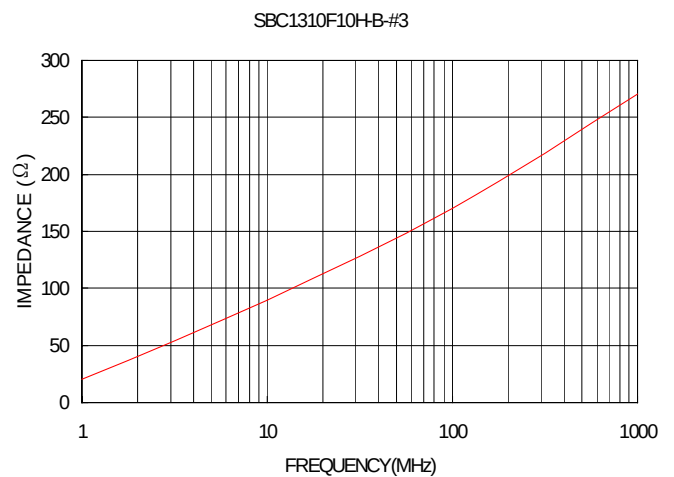
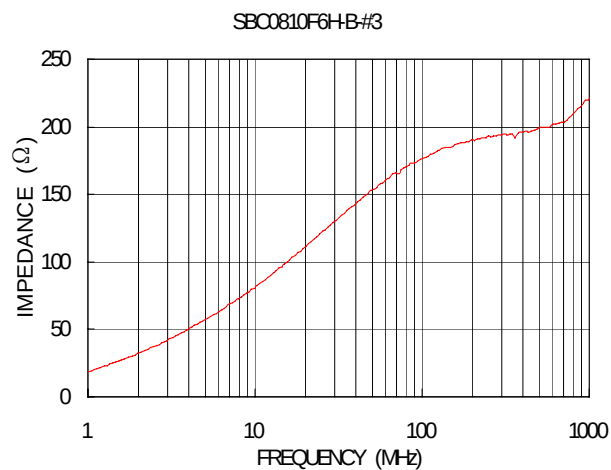
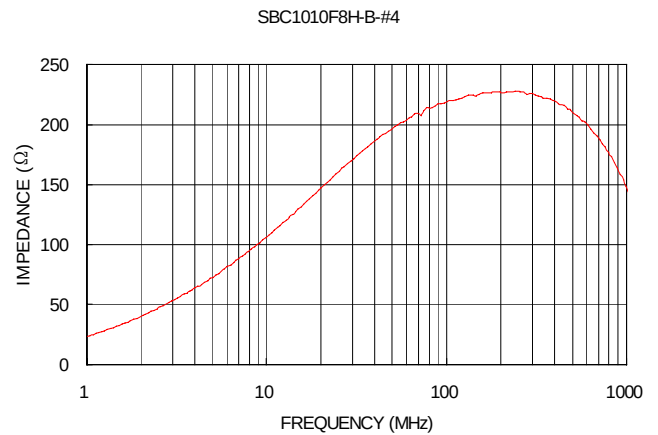
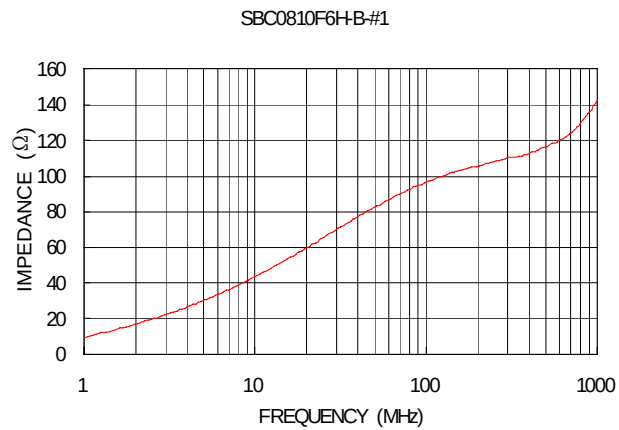
TYPE	C	
SBC0810F6H-B#□	- #1	3.81
	- #2	5.08
	- #3	6.35
SBC1010F8H-B#□	- #4	7.62
	- #5	8.09
SBC1310F10H-B#□	- #6	10.15

Electrical Characteristics

Part Number	Impedance at 100 MHZ (unit : Ω)					
	B-# 1	B-# 2	B-# 3	B-# 4	B-# 5	B-# 6
SBC0810F6H	65 ⁻⁰	100 ⁻⁰	120 ⁻⁰	155 ⁻⁰	170 ⁻⁰	270 ⁻⁰
SBC1010F8H	65 ⁻⁰	100 ⁻⁰	120 ⁻⁰	155 ⁻⁰	170 ⁻⁰	270 ⁻⁰
SBC1310F10H	65 ⁻⁰	100 ⁻⁰	120 ⁻⁰	155 ⁻⁰	170 ⁻⁰	270 ⁻⁰

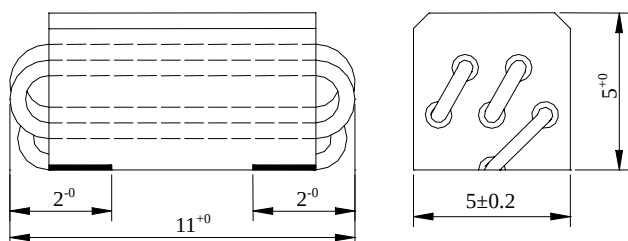
Test Instruments : HP4191A RF

Impedance Analyzer



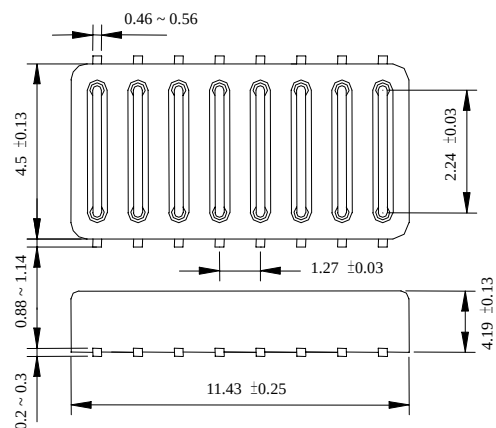
SBC0508F6HT-B

Shapes and Dimensions



SBC1105F16HT-B246

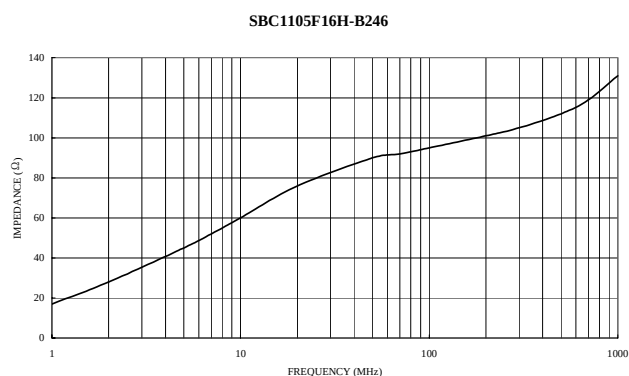
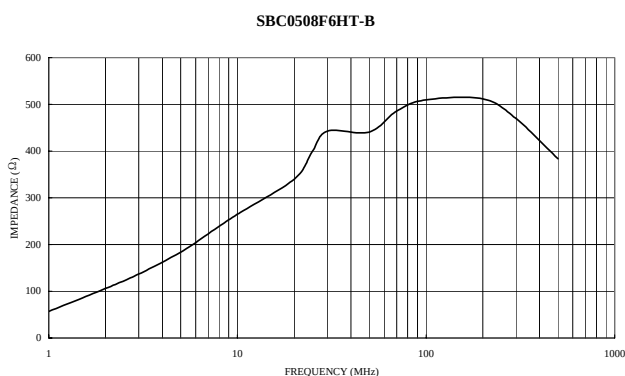
Shapes and Dimensions



Electrical Characteristics

Part Number	Impedance	Test Frequency (MHz)	Impedance (Ω)	Test Frequency (MHz)	DC Resistance (m Ω) max.
SBC0508F6HT-B	340^{+0}	25	$600 \pm 25\%$	100	7.5
SBC1105F16HT-B246	-	-	80^{+0}	100	10

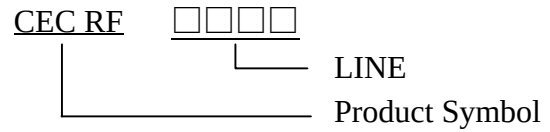
Test Instruments : HP4191A RF Impedance Analyzer



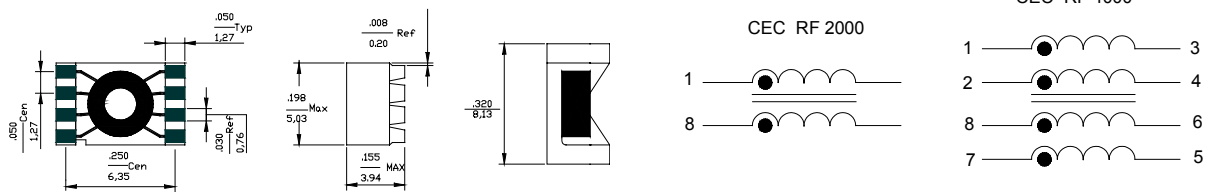
SURFACE MOUNT TIP / RING FILTERS

These surface mount tip/ring filters provide substantial reduction of noise throughout an extended frequency range. They're packaged in a flat-top ceramic header for reliable pick and place operations and optimal thermal characteristics.

Product Identification



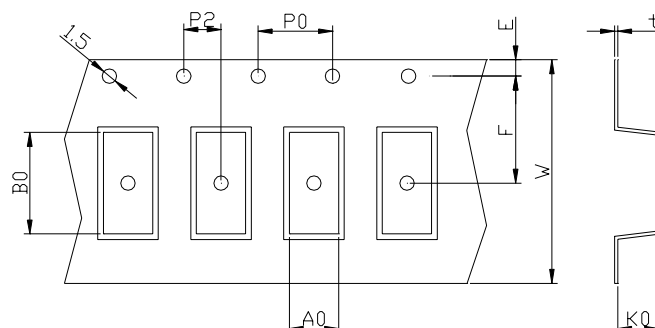
Shapes and Dimensions



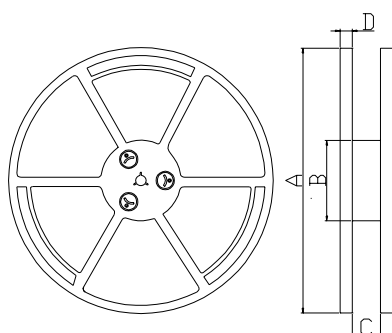
	CECRF2000	CECRF4000
Lines	1	2
Minimum inductance : (each winding, 130kHz)	35µH min	35µH min
Rated current :	500mA	500mA
DCR each winding :	0.075 Ω max	0.135 Ω max
Dielectric strength :	1500 Vrms (1-5)	1500 Vrms (1,2-5,6)
Operating temp. range	-40°Cto+85°C	-40°Cto+85°C

EMI PC BEADS

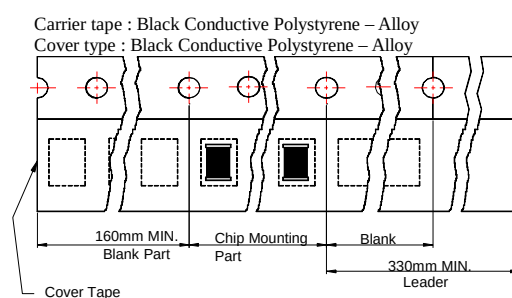
Tape Dimensions



Reel Dimensions



Tape Material



Dimensions in mm

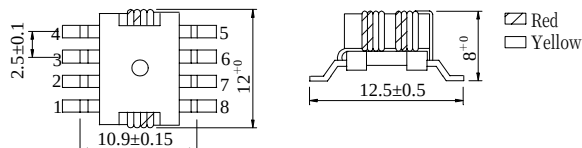
TYPE	Tape Dimensions									Reel Dimensions			Quantity Reel/Carton
	W	E	F	P0	P2	A0	B0	K0	t	A	B	C	
SBC0508F6HT-B	24	1.75	11.5	4	2	5.3	10.9	5.1	0.35	330	100	24.4	1000/10000
SBC1105F16HT-B246	24	1.75	11.5	4	2	7.5	11.7	4.7	0.35	330	100	24.4	1000/10000

DATA LINE EMI FILTER

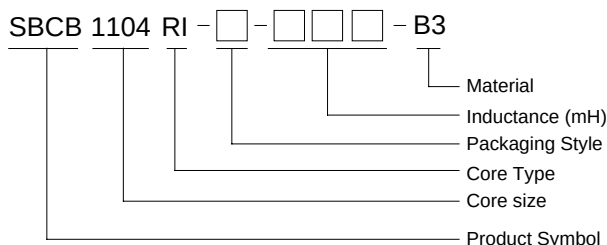
These surface mount filters are specially designed to virtually eliminate the problem of conducted EMI in data line applications. They provide both differential and common mode noise attenuation.

These components contain tremendous electrode straight, solder heat resistance and outstanding solderability. These products are designed for flow, reflow and wave soldering required for surface mounting applications.

Shapes and Dimensions



Product Identification



Features

- These components are compatible with auto insertion equipment and easy installed for PC board.
- With four lines for voice and data line.
- Compact and high performance.

Applications

- Attenuating noise of analog and digital signals for telecommunication devices.
- Prevention of interference from amateur radios, CB stations, or high frequency welders, etc.

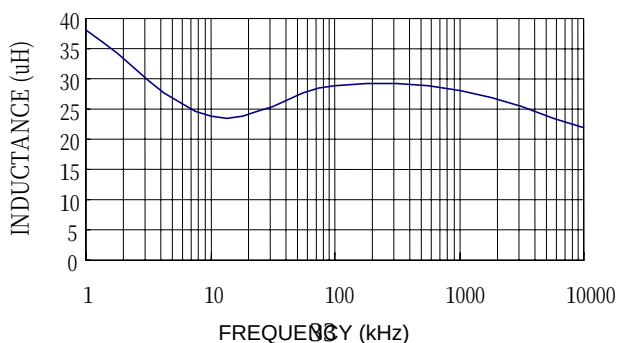
Electrical Characteristics

Part Number	Test Frequency (KHz) 0.6V	Inductance L(μH)	DC Resistance (Ω) max.
SBCB1104RI-330-B3	100	25~50	0.07

Test Instruments : HP4192A LF

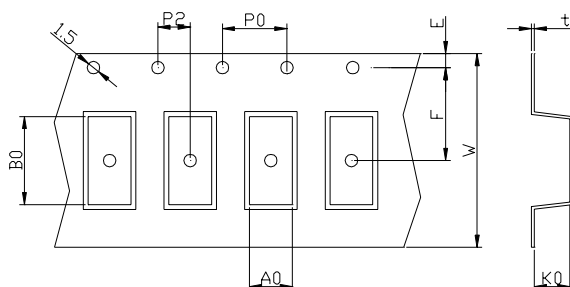
Impedance Analyzer

SBCB1104RI-330-B3

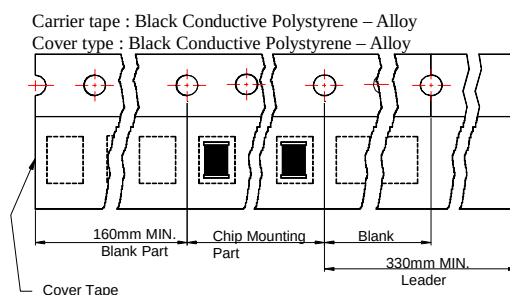


DATA LINE EMI FILTER

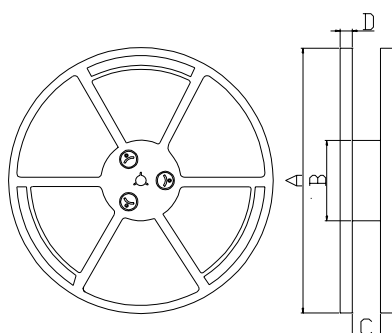
Tape Dimensions



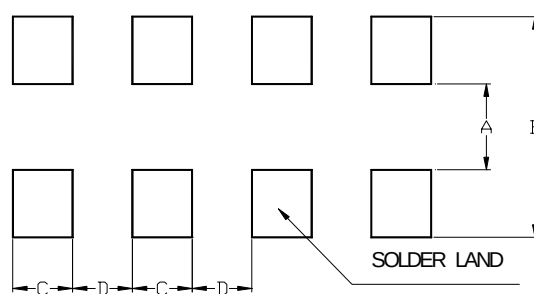
Tape Material



Reel Dimensions



Recommended Pattern



Dimensions in mm

TYPE	Tape Dimensions									Reel Dimensions				Recommended Pattern				Quantity /Reel
	W	E	F	P0	P2	A0	B0	K0	t	A	B	C	D	A	B	C	D	
SBCB1104	24	1.75	11.5	4	2	12.4	15.5	9.1	0.36	330	100	24.4	2.4	8.0	13.0 ~ 14.0	1.15	2.0	350

DATA LINE EMI FILTER

1-1 Mechanical Performance

No	Item	Specification	Test Method
1-1-1	Vibration	Appearance: No damage L change: within $\pm 10\%$ Q change: within $\pm 30\%$ RDC: within specification	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
1-1-2	Resistance to Soldering Heat	Appearance: No damage	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 260 $\pm 5^\circ\text{C}$ Immersion Time: 10 ± 1 sec
1-1-3	Solderability	The electrodes shall be at least 90% covered with new solder coating	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 230 $\pm 5^\circ\text{C}$ Immersion Time: 4 ± 1 sec

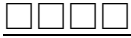
1-2 Environmental Performance

No	Item	Specification	Test Method														
1-2-1	Temperature Shock	Appearance: No damage L change: within±10% Q change: within±30% RDC: within specification	10 cycles (Air to Air) 1 cycles shall consist of: 30 minutes exposure to −55 °C 30 minutes exposure to 125 °C 15 seconds maximum transition between temperatures Measured after exposure in the room condition for 24hrs														
1-2-2	Temperature Cycle		One cycle: <table><tr><th>Step</th><th>Temperature (°C)</th><th>Time (min)</th></tr><tr><td>1</td><td>-25±3</td><td>30</td></tr><tr><td>2</td><td>25±2</td><td>3</td></tr><tr><td>3</td><td>85±3</td><td>30</td></tr><tr><td>4</td><td>25±2</td><td>3</td></tr></table> Total: 100cycles Measured after exposure in the room condition for 24hrs	Step	Temperature (°C)	Time (min)	1	-25±3	30	2	25±2	3	3	85±3	30	4	25±2
Step	Temperature (°C)	Time (min)															
1	-25±3	30															
2	25±2	3															
3	85±3	30															
4	25±2	3															
1-2-3	Humidity Resistance	Temperature: 40±2°C Relative Humidity: 90 ~ 95% Time: 1000hrs Measured after exposure in the room condition for 24hrs															
1-2-4	High Temperature Resistance																
1-2-5	Low Temperature Resistance																

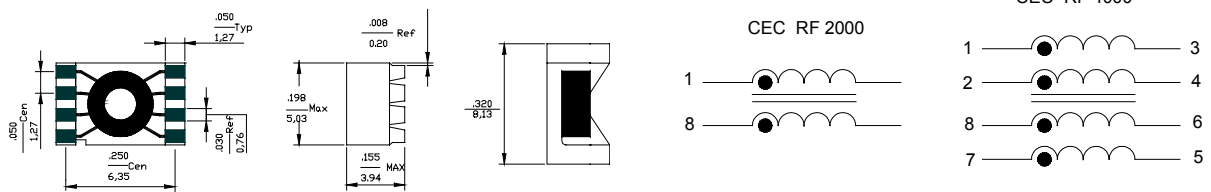
SURFACE MOUNT TIP / RING FILTERS

These surface mount tip/ring filters provide substantial reduction of noise throughout an extended frequency range. They're packaged in a flat-top ceramic header for reliable pick and place operations and optimal thermal characteristics.

Product Identification

CEC RF  LINE
Product Symbol

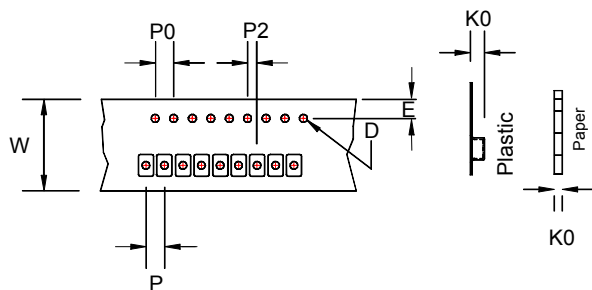
Shapes and Dimensions



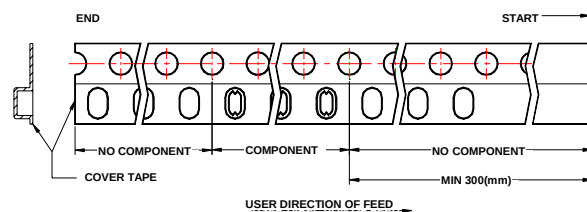
	CECRF2000	CECRF4000
Lines	1	2
Minimum inductance : (each winding, 130kHz)	35µH min	35µH min
Rated current :	500mA	500mA
DCR each winding :	0.075 Ω max	0.135 Ω max
Dielectric strength :	1500 Vrms (1-5)	1500 Vrms (1,2-5,6)
Operating temp. range	-40°Cto+85°C	-40°Cto+85°C

SURFACE MOUNT TIP / RING FILTERS

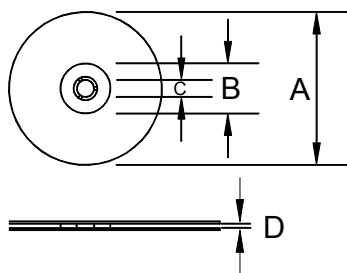
Tape Dimensions



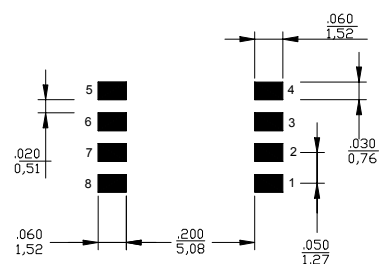
Tape Material



Reel Dimensions



Recommended Pattern



Dimensions in mm

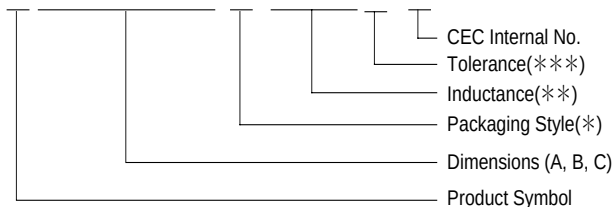
TYPE	Tape Dimensions							Reel Dimensions				Quantity (PCS / REEL)
	K0	D	E	W	P	P0	P2	A	B	C	D	
CEC RF 2000	6	1.55	1.75	16	8	4	2	330	100	13	24.4	2200
CEC RF 4000	6	1.55	1.75	16	8	4	2	330	100	13	24.4	2200

MULTILAYER CHIP INDUCTORS / CL SERIES

CLS SMD multi-layered chip inductors provide a cost effective solution for densely packed PC board designs. Using Ferrite or CL / CLH series ceramic materials are available in broad band and high frequency circuits. The ferrite structure is suited for lower frequency applications and the ceramic one , CLH series , is designed to meet the needs of higher frequency circuits.

Product Identification

CL□□□□□□□-□□□□-□



* T : Tape and Reel ; B : Bulk

** Example : 47N = 47nH R10 = 0.1uH 1R0 = 1.0uH

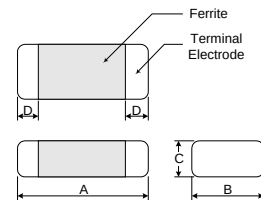
*** K = $\pm 10\%$ M = $\pm 20\%$

CL series, for lower frequency use

Features

- High mounting density of compact circuit due to crosstalk elimination that results from a closed magnetic flux in a ferrite material.
- Suitable for flow and re-flow soldering
- Available in 5 sizes

Shapes and Dimensions



Dimensions in mm

TYPE	A	B	C	D
CL160808	1.6 $\pm$ 0.2	0.80 $\pm$ 0.15	0.80 $\pm$ 0.15	0.3 $\pm$ 0.2
CL160812	1.6 $\pm$ 0.2	0.80 $\pm$ 0.15	1.20 $\pm$ 0.15	0.3 $\pm$ 0.2
CL201209	2.0 $\pm$ 0.20	1.25 $\pm$ 0.20	0.90 $\pm$ 0.20	0.5 $\pm$ 0.3
CL201212	2.0 $\pm$ 0.20	1.25 $\pm$ 0.20	1.25 $\pm$ 0.20	0.5 $\pm$ 0.3
CL321611	3.2 $\pm$ 0.20	1.60 $\pm$ 0.20	1.10 $\pm$ 0.20	0.5 $\pm$ 0.3

Applications

- Personal computers, HDDs, or other various electronic appliances.
- Any general circuit of portable equipment in which compact size and high mounting densities are required.

MULTILAYER CHIP INDUCTORS / CL SERIES

Electrical Characteristics

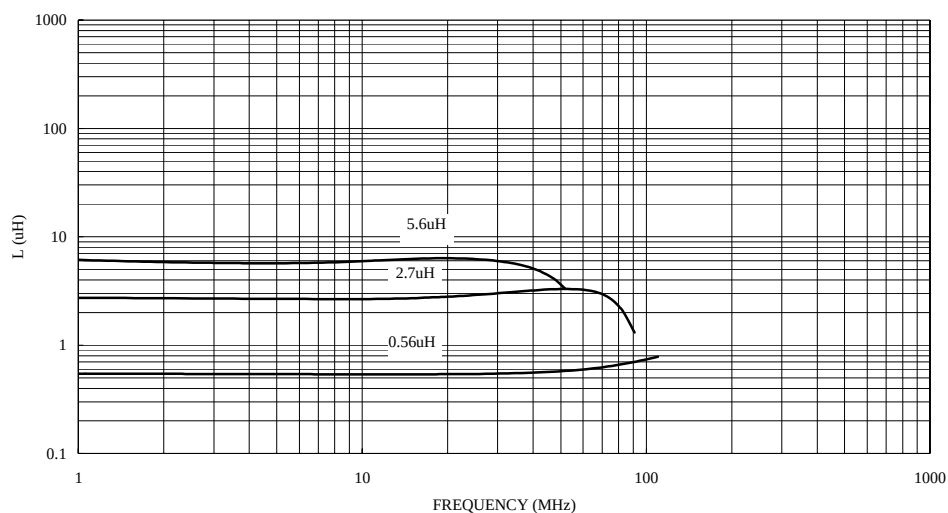
■ CL160808 (0603) Series :

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Q Min.	Test Frequency (MHz)	Self Resonant Frequency (MHz) min	DC Resistance (Ω) Max	Rated current (mA) max.
CL160808T-47NM-S	0.047	20	15	50	260	0.3	50
CL160808T-68NM-S	0.068	20	15	50	250	0.3	50
CL160808T-82NM-S	0.082	20	15	50	245	0.3	50
CL160808T-R10□-S	0.10	20 / 10	25	25	240	0.5	50
CL160808T-R12□-S	0.12	20 / 10	25	25	205	0.5	50
CL160808T-R15□-S	0.15	20 / 10	25	25	180	0.6	50
CL160808T-R18□-S	0.18	20 / 10	25	25	165	0.6	50
CL160808T-R22□-S	0.22	20 / 10	25	25	150	0.8	50
CL160808T-R27□-S	0.27	20 / 10	25	25	136	0.8	50
CL160808T-R33□-S	0.33	20 / 10	25	25	125	0.85	35
CL160808T-R39□-S	0.39	20 / 10	25	25	110	1.00	35
CL160808T-R47□-S	0.47	20 / 10	25	25	105	1.35	35
CL160808T-R56□-S	0.56	20 / 10	25	25	95	1.55	35
CL160808T-R68□-S	0.68	20 / 10	25	25	85	1.70	35
CL160808T-R82□-S	0.82	20 / 10	25	25	75	2.10	35
CL160808T-1R0□-S	1.0	20 / 10	35	10	65	0.60	25
CL160808T-1R2□-S	1.2	20 / 10	35	10	60	0.80	25
CL160808T-1R5□-S	1.5	20 / 10	35	10	55	0.80	25
CL160808T-1R8□-S	1.8	20 / 10	35	10	50	0.95	25
CL160808T-2R2□-S	2.2	20 / 10	35	10	45	1.15	15
CL160808T-2R7□-S	2.7	20 / 10	35	10	40	1.35	15
CL160808T-3R3□-S	3.3	20 / 10	35	10	38	1.55	15
CL160808T-3R9□-S	3.9	20 / 10	35	10	36	1.70	15
CL160808T-4R7□-S	4.7	20 / 10	35	10	33	2.10	15
CL160808T-5R6□-S	5.6	20 / 10	35	4	22	1.55	5
CL160808T-6R8□-S	6.8	20 / 10	35	4	20	1.70	5
CL160812T-8R2□-S	8.2	20 / 10	30	4	18	2.10	5
CL160812T-100□-S	10	20 / 10	30	2	17	2.55	5

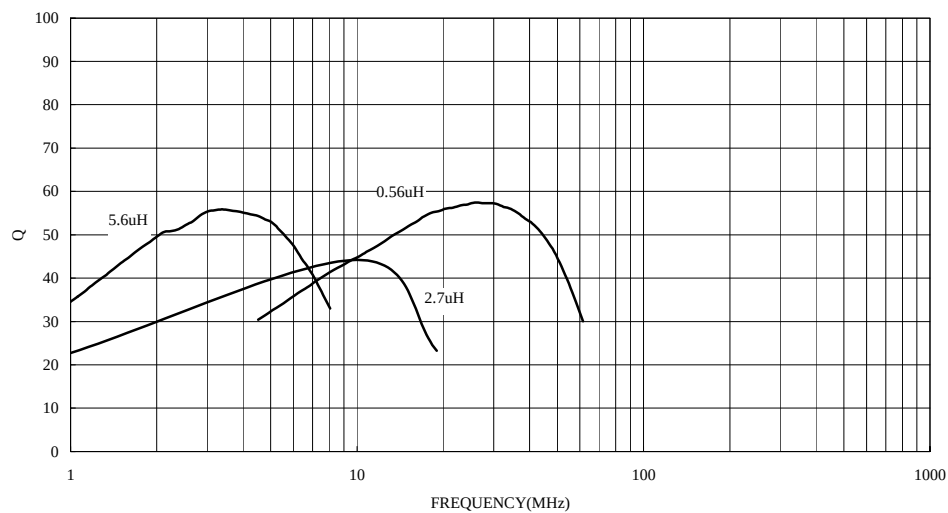
MULTILAYER CHIP INDUCTORS / CL SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



MULTILAYER CHIP INDUCTORS / CL SERIES

Electrical Characteristics

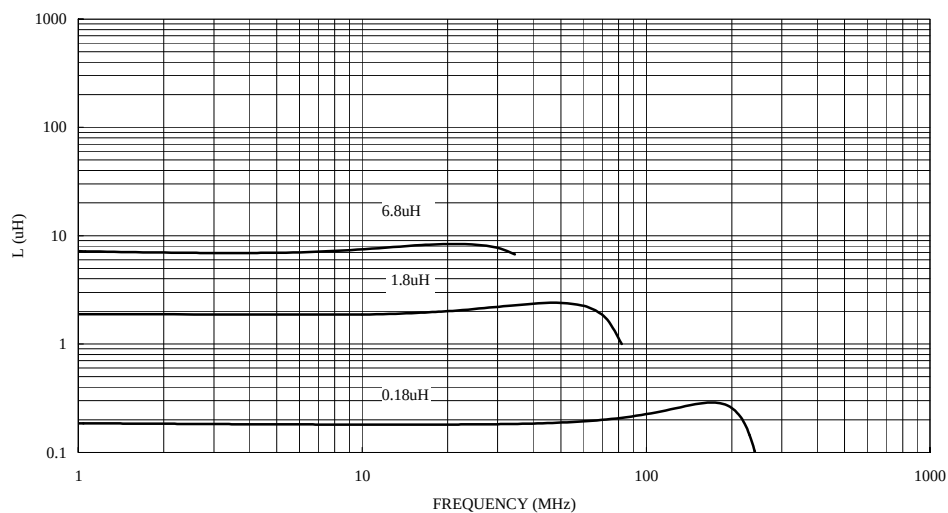
■ CL201209、201212 (0805) Series :

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Q Min.	Test Frequency (MHz)	Self Resonant Frequency (MHz) min	DC Resistance (Ω) Max	Rated current (mA) max.
CL201209T-47NM-S	0.047	20	20	50	320	0.20	300
CL201209T-68NM-S	0.068	20	20	50	280	0.20	300
CL201209T-82NM-S	0.082	20	20	50	255	0.20	300
CL201209T-R10□-S	0.10	20 / 10	30	25	235	0.30	250
CL201209T-R12□-S	0.12	20 / 10	30	25	220	0.30	250
CL201209T-R15□-S	0.15	20 / 10	30	25	200	0.40	250
CL201209T-R18□-S	0.18	20 / 10	30	25	185	0.40	250
CL201209T-R22□-S	0.22	20 / 10	30	25	170	0.50	250
CL201209T-R27□-S	0.27	20 / 10	30	25	150	0.50	250
CL201209T-R33□-S	0.33	20 / 10	30	25	145	0.55	250
CL201209T-R39□-S	0.39	20 / 10	30	25	135	0.65	250
CL201209T-R47□-S	0.47	20 / 10	30	25	125	0.65	250
CL201209T-R56□-S	0.56	20 / 10	30	25	115	0.75	150
CL201209T-R68□-S	0.68	20 / 10	30	25	105	0.80	150
CL201209T-R82□-S	0.82	20 / 10	30	25	100	1.00	150
CL201209T-1R0□-S	1.0	20 / 10	45	10	75	0.45	50
CL201209T-1R2□-S	1.2	20 / 10	45	10	65	0.50	50
CL201209T-1R5□-S	1.5	20 / 10	45	10	60	0.50	50
CL201209T-1R8□-S	1.8	20 / 10	45	10	55	0.60	50
CL201209T-2R2□-S	2.2	20 / 10	45	10	50	0.65	30
CL201212T-2R7□-S	2.7	20 / 10	45	10	45	0.75	30
CL201212T-3R3□-S	3.3	20 / 10	45	10	41	0.80	30
CL201212T-3R9□-S	3.9	20 / 10	45	10	38	0.90	30
CL201212T-4R7□-S	4.7	20 / 10	45	10	35	1.00	30
CL201212T-5R6□-S	5.6	20 / 10	45	4	32	0.90	15
CL201212T-6R8□-S	6.8	20 / 10	45	4	29	1.00	15
CL201212T-8R2□-S	8.2	20 / 10	45	4	26	1.10	15
CL201212T-100□-S	10	20 / 10	45	2	24	1.15	15
CL201212T-120□-S	12	20 / 10	45	2	22	1.25	15
CL201212T-150□-S	15	20 / 10	30	1	19	0.80	5
CL201212T-180□-S	18	20 / 10	30	1	18	0.90	5

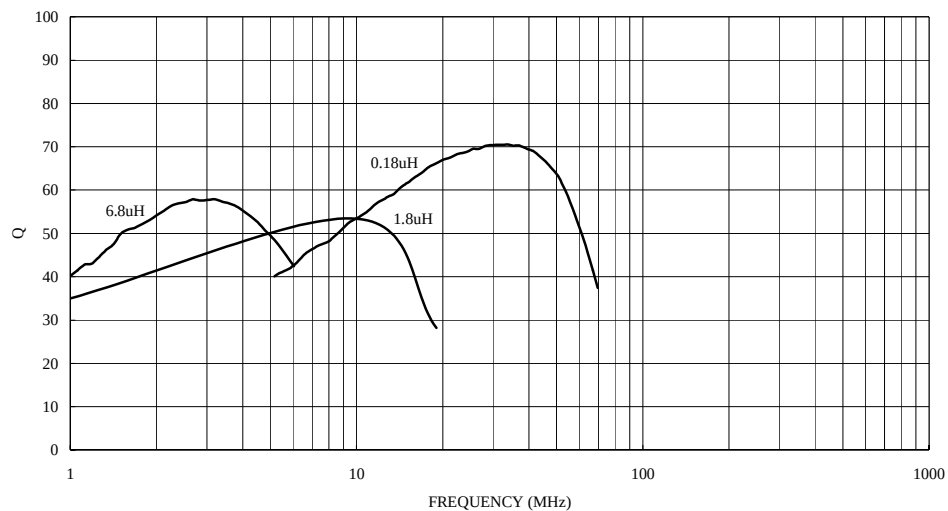
MULTILAYER CHIP INDUCTORS / CL SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



MULTILAYER CHIP INDUCTORS / CL SERIES

Electrical Characteristics

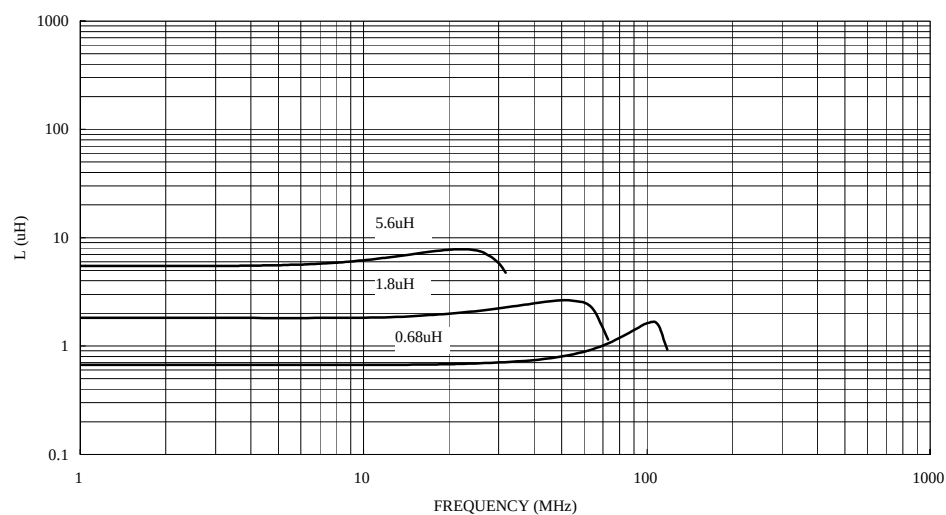
■ CL321611 (1206) Series :

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Q Min.	Test Frequency (MHz)	Self Resonant Frequency (MHz) min	DC Resistance (Ω) Max	Rated current (mA) max.
CL321611T-47NM-S	0.047	20	20	50	320	0.15	300
CL321611T-68NM-S	0.068	20	20	50	280	0.25	300
CL321611T-82NM-S	0.082	20	20	50	250	0.25	300
CL321611T-R10□-S	0.10	20 / 10	30	25	235	0.25	250
CL321611T-R12□-S	0.12	20 / 10	30	25	220	0.30	250
CL321611T-R15□-S	0.15	20 / 10	30	25	200	0.30	250
CL321611T-R18□-S	0.18	20 / 10	30	25	185	0.40	250
CL321611T-R22□-S	0.22	20 / 10	30	25	170	0.40	250
CL321611T-R27□-S	0.27	20 / 10	30	25	150	0.50	250
CL321611T-R33□-S	0.33	20 / 10	30	25	145	0.60	250
CL321611T-R39□-S	0.39	20 / 10	30	25	135	0.60	200
CL321611T-R47□-S	0.47	20 / 10	30	25	125	0.60	200
CL321611T-R56□-S	0.56	20 / 10	30	25	115	0.70	150
CL321611T-R68□-S	0.68	20 / 10	30	25	105	0.80	150
CL321611T-R82□-S	0.82	20 / 10	30	25	100	0.90	150
CL321611T-1R0□-S	1.0	20 / 10	45	10	75	0.40	100
CL321611T-1R2□-S	1.2	20 / 10	45	10	65	0.50	100
CL321611T-1R5□-S	1.5	20 / 10	45	10	60	0.50	80
CL321611T-1R8□-S	1.8	20 / 10	45	10	55	0.50	70
CL321611T-2R2□-S	2.2	20 / 10	45	10	50	0.60	60
CL321611T-2R7□-S	2.7	20 / 10	45	10	45	0.60	60
CL321611T-3R3□-S	3.3	20 / 10	45	10	41	0.70	60
CL321611T-3R9□-S	3.9	20 / 10	45	10	38	0.80	50
CL321611T-4R7□-S	4.7	20 / 10	45	10	35	0.90	50
CL321611T-5R6□-S	5.6	20 / 10	45	4	32	0.70	25
CL321611T-6R8□-S	6.8	20 / 10	45	4	29	0.80	25
CL321611T-8R2□-S	8.2	20 / 10	45	4	26	0.90	25
CL321611T-100□-S	10	20 / 10	45	2	24	1.00	25
CL321611T-120□-S	12	20 / 10	45	2	22	1.05	15
CL321611T-150□-S	15	20 / 10	35	1	19	0.70	5
CL321611T-180□-S	18	20 / 10	35	1	18	0.75	5

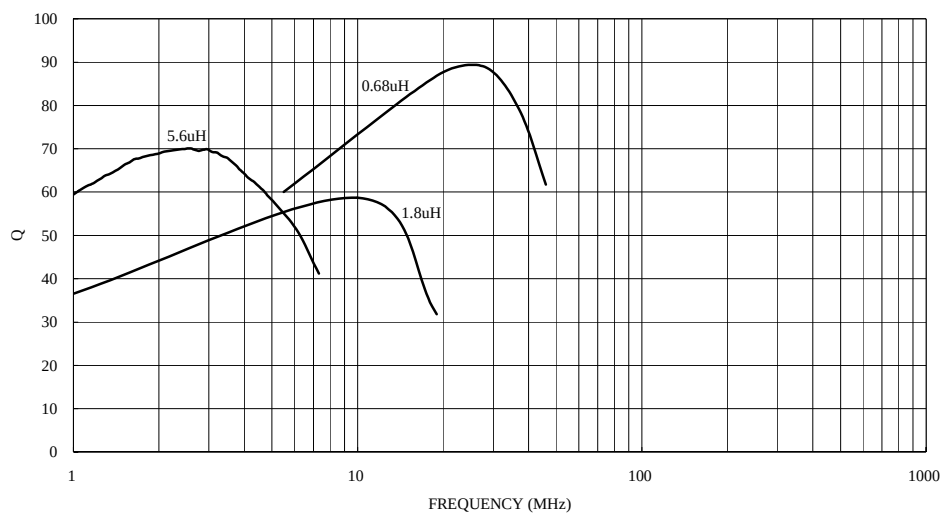
MULTILAYER CHIP INDUCTORS / CL SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS

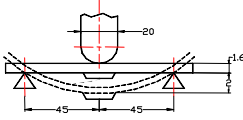


Q vs. FREQUENCY CHARACTERISTICS



MULTILAYER CHIP INDUCTORS

1-1 Mechanical Performance

No	Item	Specification	Test Method
1-1-1	Flexure Strength		Test device shall be soldered on the substrate Substrate Dimension: 100x40x1.6mm Deflection: 2.0mm Keeping Time: 30sec *For 100505, substrate dimension is 100x40x0.8mm
1-1-2	Vibration	Appearance: No damage L change: within $\pm 10\%$ Q change: within $\pm 30\%$	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
1-1-3	Resistance to Soldering Heat	Appearance: No damage	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 260 $\pm 5^\circ\text{C}$ Immersion Time: 10 ± 1 sec
1-1-4	Solderability	The electrodes shall be at least 90% covered with new solder coating	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 230 $\pm 5^\circ\text{C}$ Immersion Time: 4 ± 1 sec

1-2 Environmental Performance

No	Item	Specification	Test Method															
1-2-1	Temperature Cycle	Appearance: No damage L change: within±10% Q change: within±30%	One cycle: <table><tr><th>Step</th><th>Temperature (°C)</th><th>Time (min)</th></tr><tr><td>1</td><td>-25±3</td><td>30</td></tr><tr><td>2</td><td>25±2</td><td>3</td></tr><tr><td>3</td><td>85±3</td><td>30</td></tr><tr><td>4</td><td>25±2</td><td>3</td></tr></table> Total: 100cycles Measured after exposure in the room condition for 24hrs	Step	Temperature (°C)	Time (min)	1	-25±3	30	2	25±2	3	3	85±3	30	4	25±2	3
Step	Temperature (°C)		Time (min)															
1	-25±3		30															
2	25±2		3															
3	85±3		30															
4	25±2	3																
1-2-2	Humidity Resistance	Temperature: 40±2°C Relative Humidity: 90 ~ 95% Time: 1000hrs Measured after exposure in the room condition for 24hrs																
1-2-3	High Temperature Resistance	Temperature: 85±3°C Relative Humidity: 20% Applied Current: Rated Current Time: 1000hrs Measured after exposure in the room condition for 24hrs																
1-2-4	Low Temperature Resistance	Temperature: -25±3°C Relative Humidity: 0% Time: 1000hrs Measured after exposure in the room condition for 24hrs																

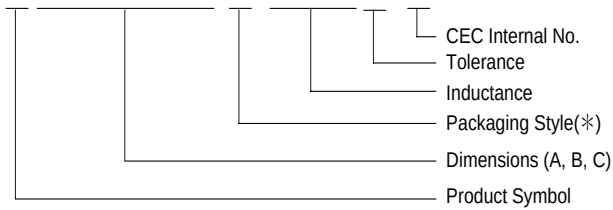
WOUND CHIP INDUCTORS / NL SERIES

These revolutionary, highly reliable wound chip inductors for automatic mounting, have been developed in response to the trend toward high density in electronic equipment.

With metal terminals and a body of heat resistant resin, these inductors offer many superior features.

Product Identification

NL□□□□□□□-□□□□□□-□



* T : Tape and Reel ; B : Bulk

Features

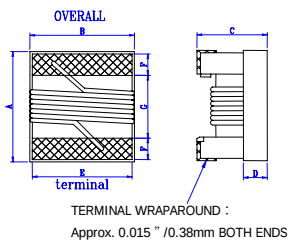
- Very strong solderability by flow soldering, soldering iron or wave soldering.
- Highly accurate dimensions, can be mounted automatically.
- Terminals are highly resistant to pull forces.
- Highly resistant to mechanical shocks and pressure.
- Highly reliable in environments of sudden temperature change and humidity. Super Q characteristics.

Applications

- Microtelevisions, liquid crystal televisions, video cameras, portable VCRs, car radios, car stereos, thin tape radios, television tuners, mobile telephones, radio and other electronic devices.

Shapes and Dimensions

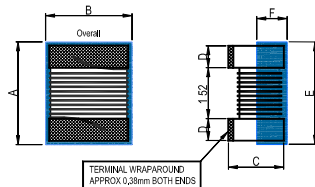
NL201614 SERIES



Dimensions in mm

Unit	A Max.	B Max.	C Max.	D Ref.	E	F	G
in	0.09	0.068	0.06	0.02	0.05	0.02	0.04
mm	2.29	1.73	1.52	0.51	1.27	0.51	1.02

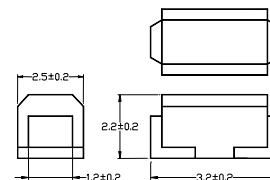
NL252018 SERIES



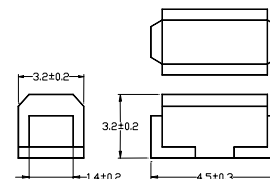
Dimensions in mm

Unit	A	B	C	D	E	F
mm	2.92 ⁺⁰	2.79 ⁺⁰	2.1 ⁺⁰	0.51	2.92 ⁺⁰	0.51ref

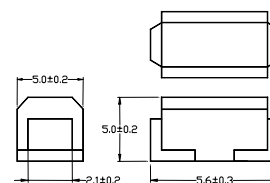
NL322522 SERIES



NL453232 SERIES



NL565050 SERIES



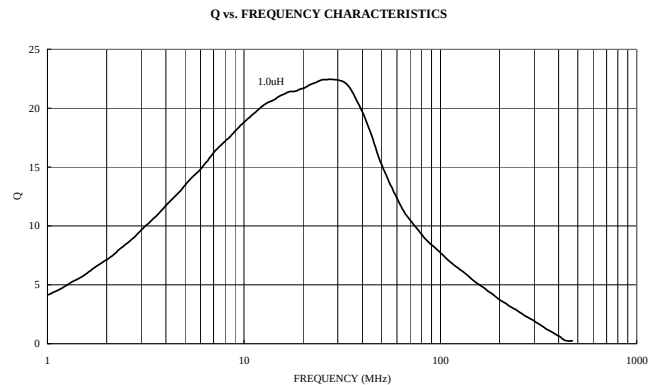
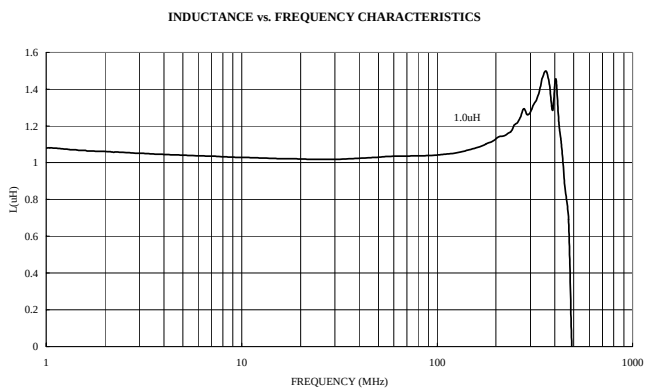
WOUND CHIP INDUCTORS / NL SERIES

Electrical Characteristics

Part Number	Inductance (μ H)	Tolerance ($\pm\%$)	Q Min	Test Frequency (MHz)	Self Resonant Frequency (MHz)Min	DC Resistance (Ω)max	Rated current (mA)max	COLOR CODING
NL201614T-1R0J-S	1.0	5	15	7.96	80	1.2	400	Brown
NL201614T-1R5J-S	1.5	5	15	7.96	75	1.45	350	Green
NL201614T-2R2J-S	2.2	5	15	7.96	70	1.8	300	Red
NL201614T-3R3J-S	3.3	5	15	7.96	68	2.3	250	Orange
NL201614T-4R7J-S	4.7	5	15	7.96	55	2.8	200	Violet
NL201614T-6R8J-S	6.8	5	15	7.96	40	3.4	180	Blue
NL201614T-100J-S	10	5	10	2.52	38	4.7	150	Brown
NL201614T-150J-S	15	5	10	2.52	30	6.5	140	Green
NL201614T-220J-S	22	5	10	2.52	25	8.0	120	Red
NL201614T-330J-S	33	5	10	2.52	20	10.7	100	Orange

- ▶ When ordering , please specify tolerance and packaging code. Ex:NL201614T-1R0J-S
 - Tolerance : J = 5%
 - Packaging : Clear tape and reel (standard)
- ▶ L , Q : HP4287A RDC : Digital Multimeter SC - 7401
- ▶ S R F : HP8753D / HP4291A
- ▶ Operating temperature range -25°C to $+85^{\circ}\text{C}$

Test Instruments : HP4291A Impedance / Material Analyzer



WOUND CHIP INDUCTORS / NL201614 SERIES

Electrical Characteristics

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Q Min	Test Frequency (MHz)	Self Resonant Frequency (MHz)Min	DC Resistance (Ω) max.	Rated current (mA) max.	COLOR CODING		
								1 ST	2 ND	3 RD
NL252018T-5N0□-S	0.005	10	10	100	3000	0.25	2000	Black	Green	Black
NL252018T-10N□-S	0.010	10	10	100	2500	0.25	1800	Brown	Black	Black
NL252018T-12N□-S	0.012	10	15	100	2400	0.26	1700	Brown	Red	Black
NL252018T-15N□-S	0.015	10	15	100	2300	0.28	1600	Brown	Green	Black
NL252018T-18N□-S	0.018	10	15	100	2200	0.30	1550	Brown	Gray	Black
NL252018T-22N□-S	0.022	10 / 5	20	100	2100	0.35	1500	Red	Red	Black
NL252018T-27N□-S	0.027	10 / 5	20	100	2000	0.40	1450	Red	Violet	Black
NL252018T-33N□-S	0.033	10 / 5	30	100	1600	0.42	1400	Orange	Orange	Black
NL252018T-39N□-S	0.039	10 / 5	35	100	1500	0.45	1350	Orange	White	Black
NL252018T-47N□-S	0.047	10 / 5	35	100	1400	0.50	1300	Yellow	Violet	Black
NL252018T-56N□-S	0.056	10 / 5	35	100	1300	0.60	1250	Green	Blue	Black
NL252018T-68N□-S	0.068	10 / 5	35	100	1200	0.65	1240	Blue	Gray	Black
NL252018T-82N□-S	0.082	10 / 5	35	100	1100	0.75	1230	Gray	Red	Black
NL252018T-R10□-S	0.10	10 / 5	35	100	800	0.80	1220	Brown	Black	Brown
NL252018T-R12□-S	0.12	10 / 5	30	25.2	700	0.30	900	Brown	Red	Brown
NL252018T-R15□-S	0.15	10 / 5	30	25.2	550	0.35	900	Brown	Green	Brown
NL252018T-R18□-S	0.18	10 / 5	30	25.2	500	0.40	850	Brown	Gray	Brown
NL252018T-R22□-S	0.22	10 / 5	30	25.2	450	0.50	840	Red	Red	Brown
NL252018T-R27□-S	0.27	10 / 5	30	25.2	425	0.55	830	Red	Violet	Brown
NL252018T-R33□-S	0.33	10 / 5	30	25.2	400	0.60	820	Orange	Orange	Brown
NL252018T-R39□-S	0.39	10 / 5	30	25.2	375	0.65	810	Orange	White	Brown
NL252018T-R47□-S	0.47	10 / 5	30	25.2	350	0.68	800	Yellow	Violet	Brown
NL252018T-R56□-S	0.56	10 / 5	30	25.2	325	0.75	800	Green	Blue	Brown
NL252018T-R68□-S	0.68	10 / 5	30	25.2	300	0.85	800	Blue	Gray	Brown
NL252018T-R82□-S	0.82	10 / 5	30	25.2	260	1.0	800	Gray	Red	Brown
NL252018T-1R0□-S	1.0	10 / 5	25	7.96	245	1.1	800	Brown	Black	Red
NL252018T-1R2□-S	1.2	10 / 5	25	7.96	230	1.2	790	Brown	Red	Red
NL252018T-1R5□-S	1.5	10 / 5	25	7.96	182	1.3	750	Brown	Green	Red
NL252018T-1R8□-S	1.8	10 / 5	25	7.96	135	1.45	750	Brown	Gray	Red
NL252018T-2R2□-S	2.2	10 / 5	25	7.96	105	1.55	750	Red	Red	Red
NL252018T-2R7□-S	2.7	10 / 5	25	7.96	70	1.7	740	Red	Violet	Red
NL252018T-3R3□-S	3.3	10 / 5	25	7.96	55	1.9	730	Orange	Orange	Red
NL252018T-3R9□-S	3.9	10 / 5	25	7.96	48	2.1	700	Orange	White	Red
NL252018T-4R7□-S	4.7	10 / 5	25	7.96	43	2.3	650	Yellow	Violet	Red
NL252018T-5R6□-S	5.6	10 / 5	20	7.96	42	2.5	640	Green	Blue	Red
NL252018T-6R8□-S	6.8	10 / 5	20	7.96	39	2.7	630	Blue	Gray	Red
NL252018T-8R2□-S	8.2	10 / 5	20	7.96	36	3.05	600	Gray	Red	Red
NL252018T-100□-S	10	10 / 5	15	2.52	33	3.5	680	Brown	Black	Orange
NL252018T-120□-S	12	10 / 5	15	2.52	30	3.8	650	Brown	Red	Orange
NL252018T-150□-S	15	10 / 5	15	2.52	26	4.4	500	Brown	Green	Orange

WOUND CHIP INDUCTORS / NL201614 SERIES

Electrical Characteristics

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Q Min	Test Frequency (MHz)	Self Resonant Frequency (MHz)Min	DC Resistance (Ω) max.	Rated current (mA) max.	COLOR CODING		
								1 ST	2 ND	3 RD
NL252018T-180□-S	18	10 / 5	15	2.52	24	4.8	450	Brown	Gray	Orange
NL252018T-220□-S	22	10 / 5	15	2.52	22	5.5	450	Red	Red	Orange
NL252018T-270□-S	27	10 / 5	15	2.52	21	6.3	430	Red	Violet	Orange
NL252018T-330□-S	33	10 / 5	15	2.52	20	7.1	380	Orange	Orange	Orange
NL252018T-390□-S	39	10 / 5	10	2.52	18	9.5	330	Orange	White	Orange
NL252018T-470□-S	47	10 / 5	10	2.52	17	11.1	300	Yellow	Violet	Orange
NL252018T-560□-S	56	10 / 5	10	2.52	16	12.1	270	Green	Blue	Orange
NL252018T-680□-S	68	10 / 5	10	2.52	15	16.6	250	Blue	Gray	Orange
NL252018T-820□-S	82	10 / 5	10	2.52	13	19	200	Gray	Red	Orange
NL252018T-101□-S	100	10 / 5	8	0.796	12	21	120	Brown	Black	Yellow

* UV COLOR: **BLUE** / CORE COLOR : **BLACK**

► When ordering , please specify tolerance and packaging code. Ex:NL252018T-101J-S

Tolerance : □ J = 5% □ K =10%

Packaging : Clear tape and reel (standard) .

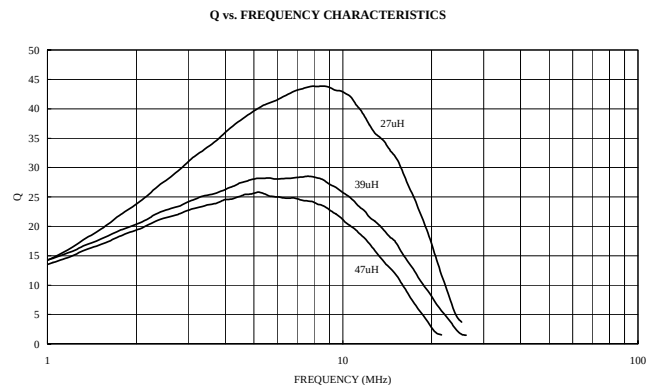
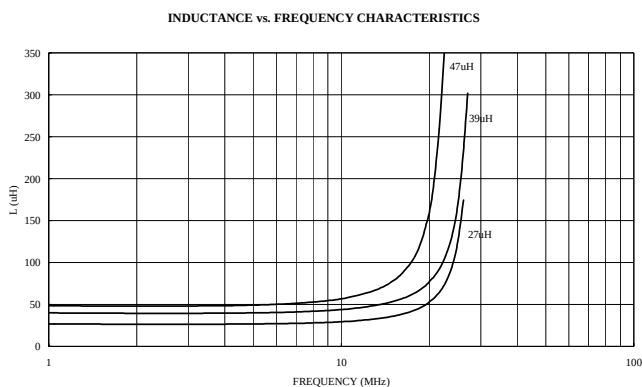
► L , Q : HP4287A

► S R F : HP8753D / HP4291A .

► RDC : Digital Multimeter SC - 7401

► Operating temperature range -25°C to + 85°C

Test Instruments : HP4291A Impedance / Material Analyzer



WOUND CHIP INDUCTORS / NL201614 SERIES

Electrical Characteristics

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Q Min.	Test Frequency (MHz)	Self Resonant Frequency (MHz)min.	DC Resistance (Ω)max.	Rated current (mA)
NL322522T-010K-S	0.010	10	15	100	2500	0.13	450
NL322522T-012K-S	0.012	10	17	100	2300	0.14	450
NL322522T-015K-S	0.015	10	19	100	2100	0.16	450
NL322522T-018K-S	0.018	10	21	100	1900	0.18	450
NL322522T-022K-S	0.022	10	23	100	1700	0.20	450
NL322522T-027K-S	0.027	10	23	100	1500	0.22	450
NL322522T-033K-S	0.033	10	25	100	1400	0.24	450
NL322522T-039K-S	0.039	10	25	100	1300	0.27	450
NL322522T-047K-S	0.047	10	26	100	1200	0.30	450
NL322522T-056K-S	0.056	10	26	100	1100	0.33	450
NL322522T-068K-S	0.068	10	27	100	1000	0.36	450
NL322522T-082K-S	0.082	10	27	100	900	0.40	450
NL322522T-R10K-S	0.10	10	28	100	700	0.44	450
NL322522T-R12K-S	0.12	10	30	25.20	500	0.22	450
NL322522T-R15K-S	0.15	10	30	25.20	450	0.25	450
NL322522T-R18K-S	0.18	10	30	25.20	400	0.28	450
NL322522T-R22K-S	0.22	10	30	25.20	350	0.32	450
NL322522T-R27K-S	0.27	10	30	25.20	320	0.36	450
NL322522T-R33K-S	0.33	10	30	25.20	300	0.40	450
NL322522T-R39K-S	0.39	10	30	25.20	250	0.45	450
NL322522T-R47K-S	0.47	10	30	25.20	220	0.50	450
NL322522T-R56K-S	0.56	10	30	25.20	180	0.55	450
NL322522T-R68K-S	0.68	10	30	25.20	160	0.60	450
NL322522T-R82K-S	0.82	10	30	25.20	140	0.65	450
NL322522T-1R0K-S	1.00	10	30	7.960	120	0.70	400
NL322522T-1R2K-S	1.20	10	30	7.960	100	0.75	390
NL322522T-1R5K-S	1.50	10	30	7.960	85	0.85	370
NL322522T-1R8K-S	1.80	10	30	7.960	80	0.90	350
NL322522T-2R2K-S	2.20	10	30	7.960	75	1.00	320
NL322522T-2R7K-S	2.70	10	30	7.960	70	1.10	290
NL322522T-3R3K-S	3.30	10	30	7.960	60	1.20	260
NL322522T-3R9K-S	3.90	10	30	7.960	55	1.30	250
NL322522T-4R7K-S	4.70	10	30	7.960	50	1.50	220
NL322522T-5R6K-S	5.60	10	30	7.960	45	1.60	200
NL322522T-6R8K-S	6.80	10	30	7.960	40	1.80	180
NL322522T-8R2K-S	8.20	10	30	7.960	35	2.00	170
NL322522T-100K-S	10	10	30	2.520	30	2.10	150
NL322522T-120K-S	12	10	30	2.520	20	2.50	140
NL322522T-150K-S	15	10	30	2.520	20	2.80	130
NL322522T-180K-S	18	10	30	2.520	20	3.30	120
NL322522T-220K-S	22	10	30	2.520	20	3.70	110
NL322522T-270K-S	27	10	30	2.520	20	5.00	80

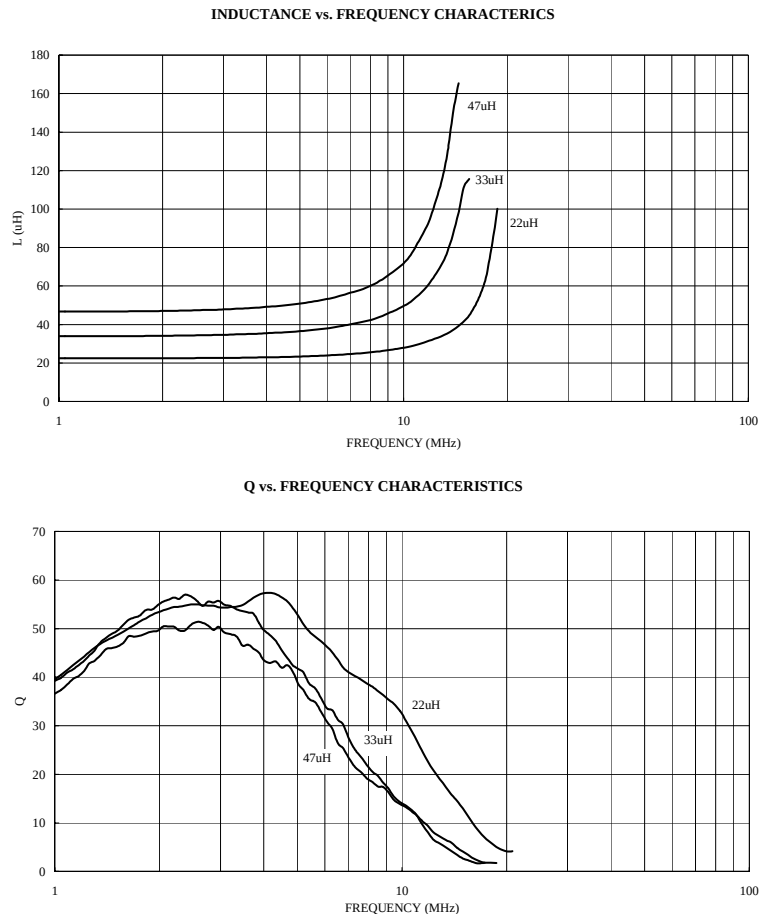
WOUND CHIP INDUCTORS / NL201614 SERIES

Electrical Characteristics

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Q Min.	Test Frequency (MHz)	Self Resonant Frequency (MHz)min.	DC Resistance (Ω)max.	Rated current (mA)
NL322522T-330K-S	33	10	30	2.520	17	5.60	70
NL322522T-390K-S	39	10	30	2.520	16	6.40	65
NL322522T-470K-S	47	10	30	2.520	15	7.00	60
NL322522T-560K-S	56	10	30	2.520	13	8.00	55
NL322522T-680K-S	68	10	30	2.520	12	9.00	50
NL322522T-820K-S	82	10	30	2.520	11	10.0	45
NL322522T-101K-S	100	10	20	0.796	10	10.0	40
NL322522T-121K-S	120	10	20	0.796	10	11.0	70
NL322522T-151K-S	150	10	20	0.796	8	15.0	65
NL322522T-181K-S	180	10	20	0.796	7	17.0	60
NL322522T-221K-S	220	10	20	0.796	7	21.0	50
NL322522T-271K-S	270	10	20	0.796	6	28.0	45
NL322522T-331K-S	330	10	20	0.796	5	34.0	40

Test Instruments: HP 4286A RF Impedance Analyzer for L、Q、SRF Digital Multimeter SC-7401 for RDC
 HP4285A LF Impedance Analyzer for L、Q CHEN-HWA 1061+CHEN-WHA 301A for IDC

Test Instruments : HP4291A Impedance / Material Analyzer



WOUND CHIP INDUCTORS / NL201614 SERIES

Electrical Characteristics

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Q Min.	Test Frequency (MHz)	Self Resonant Frequency (MHz)min.	DC Resistance (Ω)max.	Rated current (mA)
NL453232T-R10M-S	0.10	20	28	25.20	700	0.44	450
NL453232T-R12M-S	0.12	20	30	25.20	500	0.22	450
NL453232T-R15M-S	0.15	20	30	25.20	450	0.25	450
NL453232T-R18M-S	0.18	20	30	25.20	400	0.28	450
NL453232T-R22M-S	0.22	20	30	25.20	350	0.32	450
NL453232T-R27M-S	0.27	20	30	25.20	320	0.36	450
NL453232T-R33M-S	0.33	20	30	25.20	300	0.40	450
NL453232T-R39M-S	0.39	20	30	25.20	250	0.45	450
NL453232T-R47M-S	0.47	20	30	25.20	220	0.50	450
NL453232T-R56M-S	0.56	20	30	25.20	180	0.55	450
NL453232T-R68M-S	0.68	20	30	25.20	160	0.60	450
NL453232T-R82M-S	0.82	20	30	25.20	140	0.67	450
NL453232T-1R0K-S	1.00	10	50	7.960	100	0.50	450
NL453232T-1R2K-S	1.20	10	50	7.960	80	0.55	430
NL453232T-1R5K-S	1.50	10	50	7.960	70	0.60	410
NL453232T-1R8K-S	1.80	10	50	7.960	60	0.65	390
NL453232T-2R2K-S	2.20	10	50	7.960	55	0.70	380
NL453232T-2R7K-S	2.70	10	50	7.960	50	0.75	370
NL453232T-3R3K-S	3.30	10	50	7.960	45	0.80	355
NL453232T-3R9K-S	3.90	10	50	7.960	40	0.90	330
NL453232T-4R7K-S	4.70	10	50	7.960	35	1.00	315
NL453232T-5R6K-S	5.60	10	50	7.960	33	1.10	300
NL453232T-6R8K-S	6.80	10	50	7.960	27	1.20	285
NL453232T-8R2K-S	8.20	10	50	7.960	25	1.40	270
NL453232T-100K-S	10	10	50	2.520	20	1.60	250
NL453232T-120K-S	12	10	50	2.520	18	2.00	225
NL453232T-150K-S	15	10	50	2.520	17	2.50	200
NL453232T-180K-S	18	10	50	2.520	15	2.80	190
NL453232T-220K-S	22	10	50	2.520	13	3.20	180
NL453232T-270K-S	27	10	50	2.520	12	3.60	170
NL453232T-330K-S	33	10	50	2.520	11	4.00	160
NL453232T-390K-S	39	10	50	2.520	10	4.50	150
NL453232T-470K-S	47	10	50	2.520	10	5.00	140
NL453232T-560K-S	56	10	50	2.520	9	5.50	135
NL453232T-680K-S	68	10	50	2.520	9	6.00	130
NL453232T-820K-S	82	10	50	2.520	8	7.00	120
NL453232T-101K-S	100	10	40	0.796	8	8.00	110
NL453232T-121K-S	120	10	40	0.796	6	8.00	110
NL453232T-151K-S	150	10	40	0.796	5	9.00	105
NL453232T-181K-S	180	10	40	0.796	5	9.50	102

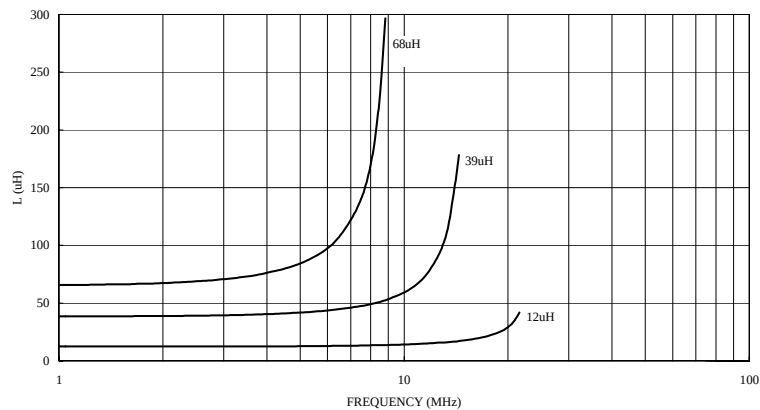
WOUND CHIP INDUCTORS / NL201614 SERIES

Electrical Characteristics

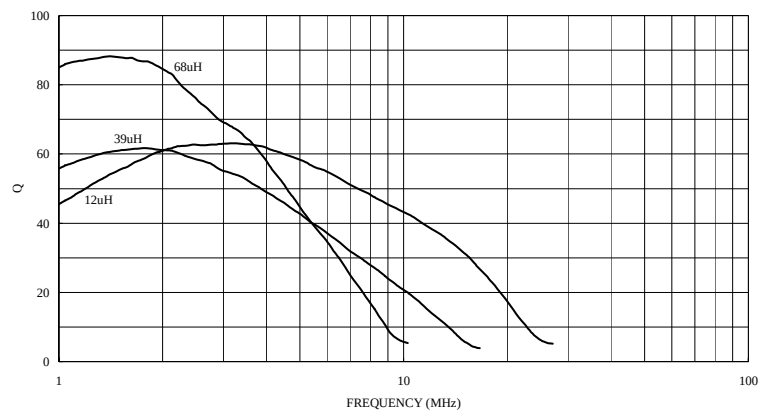
Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Q Min.	Test Frequency (MHz)	Self Resonant Frequency (MHz)min.	DC Resistance (Ω)max.	Rated current (mA)
NL453232T-221K-S	220	10	40	0.796	4	12.00	100
NL453232T-271K-S	270	10	30	0.796	4	18.00	92
NL453232T-331K-S	330	10	30	0.796	3.5	20.00	85
NL453232T-391K-S	390	10	30	0.796	3	23.00	80
NL453232T-471K-S	470	10	30	0.796	3	26.00	62
NL453232T-561K-S	560	10	30	0.796	3	30.00	50
NL453232T-681K-S	680	10	30	0.796	3	40.00	50
NL453232T-821K-S	820	10	30	0.796	2.5	45.00	30
NL453232T-102K-S	1000	10	30	0.796	2.5	50.00	30

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



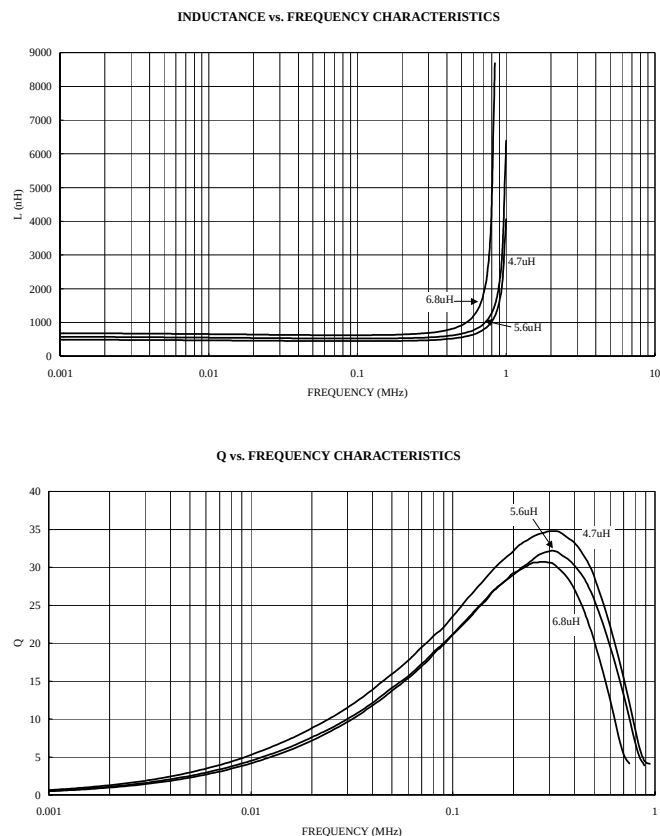
WOUND CHIP INDUCTORS / NL201614 SERIES

Electrical Characteristics

Part Number	Inductance (mH)	Tolerance (± %)	Q Min.	Test Frequency (MHz)	Self Resonant Frequency (MHz)min.	DC Resistance (Ω)max.	Rated current (mA)
NL565050T-122J-S	1.2	5 / 10	30	0.252	1.5	17	75
NL565050T-152J-S	1.5	5 / 10	30	0.252	1.4	20	70
NL565050T-182J-S	1.8	5 / 10	30	0.252	1.3	30	60
NL565050T-222J-S	2.2	5 / 10	30	0.252	1.2	35	55
NL565050T-272J-S	2.7	5 / 10	30	0.252	1.1	55	45
NL565050T-332J-S	3.3	5 / 10	30	0.252	1	60	40
NL565050T-392J-S	3.9	5 / 10	30	0.252	1	70	38
NL565050T-472J-S	4.7	5 / 10	30	0.252	0.9	78	36
NL565050T-562J-S	5.6	5 / 10	30	0.252	0.8	85	33
NL565050T-682J-S	6.8	5 / 10	30	0.252	0.7	110	30
NL565050T-822J-S	8.2	5 / 10	30	0.252	0.6	125	28
NL565050T-103J-S	10	5 / 10	20	0.0796	0.5	150	25

Test Instruments: HP4286A RF Impedance Analyzer for L、Q、 SRF Digital Multimeter SC-7401 for RDC
 HP4285A LF Impedance Analyzer for L、Q CHEN-HWA 1061+CHEN-WHA 301A for IDC

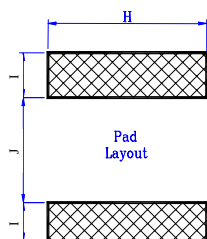
Test Instruments : HP4291A Impedance / Material Analyzer



WOUND CHIP INDUCTORS / NL SERIES

Recommended Pattern

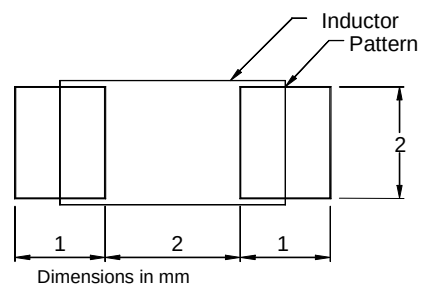
NL201614 SERIES



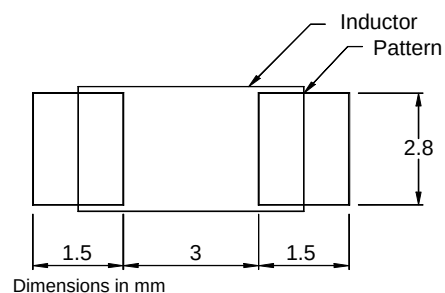
Dimensions in mm

Unit	H	I	J
In	0.07	0.04	0.03
mm	1.78	1.02	0.76

NL322522 SERIES

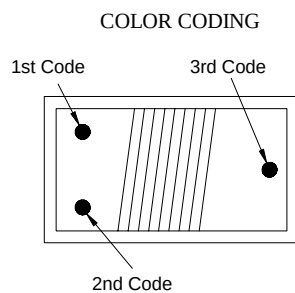
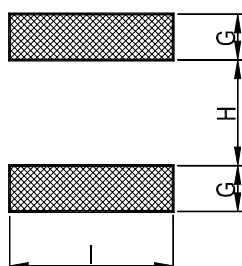


NL453232 SERIES



NL252018 SERIES

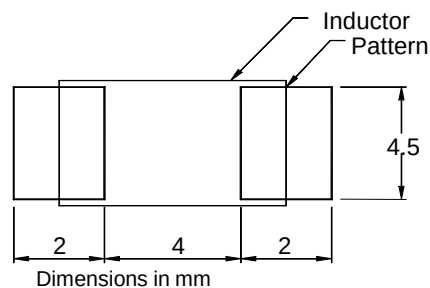
DIMENSIONS in mm
PAD LAYOUT



Dimensions in mm

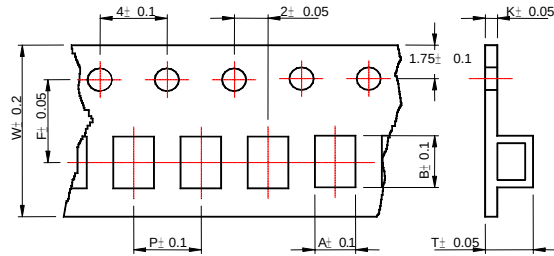
Unit	G	H	I
mm	1.02	1.27	2.54

NL565050 SERIES



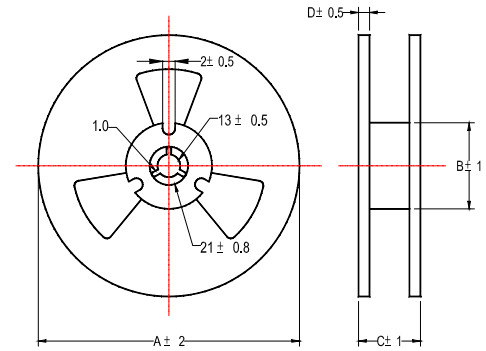
WOUND CHIP INDUCTORS / NL SERIES

Tape Dimensions



Reel Dimensions

Figure 1



Tape Material

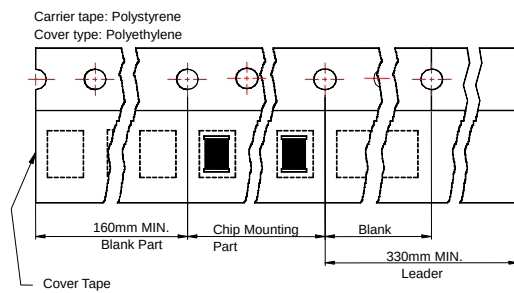
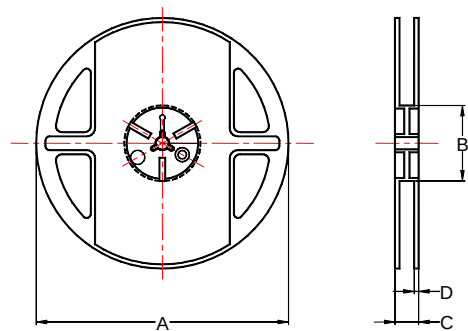


Figure 2



Dimensions in mm

TYPE	Tape Dimensions							Reel Dimensions					Quantity /Reel
	A	B	T	W	P	F	K	Fig	A	B	C	D	
NL201614	1.88	2.38	1.48	8	4	3.5	0.2	2	178	60	13	9	2500
NL252018	2.61	2.83	2.25	8	4	3.5	0.25	2	178	60	12	1.5	2000
NL322522	2.94	3.64	2.52	8	4	3.5	0.2	1	178	60	10	1.5	2000
NL453232	3.64	5.14	3.6	12	8	5.5	0.3	1	250	80	14	1.5	500
NL565050	4.9	5.65	5.3	16.15	12.2	5.5	0.5	2	330	80	20	2	1000

1-1 Mechanical Performance

No	Item	Specification	Test Method
1-1-1	Vibration	Appearance: No damage L change: within $\pm 10\%$ Q change: within $\pm 30\%$	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
1-1-2	Resistance to Soldering Heat	Appearance: No damage	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 260 $\pm 5^\circ\text{C}$ Immersion Time: 10 ± 1 sec
1-1-3	Solderability	The electrodes shall be at least 90% covered with new solder coating	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 230 $\pm 5^\circ\text{C}$ Immersion Time: 4 ± 1 sec

1-2 Environmental Performance

No	Item	Specification	Test Method															
1-2-1	Temperature Cycle	Appearance: No damage L change: within±10% Q change: within±30%	One cycle: <table><tr><th>Step</th><th>Temperature (°C)</th><th>Time (min)</th></tr><tr><td>1</td><td>-25±3</td><td>30</td></tr><tr><td>2</td><td>25±2</td><td>3</td></tr><tr><td>3</td><td>85±3</td><td>30</td></tr><tr><td>4</td><td>25±2</td><td>3</td></tr></table> Total: 100cycles Measured after exposure in the room condition for 24hrs	Step	Temperature (°C)	Time (min)	1	-25±3	30	2	25±2	3	3	85±3	30	4	25±2	3
Step	Temperature (°C)	Time (min)																
1	-25±3	30																
2	25±2	3																
3	85±3	30																
4	25±2	3																
1-2-2	Humidity Resistance		Temperature: 40±2°C Relative Humidity: 90 ~ 95% Time: 1000hrs Measured after exposure in the room condition for 24hrs															
1-2-3	High Temperature Resistance		Temperature: 85±3°C Relative Humidity: 20% Applied Current: Rated Current Time: 1000hrs Measured after exposure in the room condition for 24hrs															
1-2-4	Low Temperature Resistance		Temperature: -25±3°C Relative Humidity: 0% Time: 1000hrs Measured after exposure in the room condition for 24hrs															

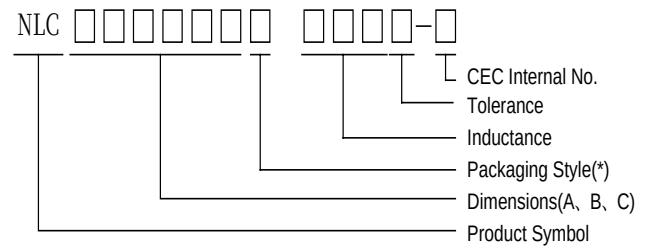
WOUND CHIP INDUCTORS / NLC SERIES

The characteristics of this series perform low Rdc and carry large current.

The size format is from 2520 (1008) ~ 5650 (2220).

Best for power supply applications such as PC, conveyable telephone, and others.

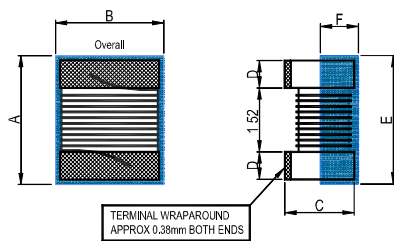
Product Identification



* T : Tape and Reel ; B : Bulk

Shapes and Dimensions

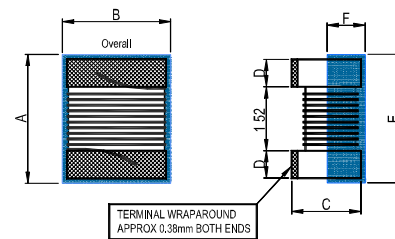
NLC252018 SERIES



Dimensions in mm

Unit	A	B	C	D	E	F
mm	2.92 ⁺⁰	2.79 ⁺⁰	2.1 ⁺⁰	0.51	2.92 ⁺⁰	0.51ref

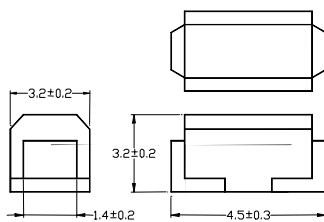
NLC322522 SERIES



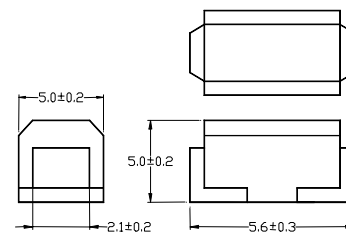
Dimensions in mm

Unit	A	B	C	D	E	F
mm	3.70 ⁺⁰	2.90 ⁺⁰	2.60 ⁺⁰	0.51	3.7	0.51ref

NLC453232 SERIES



NLC565050 SERIES



WOUND CHIP INDUCTORS / NLC SERIES

Electrical Characteristics

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Q Min	Test Frequency (MHz)	Self Resonant Frequency (MHz)min	DC Resistance (Ω)max	Rated current (mA)	COLOR CODING		
NLC252018T-1R0□-S	1.0	20	15	7.96	200	0.34	700	Brown	Black	Red
NLC252018T-1R5□-S	1.5	20	15	7.96	165	0.42	650	Brown	Green	Red
NLC252018T-2R2□-S	2.2	20	15	7.96	95	0.50	630	Red	Red	Red
NLC252018T-3R3□-S	3.3	20	15	7.96	55	0.65	600	Orange	Orange	Red
NLC252018T-4R7□-S	4.7	20	15	7.96	43	0.80	580	Yellow	Violet	Red
NLC252018T-6R8□-S	6.8	20	15	7.96	39	1.00	550	Blue	Gray	Red
NLC252018T-100□-S	10	10	15	2.52	32	1.69	500	Brown	Black	Orange
NLC252018T-150□-S	15	10	15	2.52	21	2.20	450	Brown	Green	Orange
NLC252018T-220□-S	22	10	13	2.52	18	2.80	350	Red	Red	Orange
NLC252018T-330□-S	33	10	13	2.52	16	4.20	300	Orange	Orange	Orange

- ▶ When ordering , please specify tolerance and packaging code. Ex:NLC252018T-6R8J-S
 Tolerance : J = 5% : K= 10%
 Packaging : Clear tape and reel (standard) .
- ▶ L , Q : HP4287A
- ▶ S R F : HP8753D / HP4291A .
- ▶ RDC : Digital Multimeter SC - 7401
- ▶ Operating temperature range -25°C to + 85°C

Electrical Characteristics

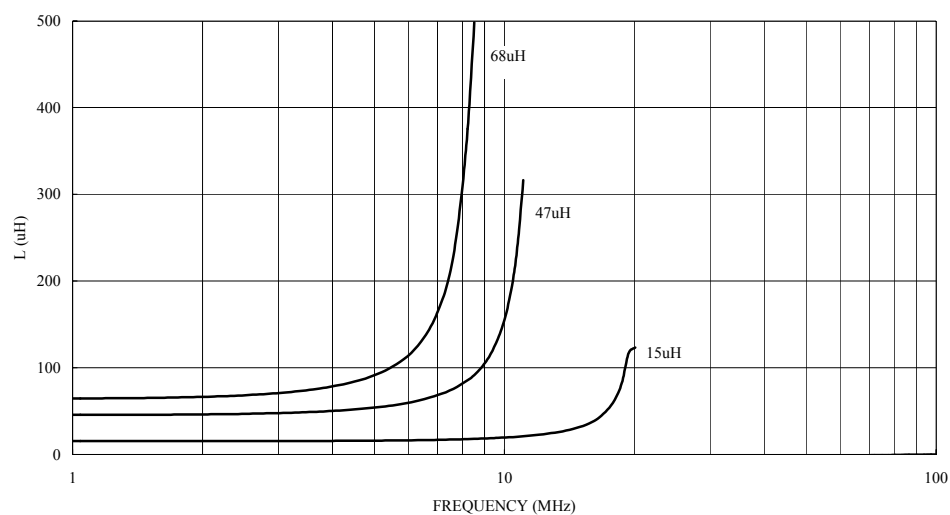
Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Q Min	Test Frequency (MHz)	Self Resonant Frequency (MHz)min	DC Resistance $\pm$ 30% (Ω)	Rated current (mA)min	COLOR CODING		
NLC322522T-1R0□-S	1.0	5 / 10	20	7.96	100	0.08	1500	Brown	Black	Red
NLC322522T-1R5□-S	1.5	5 / 10	20	7.96	80	0.13	1125	Brown	Green	Red
NLC322522T-2R2□-S	2.2	5 / 10	20	7.96	68	0.13	970	Red	Red	Red
NLC322522T-3R3□-S	3.3	5 / 10	20	7.96	54	0.16	837	Orange	Orange	Red
NLC322522T-4R7□-S	4.7	5 / 10	20	7.96	43	0.20	675	Yellow	Violet	Red
NLC322522T-6R8□-S	6.8	5 / 10	20	7.96	33	0.27	600	Blue	Gray	Red
NLC322522T-100□-S	10	5 / 10	15	2.52	28	0.36	520	Brown	Black	Orange
NLC322522T-150□-S	15	5 / 10	15	2.52	19	0.56	480	Brown	Green	Orange
NLC322522T-220□-S	22	5 / 10	15	2.52	16	0.77	310	Red	Red	Orange
NLC322522T-330□-S	33	5 / 10	15	2.52	12	1.10	270	Orange	Orange	Orange
NLC322522T-470□-S	47	5 / 10	15	2.52	10	1.64	210	Yellow	Violet	Orange
NLC322522T-680□-S	68	5 / 10	15	2.52	9	2.80	189	Blue	Gray	Orange
NLC322522T-101□-S	100	5 / 10	15	0.796	6	3.70	145	Brown	Black	Yellow
NLC322522T-151□-S	150	5 / 10	15	0.796	5	6.10	120	Brown	Green	Yellow
NLC322522T-221□-S	220	5 / 10	15	0.796	4	8.40	100	Red	Red	Yellow
NLC322522T-331□-S	330	5 / 10	15	0.796	3.5	12.3	80	Orange	Orange	Yellow
NLC322522T-471□-S	470	5 / 10	15	0.796	2.8	22.0	75	Yellow	Violet	Yellow
NLC322522T-681□-S	680	5 / 10	15	0.796	2	28.0	65	Blue	Gray	Yellow

- ▶ When ordering , please specify tolerance and packaging code. Ex:NLC322522T-101J-S
 Tolerance : J = 5% K= 10%
 Packaging : Clear tape and reel (standard) .
- ▶ L , Q : HP4287A
- ▶ S R F : HP8753D / HP4291A .
- ▶ RDC : Digital Multimeter SC - 7401
- ▶ Operating temperature range -25°C to + 85°C

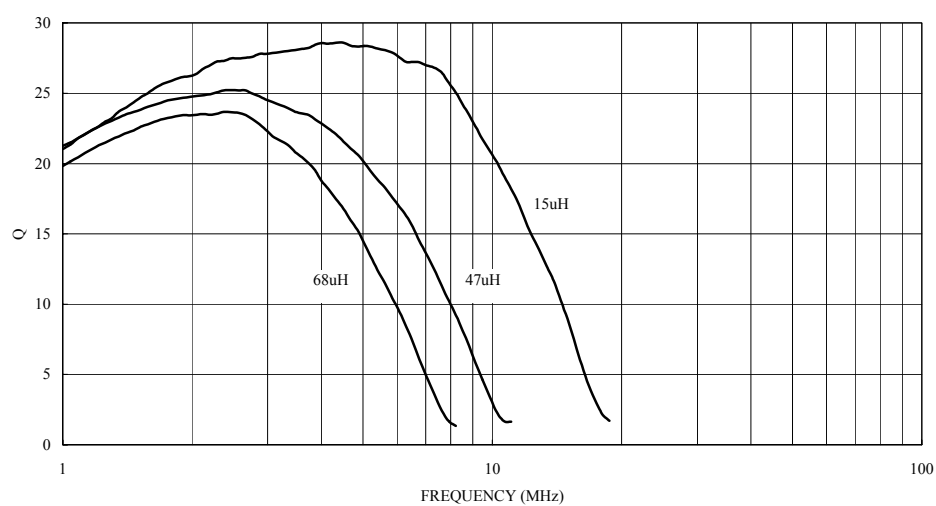
WOUND CHIP INDUCTORS / NLC SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



WOUND CHIP INDUCTORS / NLC SERIES

Electrical Characteristics

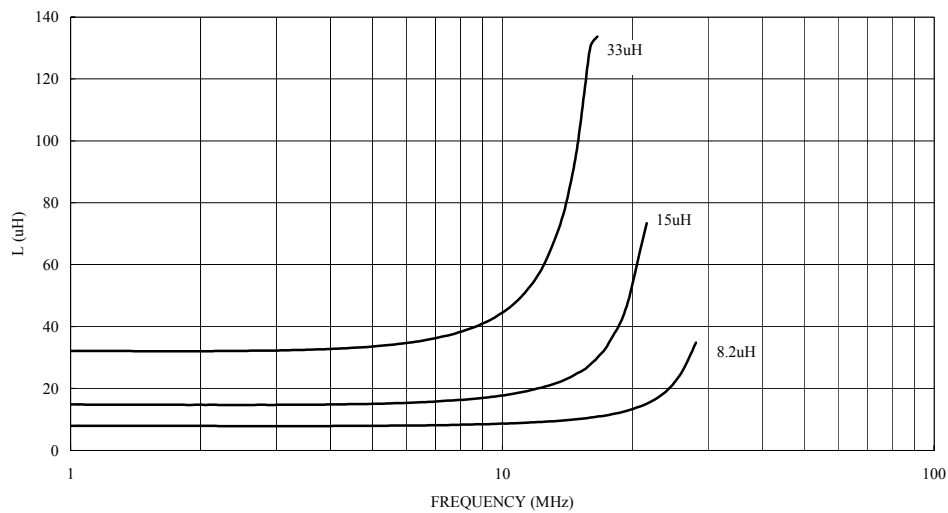
Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Q Min.	Test Frequency (MHz)	Self Resonant Frequency (MHz)min.	DC Resistance (Ω)max.	Rated current (mA)
NLC453232T-1R0K-S	1.0	10	10	7.96	200	0.11	1050
NLC453232T-1R2K-S	1.2	10	10	7.96	160	0.12	1000
NLC453232T-1R5K-S	1.5	10	10	7.96	130	0.15	950
NLC453232T-1R8K-S	1.8	10	10	7.96	100	0.16	900
NLC453232T-2R2K-S	2.2	10	10	7.96	60	0.18	850
NLC453232T-2R7K-S	2.7	10	10	7.96	60	0.20	800
NLC453232T-3R3K-S	3.3	10	10	7.96	45	0.22	750
NLC453232T-3R9K-S	3.9	10	10	7.96	40	0.24	700
NLC453232T-4R7K-S	4.7	10	10	7.96	35	0.27	650
NLC453232T-5R6K-S	5.6	10	10	7.96	30	0.30	650
NLC453232T-6R8K-S	6.8	10	10	7.96	28	0.35	600
NLC453232T-8R2K-S	8.2	10	10	7.96	25	0.40	600
NLC453232T-100K-S	10	10	10	2.52	22	0.50	550
NLC453232T-120K-S	12	10	10	2.52	21	0.60	500
NLC453232T-150K-S	15	10	10	2.52	20	0.70	450
NLC453232T-180K-S	18	10	10	2.52	19	0.80	400
NLC453232T-220K-S	22	10	10	2.52	18	0.90	370
NLC453232T-270K-S	27	10	10	2.52	16	1.20	330
NLC453232T-330K-S	33	10	10	2.52	14	1.40	300
NLC453232T-390K-S	39	10	10	2.52	12	1.60	280
NLC453232T-470K-S	47	10	10	2.52	11.5	1.90	260
NLC453232T-560K-S	56	10	10	2.52	11	2.20	240
NLC453232T-680K-S	68	10	10	2.52	10	2.60	220
NLC453232T-820K-S	82	10	10	2.52	9	3.50	200
NLC453232T-101K-S	100	10	20	0.796	8	4.00	180
NLC453232T-121K-S	120	10	20	0.796	6.5	4.50	160
NLC453232T-151K-S	150	10	20	0.796	7	6.50	140
NLC453232T-181K-S	180	10	20	0.796	5.5	7.50	120
NLC453232T-221K-S	220	10	20	0.796	5.5	9.00	120
NLC453232T-271K-S	270	10	20	0.796	5	11.0	100
NLC453232T-331K-S	330	10	20	0.796	4	13.0	90

Test Instruments: HP4286A RF Impedance Analyzer for L、Q、SRF Digital Multimeter SC-7401 for RDC
 HP4285A LF Impedance Analyzer for L、Q CHEN-HWA 1061+CHEN-WHA 301A for IDC

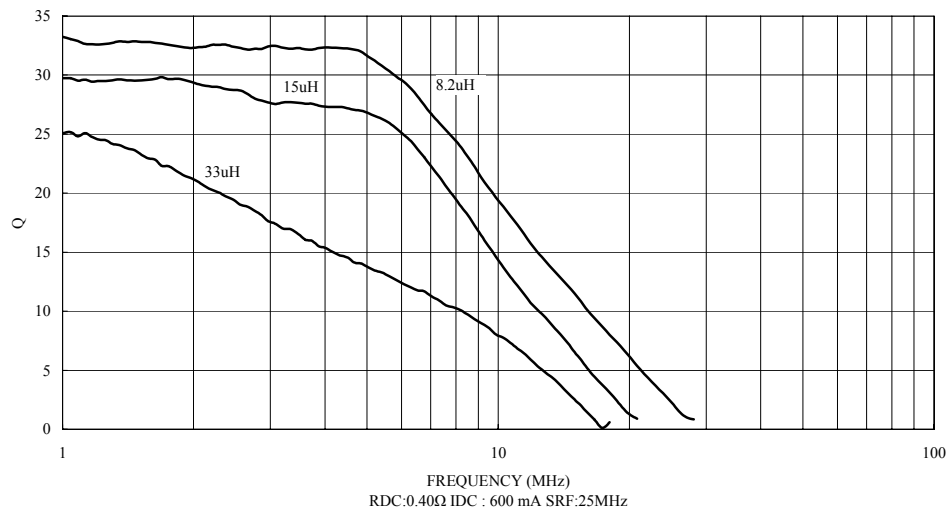
WOUND CHIP INDUCTORS / NLC SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



WOUND CHIP INDUCTORS / NLC SERIES

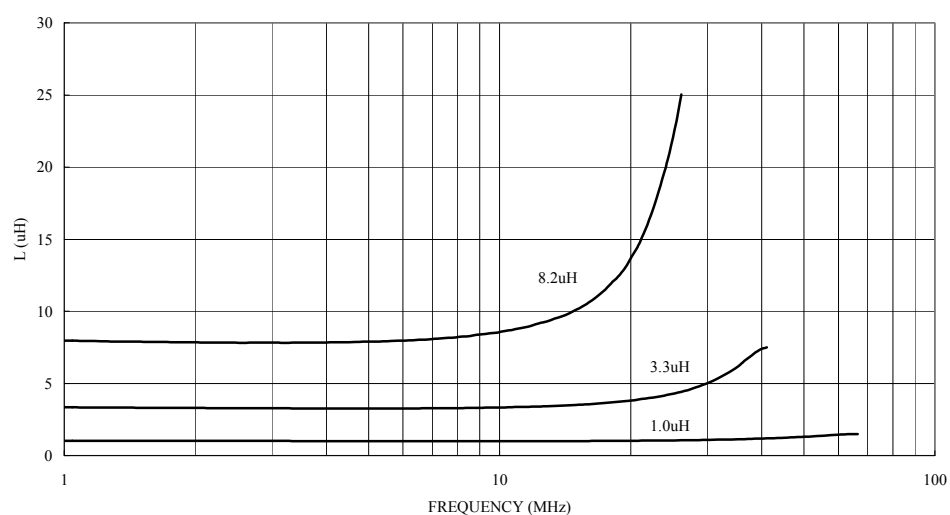
Electrical Characteristics

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Q Min.	Test Frequency (MHz)	Self Resonant Frequency (MHz)min.	DC Resistance (Ω)max.	Rated current (mA)
NLC565050T-1R0K-S	1.0	10	10	7.96	95	0.03	1800
NLC565050T-1R2K-S	1.2	10	10	7.96	70	0.035	1700
NLC565050T-1R5K-S	1.5	10	10	7.96	55	0.04	1600
NLC565050T-1R8K-S	1.8	10	10	7.96	47	0.05	1400
NLC565050T-2R2K-S	2.2	10	10	7.96	42	0.06	1300
NLC565050T-2R7K-S	2.7	10	10	7.96	37	0.07	1200
NLC565050T-3R3K-S	3.3	10	10	7.96	34	0.08	1120
NLC565050T-3R9K-S	3.9	10	10	7.96	32	0.09	1050
NLC565050T-4R7K-S	4.7	10	10	7.96	29	0.11	950
NLC565050T-5R6K-S	5.6	10	10	7.96	26	0.13	880
NLC565050T-6R8K-S	6.8	10	10	7.96	24	0.15	810
NLC565050T-8R2K-S	8.2	10	10	7.96	22	0.18	750
NLC565050T-100K-S	10	10	10	2.52	19	0.21	690
NLC565050T-120K-S	12	10	10	2.52	17	0.25	630
NLC565050T-150K-S	15	10	10	2.52	16	0.30	580
NLC565050T-180K-S	18	10	10	2.52	14	0.36	530
NLC565050T-220K-S	22	10	10	2.52	13	0.43	480
NLC565050T-270K-S	27	10	10	2.52	11.5	0.52	440
NLC565050T-330K-S	33	10	10	2.52	10.5	0.62	400
NLC565050T-390K-S	39	10	10	2.52	9.5	0.72	370
NLC565050T-470K-S	47	10	10	2.52	8.5	0.85	340
NLC565050T-560K-S	56	10	10	2.52	7.8	1.00	310
NLC565050T-680K-S	68	10	10	2.52	7	1.2	290
NLC565050T-820K-S	82	10	10	2.52	6.4	1.4	270
NLC565050T-101K-S	100	10	20	0.796	6	1.6	250
NLC565050T-121K-S	120	10	20	0.796	5.4	1.9	230
NLC565050T-151K-S	150	10	20	0.796	4.8	2.2	210
NLC565050T-181K-S	180	10	20	0.796	4.4	2.8	190
NLC565050T-221K-S	220	10	20	0.796	3.9	3.4	170
NLC565050T-271K-S	270	10	20	0.796	3.6	4.2	155
NLC565050T-331K-S	330	10	20	0.796	3.2	4.9	140
NLC565050T-391K-S	390	10	20	0.796	2.9	5.8	130
NLC565050T-471K-S	470	10	20	0.796	2.6	7	120
NLC565050T-561K-S	560	10	20	0.796	2.4	8.5	110
NLC565050T-681K-S	680	10	20	0.796	2.2	10	100
NLC565050T-821K-S	820	10	20	0.796	2	13	90
NLC565050T-102K-S	1000	10	20	0.252	1.8	15	85

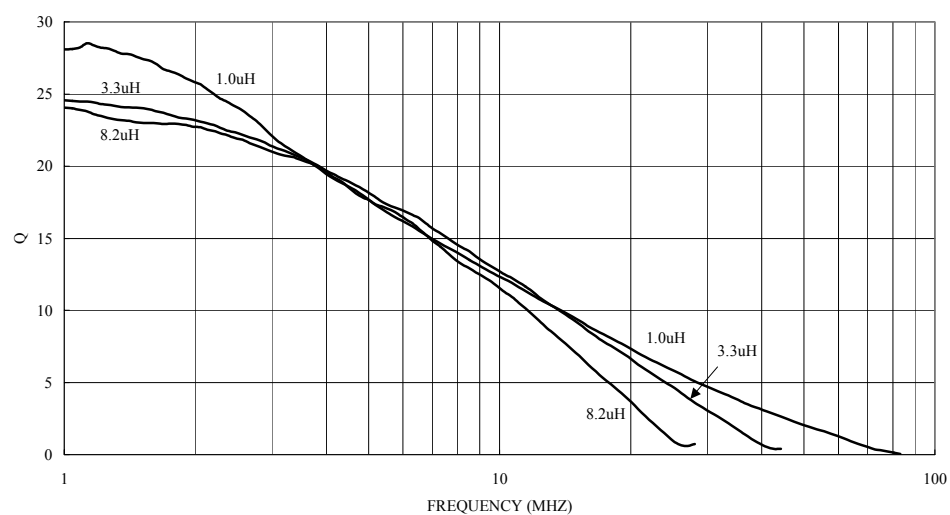
Test Instruments: HP 4286A RF Impedance Analyzer for L、Q、SRF Digital Multimeter SC-7401 for RDC
 HP4285A LF Impedance Analyzer for L、Q CHEN-HWA 1061+CHEN-WHA 301A for IDC

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



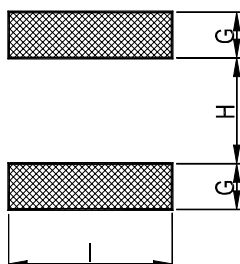
Q vs. FREQUENCY CHARACTERISTICS



Recommended Pattern

NLC252018 SERIES

DIMENSIONS in mm
PAD LAYOUT

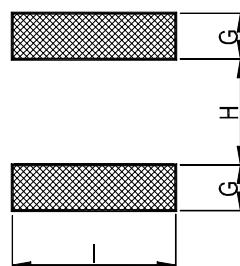


Dimensions in mm

Unit	G	H	I
mm	1.02	1.27	2.54

NLC322522 SERIES

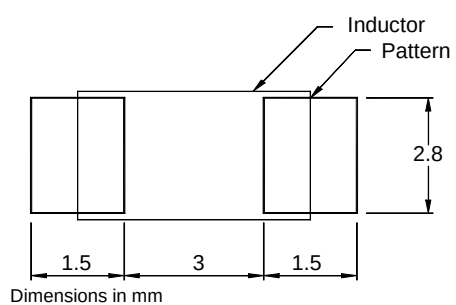
DIMENSIONS in mm
PAD LAYOUT



Dimensions in mm

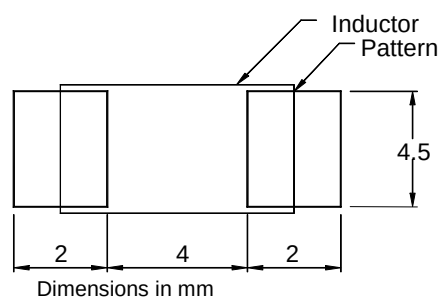
Unit	G	H	I
mm	1.00	2.00	2.70

NLC453232 SERIES



Dimensions in mm

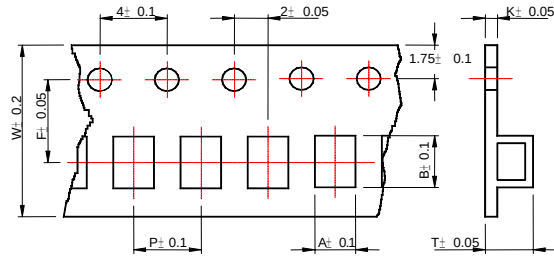
NLC565050 SERIES



Dimensions in mm

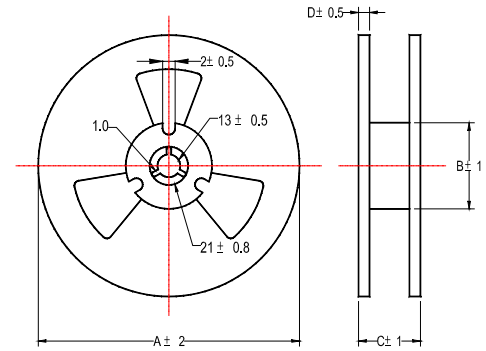
WOUND CHIP INDUCTORS / NLC SERIES

Tape Dimensions



Reel Dimensions

Figure 1



Tape Material

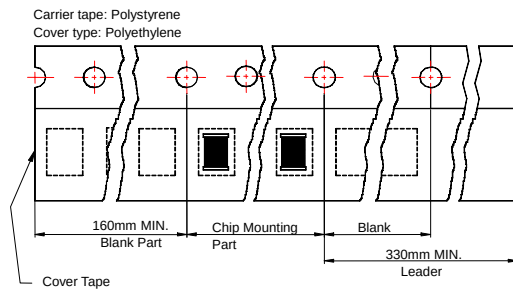
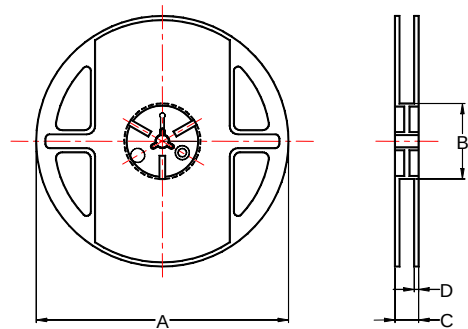


Figure 2



Dimensions in mm

TYPE	Tape Dimensions							Reel Dimensions					Quantity /Reel
	A	B	T	W	P	F	K	Fig	A	B	C	D	
NLC252018	2.61	2.83	2.25	8	4	3.5	0.25	2	178	60	12	1.5	2000
NLC322522	2.61	2.83	2.25	8	4	3.5	0.25	1	178	60	10	2	2000
NLC453232	3.64	5.14	3.6	12	8	5.5	0.3	1	250	80	14	2	500
NLC565050	4.9	5.65	5.3	16.15	12.2	5.5	0.5	2	330	80	20	2	1000

1-1 Mechanical Performance

No	Item	Specification	Test Method
1-1-1	Vibration	Appearance: No damage L change: within $\pm 10\%$ Q change: within $\pm 30\%$ RDC: within specification	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
1-1-2	Resistance to Soldering Heat	Appearance: No damage	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 260 ± 5 °C Immersion Time: 10 ± 1 sec
1-1-3	Solderability	The electrodes shall be at least 90% covered with new solder coating	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 230 ± 5 °C Immersion Time: 4 ± 1 sec

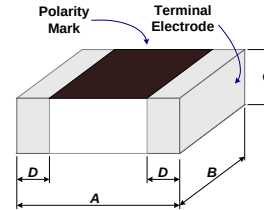
1-2 Environmental Performance

No	Item	Specification	Test Method															
1-2-1	Temperature Cycle	Appearance: No damage L change: within±10% Q change: within±30% RDC: within specification	One cycle: <table><tr><th>Step</th><th>Temperature (°C)</th><th>Time (min)</th></tr><tr><td>1</td><td>-25±3</td><td>30</td></tr><tr><td>2</td><td>25±2</td><td>3</td></tr><tr><td>3</td><td>85±3</td><td>30</td></tr><tr><td>4</td><td>25±2</td><td>3</td></tr></table> Total: 100cycles Measured after exposure in the room condition for 24hrs	Step	Temperature (°C)	Time (min)	1	-25±3	30	2	25±2	3	3	85±3	30	4	25±2	3
Step	Temperature (°C)	Time (min)																
1	-25±3	30																
2	25±2	3																
3	85±3	30																
4	25±2	3																
1-2-2	Humidity Resistance		Temperature: 40±2°C Relative Humidity: 90 ~ 95% Time: 1000hrs Measured after exposure in the room condition for 24hrs															
1-2-3	High Temperature Resistance		Temperature: 85±3°C Relative Humidity: 20% Applied Current: Rated Current Time: 1000hrs Measured after exposure in the room condition for 24hrs															
1-2-4	Low Temperature Resistance		Temperature: -25±3°C Relative Humidity: 0% Time: 1000hrs Measured after exposure in the room condition for 24hrs															

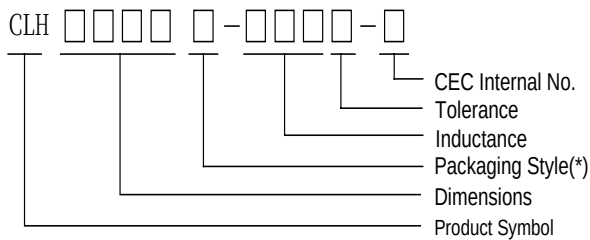
MULTILAYER CHIP INDUCTORS / HIGH FREQUENCY

CLS high frequency multilayer ceramic chip inductor is formed without wound wire.
Monolithic Laminated Structure.

Shapes and Dimensions



Product Identification



* T : Taping
B : Bulk

Dimensions in mm

TYPE	Inductance Range	A	B	C	D
CLH1005	A11	1.0±0.15	0.5±0.15	0.5±0.15	0.25±0.15
CLH1608	A11	1.6±0.2	0.8±0.15	0.8±0.15	0.3±0.2
CLH2012	<180nH			0.9±0.2	
	≥180nH	2.0±0.2	1.25±0.2	1.2±0.3	0.5±0.3

Features

- excellent Q factor and SRF characteristics
- Cost Effective
- Small size of 1005/1608 is suitable for small portable equipment.
- Supports operating frequency bands up to 6GHz with nominal inductance values from 1.0nH To 470nH.

Applications

- RF Resonance and Impedance Matching Circuit
- RF and wireless communication
- Information technology equipments, computers, telecommunications, radar detectors, automotive electronics, cellular phones, pagers, PDAs, keyless remote systems.
- Use in L-C filter configurations

MULTILAYER CHIP INDUCTORS / HIGH FREQUENCY

Electrical Characteristics

■ CLH1005 (0402) Series :

Part Number	Inductance (nH) at 100MHz	Tolerance	Q min At 100MHz	Q Typical At		Self Resonant Frequency (MHz) min	DC Resistance (Ω) Max	Rated current (mA)
CLH1005T-1N0□-S	1.0	S	8	9	28	> 6000	0.10	300
CLH1005T-1N2□-S	1.2	S	8	9	28	> 6000	0.10	300
CLH1005T-1N5□-S	1.5	S	8	10	28	> 6000	0.10	300
CLH1005T-1N8□-S	1.8	S	8	10	28	> 6000	0.10	300
CLH1005T-2N2□-S	2.2	S	8	10	29	> 6000	0.12	300
CLH1005T-2N7□-S	2.7	S	8	11	30	> 6000	0.12	300
CLH1005T-3N3□-S	3.3	S / K	8	11	30	5200	0.15	300
CLH1005T-3N9□-S	3.9	S / K	8	11	31	5150	0.15	300
CLH1005T-4N7□-S	4.7	S / K	8	11	31	4800	0.18	300
CLH1005T-5N6□-S	5.6	S / K	8	11	31	4100	0.20	300
CLH1005T-6N8□-S	6.8	J / K	8	11	33	3800	0.25	300
CLH1005T-8N2□-S	8.2	J / K	8	12	32	3500	0.25	300
CLH1005T-10N□-S	10	J / K	8	12	32	3300	0.30	300
CLH1005T-12N□-S	12	J / K	8	12	31	2600	0.30	300
CLH1005T-15N□-S	15	J / K	8	12	30	2300	0.40	300
CLH1005T-18N□-S	18	J / K	8	12	29	2050	0.50	300
CLH1005T-22N□-S	22	J / K	8	12	28	1900	0.60	300
CLH1005T-27N□-S	27	J / K	8	12	27	1700	1.00	300
CLH1005T-33N□-S	33	J / K	8	10	25	1550	1.50	200
CLH1005T-39N□-S	39	J / K	8	10	25	1450	1.80	200
CLH1005T-47N□-S	47	J / K	8	9	22	1300	2.00	200
CLH1005T-56N□-S	56	J / K	8	10	21	1250	2.00	200

NOTE :

TOLERANCE : □ : S = $\pm 0.3\text{nH}$ J = $\pm 5\%$ K = $\pm 10\%$

TEST CONDITIONS : L/Q : Agilent E4991A fixture : Agilent 16197A

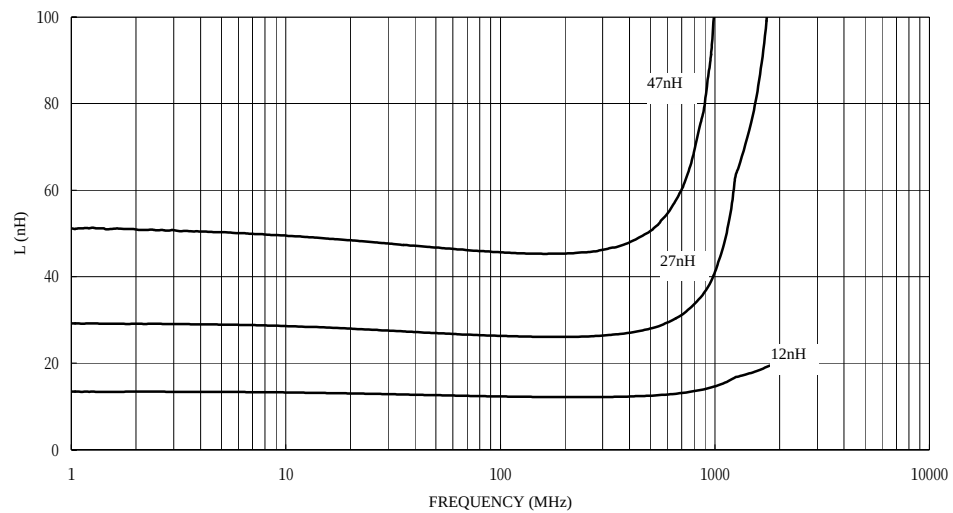
SRF : HP8753D

RDC : HP4338B

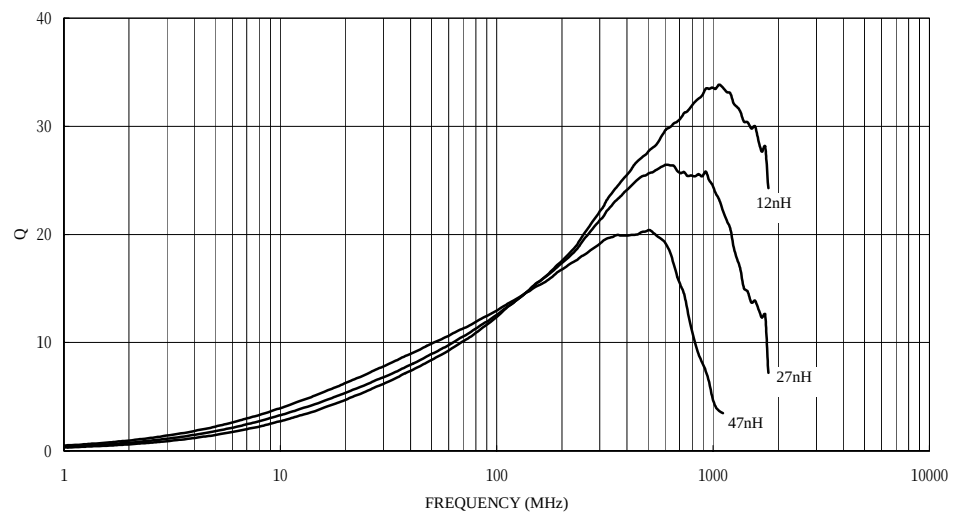
MULTILAYER CHIP INDUCTORS / HIGH FREQUENCY

Test Instruments : Agilent E4991A Impedance Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



MULTILAYER CHIP INDUCTORS / HIGH FREQUENCY

Electrical Characteristics

■ CLH1608 (0603) Series :

Part Number	Inductance	Tolerance	Q min At 100MHz	Q Typical At		Self Resonant Frequency (MHz) min	DC Resistance (Ω) Max	Rated current (mA)
	(nH) at 100MHz			100MHz	800MHz			
CLH1608T-1N0□-S	1.0	S	10	12	60	> 6000	0.10	500
CLH1608T-1N2□-S	1.2	S	10	13	60	> 6000	0.10	500
CLH1608T-1N5□-S	1.5	S	10	13	57	> 6000	0.10	500
CLH1608T-1N8□-S	1.8	S	10	13	51	> 6000	0.10	500
CLH1608T-2N2□-S	2.2	S	11	13	46	> 6000	0.10	500
CLH1608T-2N7□-S	2.7	S	11	13	46	> 6000	0.10	500
CLH1608T-3N3□-S	3.3	S / K	11	13	47	5900	0.12	500
CLH1608T-3N9□-S	3.9	S / K	11	13	47	5600	0.14	500
CLH1608T-4N7□-S	4.7	S / K	11	13	41	4800	0.16	500
CLH1608T-5N6□-S	5.6	S / K	11	13	41	4350	0.18	500
CLH1608T-6N8□-S	6.8	J / K	11	13	44	3750	0.22	500
CLH1608T-8N2□-S	8.2	J / K	11	13	44	3300	0.24	500
CLH1608T-10N□-S	10	J / K	11	13	45	2850	0.26	400
CLH1608T-12N□-S	12	J / K	13	15	46	2500	0.28	400
CLH1608T-15N□-S	15	J / K	13	15	48	2150	0.32	400
CLH1608T-18N□-S	18	J / K	13	15	48	2100	0.35	400
CLH1608T-22N□-S	22	J / K	15	17	45	1850	0.40	400
CLH1608T-27N□-S	27	J / K	15	17	43	1680	0.45	400
CLH1608T-33N□-S	33	J / K	15	18	39	1580	0.55	400
CLH1608T-39N□-S	39	J / K	15	18	*37	1400	0.60	300
CLH1608T-47N□-S	47	J / K	15	18	*35	1200	0.70	300
CLH1608T-56N□-S	56	J / K	15	18	*32	1100	0.75	300
CLH1608T-68N□-S	68	J / K	15	18	*34	1050	0.85	300
CLH1608T-82N□-S	82	J / K	15	18	*32	900	1.00	300
CLH1608T-R10□-S	100	J / K	15	18	*20	850	1.20	300
CLH1608T-R12□-S	*** 120	J / K	*** 8	*** 16	** 23	680	1.60	250
CLH1608T-R15□-S	*** 150	J / K	*** 8	*** 14	** 23	620	2.00	250
CLH1608T-R18□-S	*** 180	J / K	*** 8	*** 14	** 21	540	2.40	200
CLH1608T-R22□-S	*** 220	J / K	*** 8	*** 13	** 20	450	2.80	200
-R27□-S	270	J / K						
-R33□-S	330	J / K						
-R39□-S	390	J / K						
-R47□-S	470	J / K						

NOTE :

*** at 50MHz ** 300MHz * 500MHz

TOLERANCE : □ : S = ± 0.3 nH J = ± 5% K = ± 10%

TEST CONDITIONS : L/Q : Agilent E4991A fixture : Agilent 16197A

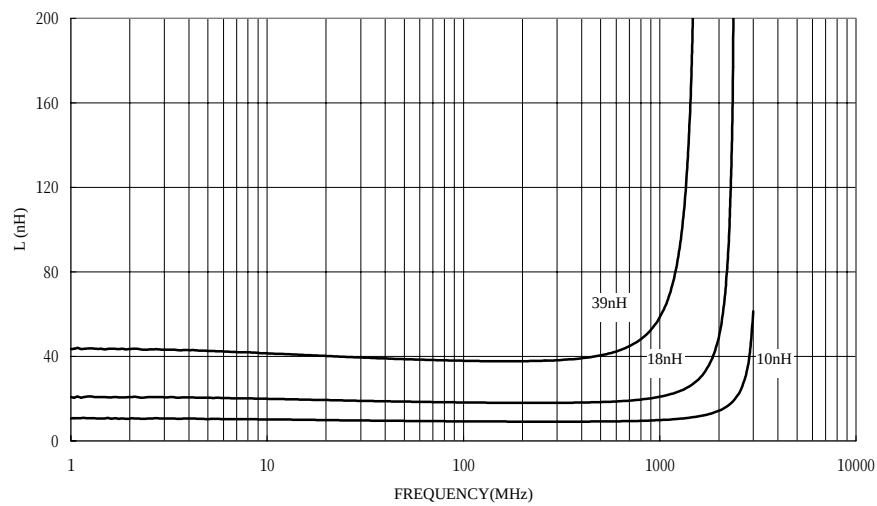
SRF : HP8753D

RDC : HP4338B

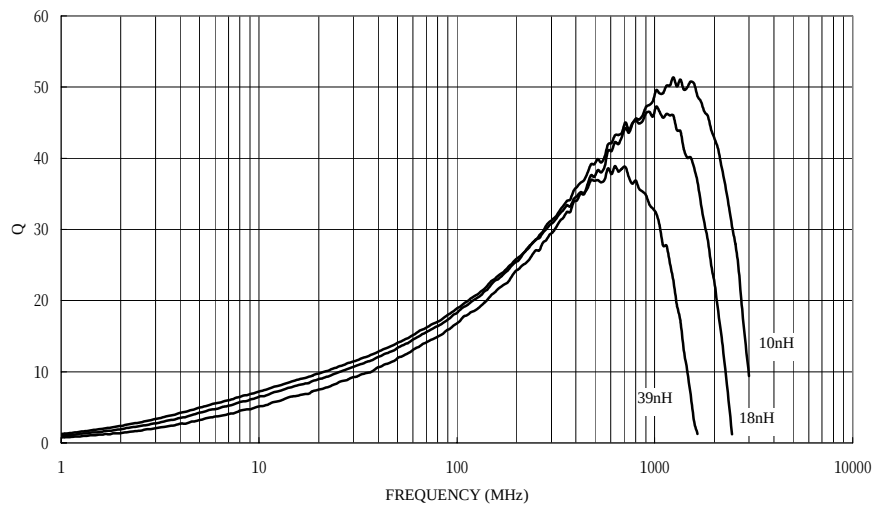
MULTILAYER CHIP INDUCTORS / HIGH FREQUENCY

Test Instruments : Agilent E4991A Impedance Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



MULTILAYER CHIP INDUCTORS / HIGH FREQUENCY

Electrical Characteristics

■ CLH2012 (0805) Series :

Part Number	Inductance	Tolerance	Q min At 100MHz	Q Typical At		Self Resonant Frequency (MHz) min	DC Resistance (Ω) Max	Rated current (mA)
	(nH) at 100MHz			100MHz	800MHz			
CLH2012T-1N0□-S	1.0	S	11	13	40	> 6000	0.10	500
CLH2012T-1N2□-S	1.2	S	11	13	40	> 6000	0.10	500
CLH2012T-1N5□-S	1.5	S	11	13	40	> 6000	0.10	500
CLH2012T-1N8□-S	1.8	S	11	13	45	> 6000	0.10	500
CLH2012T-2N2□-S	2.2	S	11	13	48	> 6000	0.10	500
CLH2012T-2N7□-S	2.7	S	11	13	48	> 6000	0.10	500
CLH2012T-3N3□-S	3.3	S / K	13	15	56	> 6000	0.13	500
CLH2012T-3N9□-S	3.9	S / K	13	15	54	5400	0.15	500
CLH2012T-4N7□-S	4.7	S / K	13	15	50	4500	0.20	500
CLH2012T-5N6□-S	5.6	S / K	13	15	53	4000	0.23	500
CLH2012T-6N8□-S	6.8	J / K	13	15	51	3650	0.25	500
CLH2012T-8N2□-S	8.2	J / K	13	15	53	3000	0.28	500
CLH2012T-10N□-S	10	J / K	14	16	45	2500	0.30	500
CLH2012T-12N□-S	12	J / K	14	16	48	2450	0.35	400
CLH2012T-15N□-S	15	J / K	15	17	48	2000	0.40	400
CLH2012T-18N□-S	18	J / K	15	17	43	1750	0.45	400
CLH2012T-22N□-S	22	J / K	15	17	47	1700	0.50	400
CLH2012T-27N□-S	27	J / K	16	18	38	1550	0.55	400
CLH2012T-33N□-S	33	J / K	17	19	35	1350	0.60	400
CLH2012T-39N□-S	39	J / K	19	21	40	1300	0.65	400
CLH2012T-47N□-S	47	J / K	19	21	38	1200	0.70	400
CLH2012T-56N□-S	56	J / K	18	21	31	1150	0.75	400
CLH2012T-68N□-S	68	J / K	19	21	28	1000	0.80	400
CLH2012T-82N□-S	82	J / K	20	22	16	850	0.90	400
CLH2012T-R10□-S	100	J / K	21	23		730	1.00	400
CLH2012T-R12□-S	* 120	J / K	* 13	22		650	1.20	300
CLH2012T-R15□-S	* 150	J / K	* 13	22		550	1.40	300
CLH2012T-R18□-S	* 180	J / K	* 13	23		500	1.80	300
CLH2012T-R22□-S	* 220	J / K	* 12	20		450	2.00	300
CLH2012T-R27□-S	* 270	J / K	* 12	20		400	2.50	300
CLH2012T-R33□-S	* 330	J / K	* 12	22		380	3.00	300
CLH2012T-R39□-S	* 390	J / K	* 10	17		330	3.50	300
CLH2012T-R47□-S	* 470	J / K	* 10	17		300	4.00	300

NOTE :

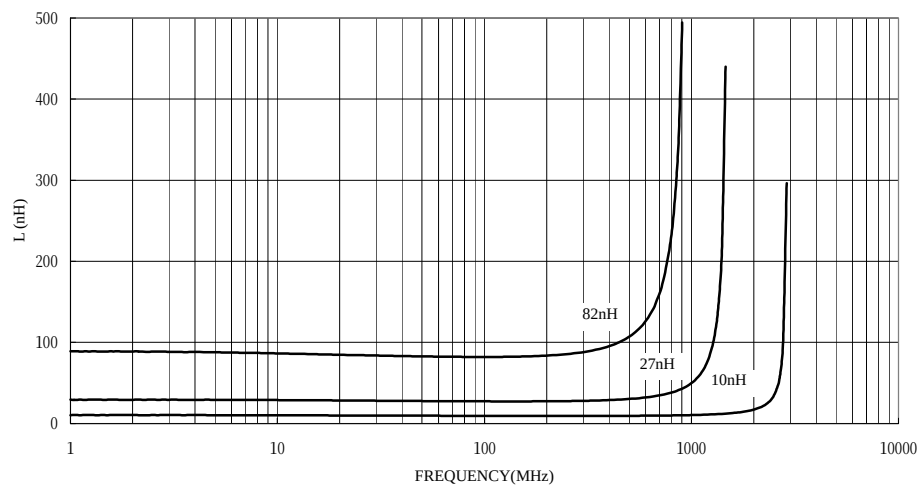
* at 50 MHz

TOLERANCE : □ : S = $\pm 0.3\text{nH}$ J = $\pm 5\%$ K = $\pm 10\%$
 TEST CONDITIONS : L/Q : Agilent E4991A fixture : Agilent 16197A
 SRF : HP8753D
 RDC : HP4338B

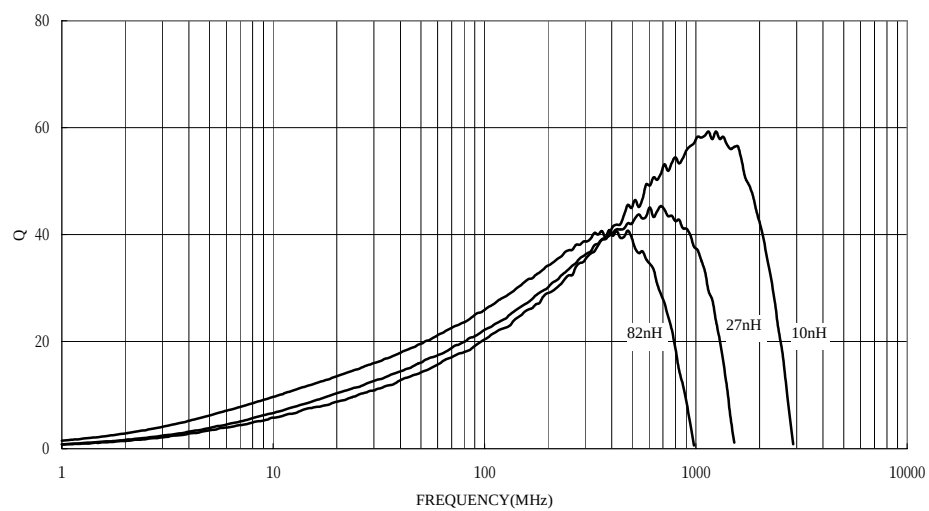
MULTILAYER CHIP INDUCTORS / HIGH FREQUENCY

Test Instruments : Agilent E4991A Impedance Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS

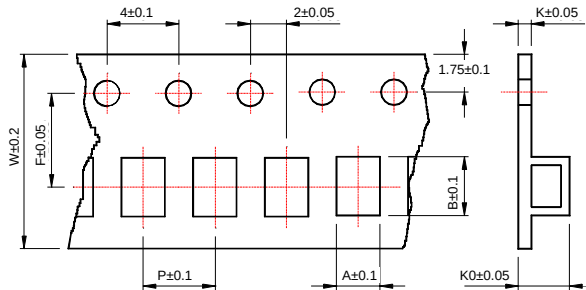


Q vs. FREQUENCY CHARACTERISTICS



MULTILAYER CHIP INDUCTORS / HIGH FREQUENCY

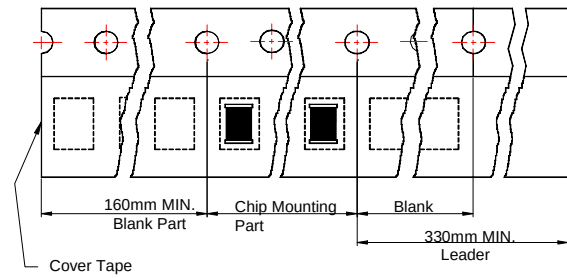
Tape Dimensions



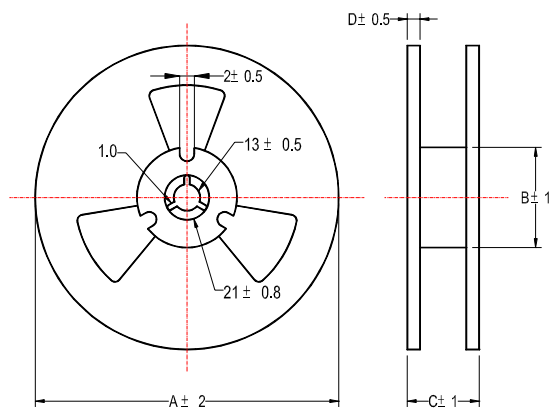
Tape Material

Carrier tape : Polystyrene for 201209, 201212
Paper for 160808,100505

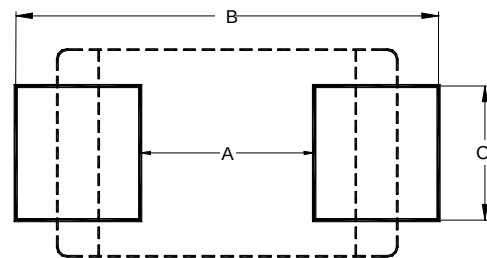
Cover type : Polystyrene



Reel Dimensions



Recommended Pattern

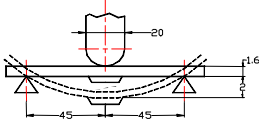


Dimensions in mm

TYPE	Tape Dimensions							Reel Dimensions				Recommended Pattern			Quantity /Reel		
	A	B	K0	W	P	F	K	A	B	C	D	A	B	C			
CLH1005	0.65	1.15	0.6	8	2	3.5	0.6	178	60	12	1.5	0.4	1.2 ~ 1.4	0.4	10000		
CLH1608	1.1	1.9	0.95	8	4	3.5	0.95	178	60	12	1.5	0.8	2.4 ~ 3.4	0.6	4000		
CLH2012	<180nH		1.04					09				09			4000		
	≥180nH	1.42	2.25	1.4	8	4	3.5	0.22	12	178	60	12	1.5	12	1.2	3.0 ~ 4.0	1.0

MULTILAYER CHIP INDUCTORS / HIGH FREQUENCY

1-1 Mechanical Performance

No	Item	Specification	Test Method
1-1-1	Flexure Strength		Test device shall be soldered on the substrate Substrate Dimension: 100x40x1.6mm Deflection: 2.0mm Keeping Time: 30sec *For 100505, substrate dimension is 100x40x0.8mm
1-1-2	Vibration	Appearance: No damage L change: within $\pm 10\%$ Q change: within $\pm 30\%$	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
1-1-3	Resistance to Soldering Heat	Appearance: No damage	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 260 $\pm 5^\circ\text{C}$ Immersion Time: 10 ± 1 sec
1-1-4	Solderability	The electrodes shall be at least 90% covered with new solder coating	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 230 $\pm 5^\circ\text{C}$ Immersion Time: 4 ± 1 sec

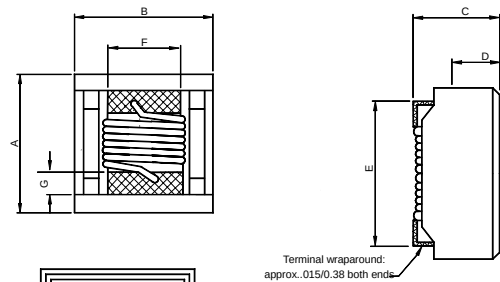
1-2 Environmental Performance

1-2 Env iron me ntal Per for ma nce No	Item	Specification	Test Method															
1-2-1	Temperature Cycle	Appearance: No damage L change: within±10% Q change: within±30%	One cycle:<table><tr><th>Step</th><th>Temperature (°C)</th><th>Time (min)</th></tr><tr><td>1</td><td>-25±3</td><td>30</td></tr><tr><td>2</td><td>25±2</td><td>3</td></tr><tr><td>3</td><td>85±3</td><td>30</td></tr><tr><td>4</td><td>25±2</td><td>3</td></tr></table> Total: 100cycles Measured after exposure in the room condition for 24hrs	Step	Temperature (°C)	Time (min)	1	-25±3	30	2	25±2	3	3	85±3	30	4	25±2	3
Step	Temperature (°C)	Time (min)																
1	-25±3	30																
2	25±2	3																
3	85±3	30																
4	25±2	3																
1-2-2	Humidity Resistance		Temperature: 40±2°C Relative Humidity: 90 ~ 95% Time: 1000hrs Measured after exposure in the room condition for 24hrs															
1-2-3	High Temperature Resistance		Temperature: 85±3°C Relative Humidity: 20% Applied Current: Rated Current Time: 1000hrs Measured after exposure in the room condition for 24hrs															
1-2-4	Low Temperature Resistance		Temperature: -25±3°C Relative Humidity: 0% Time: 1000hrs Measured after exposure in the room condition for 24hrs															

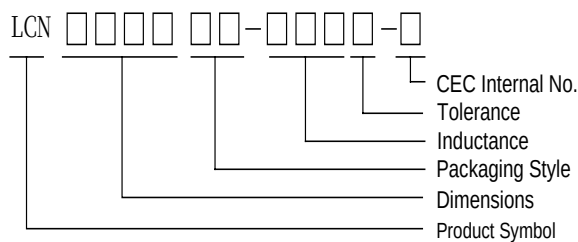
SMD POWER INDUCTORS / LCN1008PS SERIES

CLS new LCN 1008PS Series is designed to be an economical alternative to larger and more costly shielded power inductors. Only 2.74 mm high, they are ideal for applications requiring magnetic shielding, the smallest possible size and lowest cost. Typical uses include notebook and handheld devices. The specially designed ferrite cover provides magnetic shielding and the best possible surface for pick and place handling.

Shapes and Dimensions



Product Identification



Dimensions in mm

Unit	A max	B max	C max	D max	E max	F max	G max
in	0.150	0.150	0.108	0.070	0.100	0.083	0.020
mm	3.81	3.81	2.74	1.78	2.54	2.11	0.51

Electrical Characteristics

Part Number	Inductance (μ H) 100KHz , 0.1V	Tolerance ($\pm$ %)	Q Min @1MHz	DC Resistance Max (Ohms)	Self Resonant Frequency Typ (MHz)	Isat (A)	Irms (A)
LCN1008PS-1R0M-S	1.0	20	35	0.05	344	3.0	2.00
LCN1008PS-1R5M-S	1.5	20	35	0.06	260	2.8	2.00
LCN1008PS-1R8M-S	1.8	20	35	0.09	225	2.1	1.90
LCN1008PS-2R7M-S	2.7	20	38	0.14	185	1.3	1.60
LCN1008PS-3R9M-S	3.9	20	38	0.26	175	1.2	1.20
LCN1008PS-4R7M-S	4.7	20	38	0.35	160	1.0	1.10
LCN1008PS-5R6M-S	5.6	20	38	0.36	150	1.0	0.90
LCN1008PS-6R8M-S	6.8	20	38	0.58	120	0.84	0.80
LCN1008PS-100M-S	10	20	38	0.92	105	0.78	0.72
LCN1008PS-150M-S	15	20	38	1.15	35	0.70	0.60
LCN1008PS-220M-S	22	20	40	1.40	26	0.65	0.55
LCN1008PS-330M-S	33	20	45	1.61	20	0.51	0.50
LCN1008PS-390M-S	39	20	45	1.85	16	0.45	0.47
LCN1008PS-470M-S	47	20	45	2.5	19	0.40	0.42
LCN1008PS-680M-S	68	20	45	3.8	12	0.31	0.32
LCN1008PS-820M-S	82	20	45	4.3	9.0	0.30	0.30
LCN1008PS-101M-S	100	20	45	5.8	7.0	0.30	0.30
LCN1008PS-121M-S	120	20	50	6.3	7.0	0.25	0.28
LCN1008PS-151M-S	150	20	50	7.5	5.8	0.22	0.26
LCN1008PS-221M-S	220	20	55	10.0	10.0	0.22	0.21

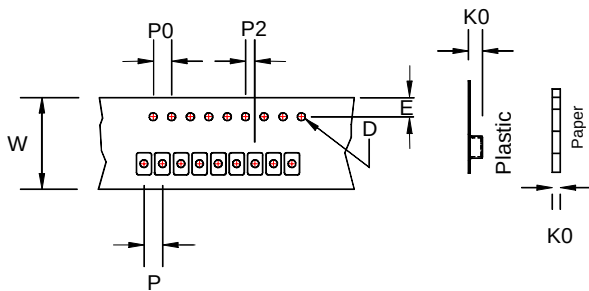
WOUND CHIP INDUCTORS / LCN1008PS SERIES

Electrical Characteristics

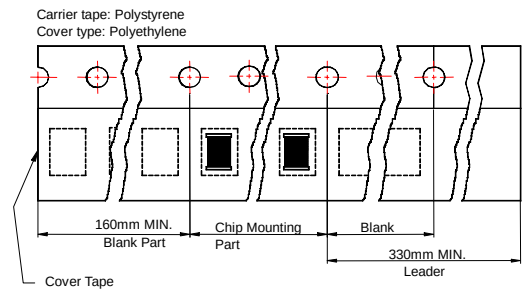
Part Number	Inductance (μ H) 100KHz , 0.1V	Tolerance ($\pm$ %)	Q Min @1MHz	DC Resistance Max (Ohms)	Self Resonant Frequency Typ (MHz)	Isat (A)	Irms (A)
LCN1008PS-331M-S	330	20	55	11.5	3.8	0.20	0.19
LCN1008PS-471M-S	470	20	55	16.3	3.1	0.16	0.18
LCN1008PS-561M-S	560	20	55	18.1	2.8	0.13	0.15
LCN1008PS-681M-S	680	20	55	24.0	2.5	0.12	0.14
LCN1008PS-821M-S	820	20	45	26.0	1.5	0.10	0.12
LCN1008PS-102M-S	1000	20	45	29.0	2.0	0.10	0.11

- ▶ When ordering , please specify tolerance and packaging code. Ex:LCN1008PS-102M-S
- Tolerance : M = 20%
- Packaging : Clear tape and reel (standard) .
- ▶ L : HP4263B
- ▶ Q : HP4291A
- ▶ S R F : HP8753D / E4991A .
- ▶ R D C : Digital Multimeter SC - 7401
- ▶ Operating temperature rang -40°C to $+85^{\circ}\text{C}$

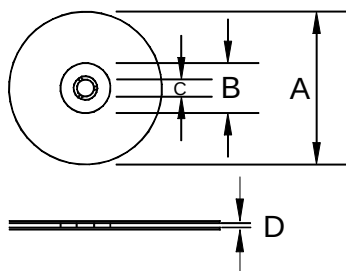
Tape Dimensions



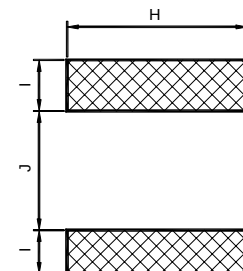
Tape Material



Reel Dimensions



Recommended Pattern



Dimensions in mm

TYPE	Tape Dimensions							Reel Dimensions				Recommended Pattern				Quantity / Reel
	K0	D	E	W	P	P0	P2	A	B	C	D	Unit	H	I	J	
LCN1008PS	3.3	1.55	1.75	12	4	2	2	178	60	13	24.4	in	0.10	0.04	0.05	750
												mm	2.54	1.02	1.27	

WOUND CHIP INDUCTORS / CS SERIES

CS0603 SERIES

- Ceramic body and wire wound construction provide highest SRFs available in 0603 size.
- These ultra – compact inductors provided exceptional Q values, even at high frequencies.

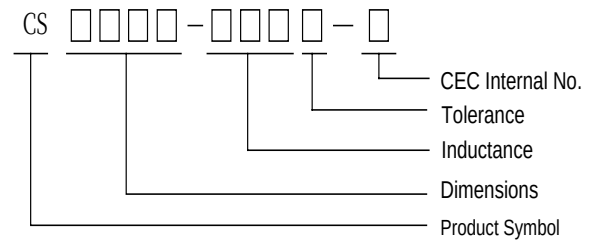
CS0805 SERIES

- Ceramic body and Wire wound construction provide highest SRFs available in 0805 size.
- These ultra – compact inductors provided exceptional Q values, even at high frequencies.

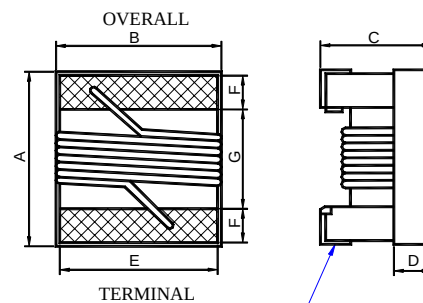
CS1008 SERIES

- “ L ” series chip inductors have been designed especially for the needs of today's high frequency designer.
- Their ceramic construction delivers the highest possible SRFs as well as excellent Q values.
- The non-magnetic coil form also assures the utmost in thermal stability, predictability and batch consistency.

Product Identification



Shapes and Dimensions



TERMINAL WRAPAROUND :

CS0603 : Approx. 0.007 " /0.18mm BOTH ENDS

CS0805 : Approx. 0.015 " /0.38mm BOTH ENDS

CS1008 : Approx. 0.015 " /0.38mm BOTH ENDS

Dimensions in mm

TYPE	Unit	A	B	C	D	E	F	G
		Max.	Max.	Max.	Ref.			
CS0603	in	0.071	0.044	0.040	0.015	0.030	0.013	0.034
	mm	1.80	1.12	1.02	0.38	0.76	0.33	0.86
CS0805	in	0.09	0.068	0.06	0.02	0.05	0.02	0.04
	mm	2.29	1.73	1.52	0.51	1.27	0.51	1.02
CS1008	in	0.115	0.11	0.08	0.02	0.08	0.02	0.06
	mm	2.92	2.79	2.03	0.51	2.03	0.51	1.52

WOUND CHIP INDUCTORS / CS SERIES

Electrical Characteristics

Part Number	Inductance (nH)	Tolerance (±%)	Test Frequency (MHz)	Q Min	Self Resonant Frequency (MHz)Min	DC Resistance (Ω)Max	Rated current (mA)Max	900 MHz		1.7 GHz		Color
								L Typ	Q Typ	L Typ	Q Typ	
CS0603-1N6□-S	1.6	10 / 5	250	24	12500	0.030	700	1.67	49	1.65	63	Red
CS0603-1N8□-S	1.8	10 / 5	250	16	12500	0.045	700	1.63	35	1.66	50	Black
CS0603-3N6□-S	3.6	10 / 5	250	22	5900	0.063	700	3.72	53	3.71	65	Red
CS0603-3N9□-S	3.9	10 / 5	250	22	6900	0.080	700	3.95	49	3.96	67	Brown
CS0603-4N3□-S	4.3	10 / 5	250	22	5900	0.063	700	4.32	50	4.33	70	Orange
CS0603-4N7□-S	4.7	10 / 5	250	20	5800	0.116	700	4.72	47	4.75	57	Violet
CS0603-5N1□-S	5.1	10 / 5	250	20	5700	0.140	700	4.93	47	4.95	56	Green
CS0603-6N3□-S	6.3	10 / 5	250	20	5700	0.140	700	5.5	47	6.1	60	White
CS0603-6N8□-S	6.8	10 / 5	250	27	5800	0.110	700	6.75	60	7.1	81	Red
CS0603-7N5□-S	7.5	10 / 5	250	28	4800	0.106	700	7.70	60	7.82	65	Brown
CS0603-8N2□-S	8.2	10 / 5	250	28	4700	0.109	700	8.30	60	8.50	60	White
CS0603-8N7□-S	8.7	10 / 5	250	28	4600	0.109	700	8.86	62	9.32	58	Yellow
CS0603-9N5□-S	9.5	10 / 5	250	28	5400	0.135	700	9.70	59	9.92	61	Blue
CS0603-10N□-S	10	10 / 5 / 2	250	31	4800	0.130	700	10	66	10.6	83	Orange
CS0603-11N□-S	11	10 / 5 / 2	250	33	4000	0.086	700	11	53	11.5	56	Gray
CS0603-12N□-S	12	10 / 5 / 2	250	35	4000	0.130	700	12.3	72	13.5	83	Yellow
CS0603-15N□-S	15	10 / 5 / 2	250	35	4000	0.170	700	15.4	64	16.8	89	Green
CS0603-16N□-S	16	10 / 5 / 2	250	34	3300	0.104	700	16.2	55	17.3	52	White
CS0603-18N□-S	18	10 / 5 / 2	250	35	3100	0.170	700	18.7	70	21.4	69	Blue
CS0603-22N□-S	22	10 / 5 / 2	250	38	3000	0.190	700	22.8	73	26.1	71	Violet
CS0603-24N□-S	24	10 / 5 / 2	250	37	2650	0.135	700	24.5	45	28.7	39	Black
CS0603-27N□-S	27	10 / 5 / 2	250	40	2800	0.220	600	29.2	74	34.6	65	Gray
CS0603-30N□-S	30	10 / 5 / 2	250	37	2250	0.144	600	31.4	47	39.9	28	Brown
CS0603-33N□-S	33	10 / 5 / 2	250	40	2300	0.220	600	36	67	49.5	42	White
CS0603-36N□-S	36	10 / 5 / 2	250	38	2080	0.250	600	39.4	47	52.7	24	Red
CS0603-39N□-S	39	10 / 5 / 2	250	40	2200	0.250	600	42.7	60	60.2	40	Black
CS0603-43N□-S	43	10 / 5 / 2	250	39	2000	0.280	600	47	44	64.9	21	Orange
CS0603-47N□-S	47	10 / 5 / 2	200	38	2000	0.280	600	52.2	62	77.2	35	Brown
CS0603-56N□-S	56	10 / 5 / 2	200	38	1900	0.310	600	62.5	56	97	26	Red
CS0603-68N□-S	68	10 / 5 / 2	200	37	1700	0.340	600	80.5	54	168	21	Orange
CS0603-72N□-S	72	10 / 5 / 2	150	34	1700	0.490	400	82	53	135	20	Yellow
CS0603-82N□-S	82	10 / 5 / 2	150	34	1700	0.540	400	96.2	54	177	21	Green
CS0603-R10□-S	100	10 / 5 / 2	150	34	1400	0.580	400	124	49	-	-	Blue
CS0603-R11□-S	110	10 / 5 / 2	150	32	1350	0.610	300	138	43	-	-	Violet
CS0603-R12□-S	120	10 / 5 / 2	150	32	1300	0.650	300	166	39	-	-	Gray
CS0603-R15□-S	150	10 / 5 / 2	150	28	990	0.920	280	250	25	-	-	White
CS0603-R18□-S	180	10 / 5 / 2	100	25	990	1.250	240	305	22	-	-	Black
CS0603-R22□-S	220	10 / 5 / 2	100	25	900	2.100	200	480	8	-	-	Brown
CS0603-R27□-S	270	10 / 5 / 2	100	24	900	2.300	170	980	4	-	-	Red

1. When ordering, please specify tolerance and packaging codes. Ex: CS0603-R12□-S

Tolerance : G = 2% , J = 5% , K = 10% , M = 20%

Packaging : Clear tape and reel { standard }.

2. L, Q : HP4287A

3. SRF : E4991A / HP8753D

4. RDC : DIGITAL MULTIMETER SC-7401

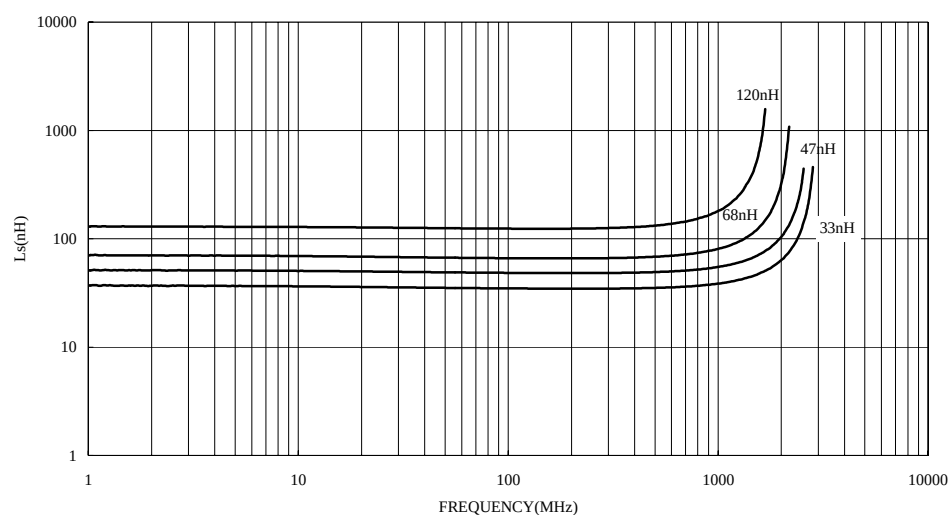
5. For 15°C rise.

6. Operating temperature range -40°C to 125°C

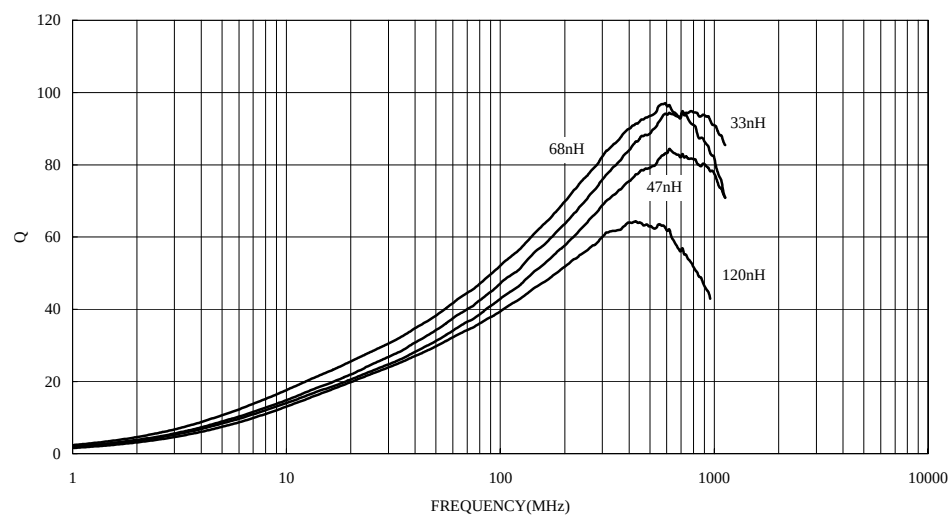
WOUND CHIP INDUCTORS / CS SERIES

Test Instruments : E4991A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



WOUND CHIP INDUCTORS / CS SERIES

Electrical Characteristics

Part Number	Inductance (nH)	Tolerance (±%)	Test Frequency (MHz)	Q Min	Test Frequency (MHz)	Self Resonant Frequency (MHz)Min	DC Resistance (Ω)Max	Rated current (mA)Max	Color Coding
CS0805-2N8□-S	2.8	10 / 5	250	80	1500	7900	0.06	800	Gray
CS0805-3N0□-S	3.0	10 / 5	250	65	1500	7900	0.06	800	White
CS0805-3N3□-S	3.3	10 / 5	250	50	1500	7900	0.08	600	Black
CS0805-5N6□-S	5.6	10 / 5	250	65	1000	5500	0.08	600	Orange
CS0805-6N8□-S	6.8	10 / 5	250	50	1000	5500	0.11	600	Brown
CS0805-7N5□-S	7.5	10 / 5	250	50	1000	4500	0.14	600	Green
CS0805-8N2□-S	8.2	10 / 5	250	50	1000	4700	0.12	600	Red
CS0805-12N□-S	12	10 / 5 / 2	250	50	500	4000	0.15	600	Orange
CS0805-15N□-S	15	10 / 5 / 2	250	50	500	3400	0.17	600	Yellow
CS0805-18N□-S	18	10 / 5 / 2	250	50	500	3300	0.20	600	Green
CS0805-22N□-S	22	10 / 5 / 2	250	55	500	2600	0.22	500	Blue
CS0805-24N□-S	24	10 / 5 / 2	250	50	500	2000	0.22	500	Gray
CS0805-27N□-S	27	10 / 5 / 2	250	55	500	2500	0.25	500	Violet
CS0805-33N□-S	33	10 / 5 / 2	250	60	500	2050	0.27	500	Gray
CS0805-36N□-S	36	10 / 5 / 2	250	55	500	1700	0.27	500	Orange
CS0805-39N□-S	39	10 / 5 / 2	250	60	500	2000	0.29	500	White
CS0805-43N□-S	43	10 / 5 / 2	200	60	500	1650	0.34	500	Yellow
CS0805-47N□-S	47	10 / 5 / 2	200	60	500	1650	0.31	500	Black
CS0805-56N□-S	56	10 / 5 / 2	200	60	500	1550	0.34	500	Brown
CS0805-68N□-S	68	10 / 5 / 2	200	60	500	1450	0.38	500	Red
CS0805-82N□-S	82	10 / 5 / 2	150	65	500	1300	0.42	400	Orange
CS0805-91N□-S	91	10 / 5 / 2	150	65	500	1200	0.48	400	Black
CS0805-R10□-S	100	10 / 5 / 2	150	65	500	1200	0.46	400	Yellow
CS0805-R11□-S	110	10 / 5 / 2	150	50	250	1000	0.48	400	Brown
CS0805-R12□-S	120	10 / 5 / 2	150	50	250	1100	0.51	400	Green
CS0805-R15□-S	150	10 / 5 / 2	100	50	250	920	0.56	400	Blue
CS0805-R18□-S	180	10 / 5 / 2	100	50	250	870	0.64	400	Violet
CS0805-R20□-S	200	10 / 5 / 2	100	50	250	860	0.68	400	Red
CS0805-R22□-S	220	10 / 5 / 2	100	50	250	850	0.70	400	Gray
CS0805-R24□-S	240	10 / 5 / 2	100	44	250	690	1.00	350	Red
CS0805-R25□-S	250	10 / 5 / 2	100	45	250	660	1.20	350	Yellow
CS0805-R27□-S	270	10 / 5 / 2	100	48	250	650	1.00	350	White
CS0805-R33□-S	330	10 / 5 / 2	100	48	250	600	1.40	310	Black
CS0805-R39□-S	390	10 / 5 / 2	100	48	250	560	1.50	290	Brown
CS0805-R47□-S	470	10 / 5 / 2	50	33	100	375	1.76	250	Violet
CS0805-R56□-S	560	10 / 5 / 2	25	23	50	340	1.90	230	Orange
CS0805-R68□-S	680	10 / 5 / 2	25	23	50	188	2.20	190	Green
CS0805-R82□-S	820	10 / 5 / 2	25	23	50	215	2.35	180	Blue

► When ordering , please specify tolerance and packaging code. Ex:CS0805-R10□-S

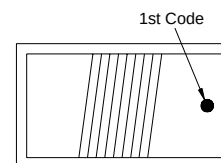
Tolerance : G = 2% , J = 5% , K = 10% , M = 20%

Packaging : Clear tape and reel (standard) .

► L , Q , RDC : HP4287A

► S R F : E4991A / HP8753D .

► Operating temperature rang -40°C to +125°C

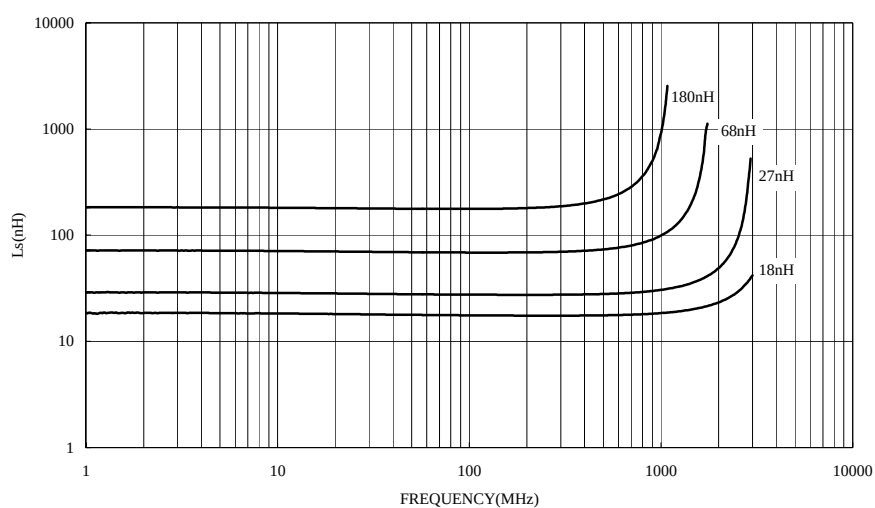


COLOR CODING

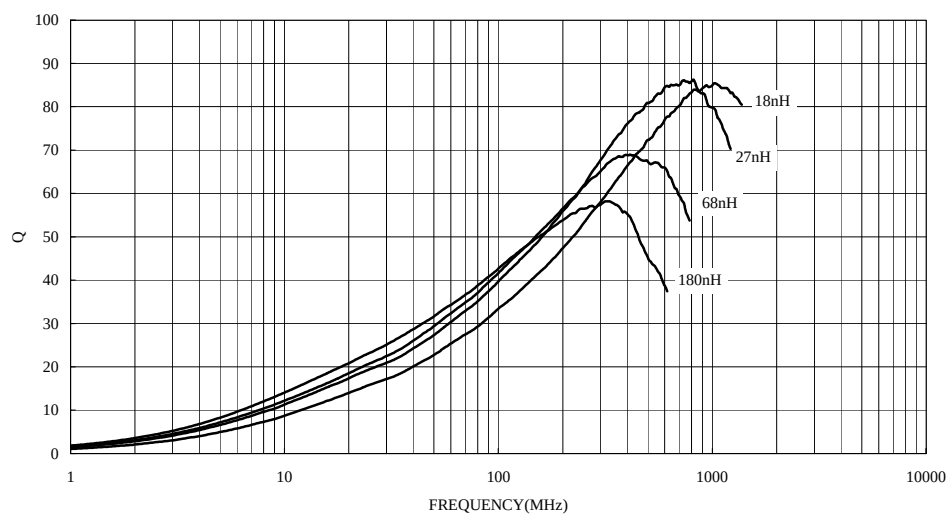
WOUND CHIP INDUCTORS / CS SERIES

Test Instruments : E4991A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS

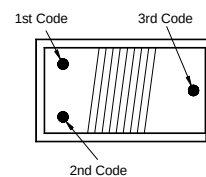


WOUND CHIP INDUCTORS / CS SERIES

Electrical Characteristics

Part Number	Inductance (nH)	Tolerance (±%)	Test Frequency (MHz)	Q Min	Test Frequency (MHz)	Self Resonant Frequency (MHz)Min	DC Resistance (Ω)max	Rated current (mA)max	COLOR CODING		
									1 ST	2 ND	3 RD
CS1008-10N□-S	10	10 / 5 / 2	50	50	500	4100	0.08	1000	Brown	Black	Black
CS1008-12N□-S	12	10 / 5 / 2	50	50	500	3300	0.09	1000	Brown	Red	Black
CS1008-15N□-S	15	10 / 5 / 2	50	50	500	2500	0.10	1000	Brown	Green	Black
CS1008-18N□-S	18	10 / 5 / 2	50	50	350	2500	0.11	1000	Brown	Gray	Black
CS1008-22N□-S	22	10 / 5 / 2	50	55	350	2400	0.12	1000	Red	Red	Black
CS1008-27N□-S	27	10 / 5 / 2	50	55	350	1600	0.13	1000	Red	Violet	Black
CS1008-33N□-S	33	10 / 5 / 2	50	60	350	1600	0.14	1000	Orange	Orange	Black
CS1008-39N□-S	39	10 / 5 / 2	50	60	350	1500	0.15	1000	Orange	White	Black
CS1008-47N□-S	47	10 / 5 / 2	50	65	350	1500	0.16	1000	Yellow	Violet	Black
CS1008-56N□-S	56	10 / 5 / 2	50	65	350	1300	0.18	1000	Green	Blue	Black
CS1008-68N□-S	68	10 / 5 / 2	50	65	350	1300	0.20	1000	Blue	Gray	Black
CS1008-82N□-S	82	10 / 5 / 2	50	60	350	1000	0.22	1000	Gray	Red	Black
CS1008-R10□-S	100	10 / 5 / 2	25	60	350	1000	0.56	650	Brown	Black	Brown
CS1008-R12□-S	120	10 / 5 / 2	25	60	350	950	0.63	650	Brown	Red	Brown
CS1008-R15□-S	150	10 / 5 / 2	25	45	100	850	0.70	580	Brown	Green	Brown
CS1008-R18□-S	180	10 / 5 / 2	25	45	100	750	0.77	620	Brown	Gray	Brown
CS1008-R22□-S	220	10 / 5 / 2	25	45	100	700	0.84	500	Red	Red	Brown
CS1008-R27□-S	270	10 / 5 / 2	25	45	100	600	0.91	500	Red	Violet	Brown
CS1008-R33□-S	330	10 / 5 / 2	25	45	100	570	1.05	450	Orange	Orange	Brown
CS1008-R39□-S	390	10 / 5 / 2	25	45	100	500	1.12	470	Orange	White	Brown
CS1008-R47□-S	470	10 / 5 / 2	25	45	100	450	1.19	470	Yellow	Violet	Brown
CS1008-R56□-S	560	10 / 5 / 2	25	45	100	415	1.33	400	Green	Blue	Brown
CS1008-R62□-S	620	10 / 5 / 2	25	45	100	375	1.40	300	Blue	Red	Brown
CS1008-R68□-S	680	10 / 5 / 2	25	45	100	375	1.47	400	Blue	Gray	Brown
CS1008-R75□-S	750	10 / 5 / 2	25	45	100	360	1.54	360	Violet	Green	Brown
CS1008-R82□-S	820	10 / 5 / 2	25	45	100	350	1.61	400	Gray	Red	Brown
CS1008-R91□-S	910	10 / 5 / 2	25	35	50	320	1.68	380	White	Brown	Brown
CS1008-1R0□-S	1000	10 / 5 / 2	25	35	50	290	1.75	370	Brown	Black	Red
CS1008-1R2□-S	1200	10 / 5 / 2	7.9	35	50	250	2.0	310	Brown	Red	Red
CS1008-1R5□-S	1500	10 / 5 / 2	7.9	28	50	200	2.3	330	Brown	Green	Red
CS1008-1R8□-S	1800	10 / 5 / 2	7.9	28	50	160	2.6	300	Brown	Gray	Red
CS1008-2R2□-S	2200	10 / 5 / 2	7.9	28	50	160	2.8	280	Red	Red	Red
CS1008-2R7□-S	2700	10 / 5 / 2	7.9	22	25	140	3.2	290	Red	Violet	Red
CS1008-3R3□-S	3300	10 / 5 / 2	7.9	22	25	110	3.4	290	Orange	Orange	Red
CS1008-3R9□-S	3900	10 / 5 / 2	7.9	20	25	100	3.6	260	Orange	White	Red
CS1008-4R7□-S	4700	10 / 5 / 2	7.9	20	25	90	4.0	260	Yellow	Violet	Red
CS1008-5R6□-S	5600	10 / 5 / 2	7.9	16	7.9	20	4.0	240	Green	Blue	Red
CS1008-6R8□-S	6800	10 / 5 / 2	7.9	18	7.9	40	4.9	200	Blue	Gray	Red
CS1008-8R2□-S	8200	10 / 5 / 2	7.9	18	7.9	25	6.0	170	Gray	Red	Red

- When ordering , please specify tolerance and packaging code. Ex:CS1008-3R3□-S
 Tolerance : G = 2% , J = 5% , K = 10%
 Packaging : Clear tape and reel (standard) .
- L , Q , RDC : HP4287A
- S R F : E4991A / HP8753D .
- RDC : DIGITAL MULTIMETER SC - 7401
- Operating temperature rang -40°C to +125°C

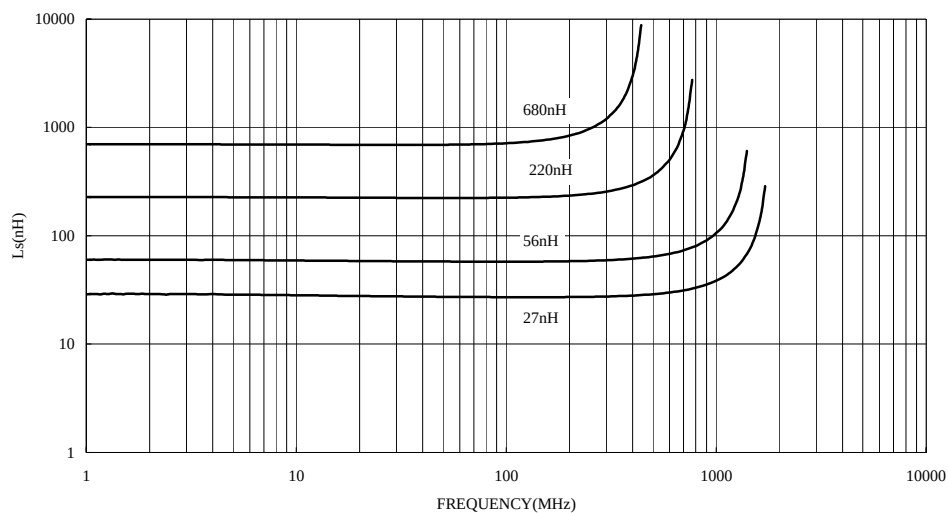


COLOR CODING

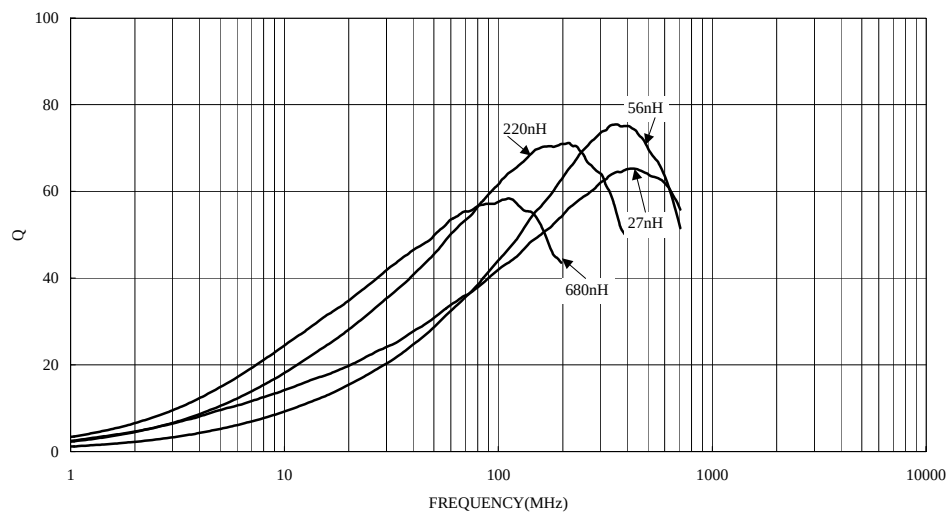
WOUND CHIP INDUCTORS / CS SERIES

Test Instruments : E4991A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS

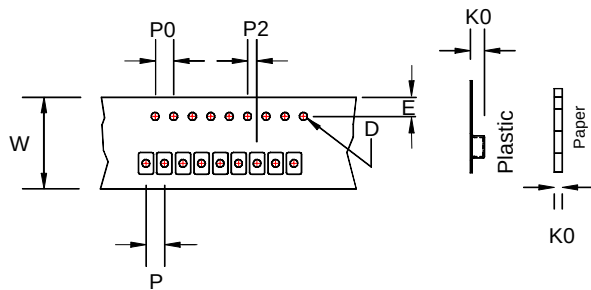


Q vs. FREQUENCY CHARACTERISTICS

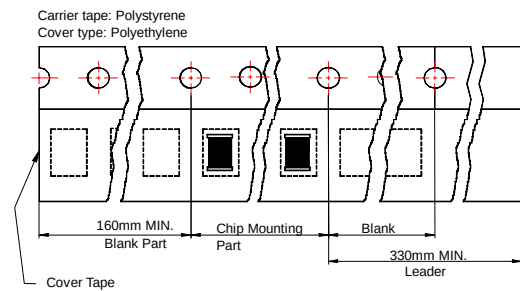


WOUND CHIP INDUCTORS / CS SERIES

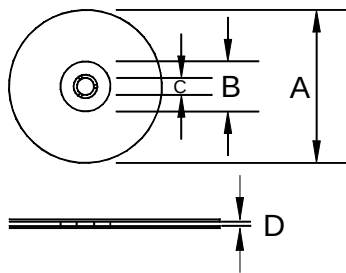
Tape Dimensions



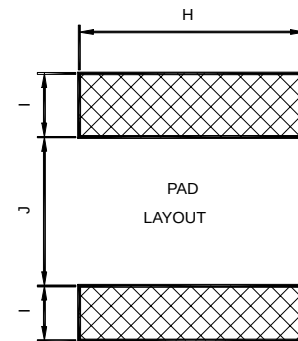
Tape Material



Reel Dimensions



Recommended Pattern



Dimensions in mm

TYPE	Tape Dimensions							Reel Dimensions				Recommended Pattern				Quantity / Reel
	K0	D	E	W	P	P0	P2	A	B	C	D	Unit	H	I	J	
CS0603	1.05	1.55	1.75	8	4	4	2	178	60	13	9	in	0.040	0.025	0.025	4000
												mm	1.02	0.64	0.64	
CS0805	1.35	1.55	1.75	8	4	4	2	178	60	13	9	in	0.07	0.04	0.03	2500
												mm	1.78	1.02	0.76	
CS1008	2.10	1.55	1.75	8	4	4	2	178	60	13	9	in	0.10	0.04	0.05	2000
												mm	2.54	1.02	1.27	

WOUND CHIP INDUCTORS / LCN SERIES

LCN0603 SERIES

- Ceramic body and wire wound construction provide highest SRFs available in 0603 size.
- These ultra – compact inductors provided exceptional Q values, even at high frequencies.

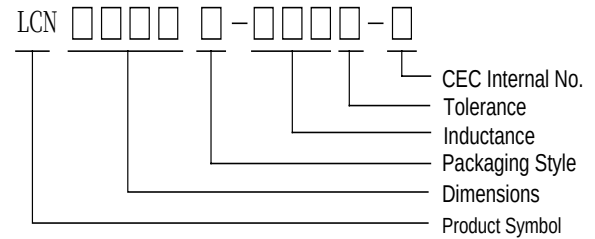
LCN0805 SERIES

- Ceramic body and Wire wound construction provide highest SRFs available in 0805 size.
- These ultra – compact inductors provided exceptional Q values, even at high frequencies.

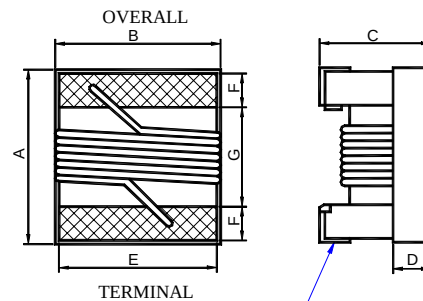
LCN1008 SERIES

- “ L ” series chip inductors have been designed especially for the needs of today's high frequency designer.
- Their ceramic construction delivers the highest possible SRFs as well as excellent Q values.
- The non-magnetic coil form also assures the utmost in thermal stability, predictability and batch consistency.

Product Identification



Shapes and Dimensions



TERMINAL WRAPAROUND :

LCN0603 : Approx. 0.007 " /0.18mm BOTH ENDS

LCN0805 : Approx. 0.015 " /0.38mm BOTH ENDS

LCN1008 : Approx. 0.015 " /0.38mm BOTH ENDS

Dimensions in mm

TYPE	Unit	A Max.	B Max.	C Max.	D Ref.	E	F	G
LCN0603	in	0.071	0.044	0.040	0.015	0.030	0.013	0.034
	mm	1.80	1.12	1.02	0.38	0.76	0.33	0.86
LCN0805	in	0.09	0.068	0.06	0.02	0.05	0.02	0.04
	mm	2.29	1.73	1.52	0.51	1.27	0.51	1.02
LCN1008	in	0.115	0.11	0.08	0.02	0.08	0.02	0.06
	mm	2.92	2.79	2.10	0.51	2.03	0.51	1.52

WOUND CHIP INDUCTORS / LCN0603 SERIES

Electrical Characteristics

Part Number	Inductance (nH)	Test Frequency (MHz)	Tolerance (±%)	Q Min	Self Resonant Frequency (MHz)Min	DC Resistance (Ω)max	Rated current (mA)max	900 MHz		1.7 GHz		Color
								L Typ	Q Typ	L Typ	Q Typ	
LCN0603T-1N6K-S	1.6	250	10 / 5 / 2	24	12500	0.030	700	1.67	49	1.65	63	Red
LCN0603T-1N8K-S	1.8	250	10 / 5 / 2	16	12500	0.045	700	1.63	35	1.66	50	Black
LCN0603T-3N6K-S	3.6	250	10 / 5 / 2	22	5900	0.063	700	3.72	53	3.71	65	Red
LCN0603T-3N9K-S	3.9	250	10 / 5 / 2	22	6900	0.080	700	3.95	49	3.96	67	Brown
LCN0603T-4N3K-S	4.3	250	10 / 5 / 2	22	5900	0.063	700	4.32	50	4.33	70	Orange
LCN0603T-4N7K-S	4.7	250	10 / 5 / 2	20	5800	0.116	700	4.72	47	4.75	57	Violet
LCN0603T-5N1K-S	5.1	250	10 / 5 / 2	20	5700	0.140	700	4.93	47	4.95	56	Green
LCN0603T-6N3K-S	6.3	250	10 / 5 / 2	20	5700	0.140	700	5.5	47	6.1	60	White
LCN0603T-6N8K-S	6.8	250	10 / 5 / 2	27	5800	0.110	700	6.75	60	7.1	81	Red
LCN0603T-7N5K-S	7.5	250	10 / 5 / 2	28	4800	0.106	700	7.70	60	7.82	65	Brown
LCN0603T-8N2K-S	8.2	250	10 / 5 / 2	28	4700	0.109	700	8.30	60	8.50	60	White
LCN0603T-8N7J-S	8.7	250	10 / 5 / 2	28	4600	0.109	700	8.86	62	9.32	58	Yellow
LCN0603T-9N5J-S	9.5	250	10 / 5 / 2	28	5400	0.135	700	9.70	59	9.92	61	Blue
LCN0603T-10NJ-S	10	250	10 / 5 / 2	31	4800	0.130	700	10	66	10.6	83	Orange
LCN0603T-11NJ-S	11	250	10 / 5 / 2	33	4000	0.086	700	11	53	11.5	56	Gray
LCN0603T-12NJ-S	12	250	10 / 5 / 2	35	4000	0.130	700	12.3	72	13.5	83	Yellow
LCN0603T-15NJ-S	15	250	10 / 5 / 2	35	4000	0.170	700	15.4	64	16.8	89	Green
LCN0603T-16NJ-S	16	250	10 / 5 / 2	34	3300	0.104	700	16.2	55	17.3	52	White
LCN0603T-18NJ-S	18	250	10 / 5 / 2	35	3100	0.170	700	18.7	70	21.4	69	Blue
LCN0603T-22NJ-S	22	250	10 / 5 / 2	38	3000	0.190	700	22.8	73	26.1	71	Violet
LCN0603T-24NJ-S	24	250	10 / 5 / 2	37	2650	0.135	700	24.5	45	28.7	39	Black
LCN0603T-27NJ-S	27	250	10 / 5 / 2	40	2800	0.220	600	29.2	74	34.6	65	Gray
LCN0603T-30NJ-S	30	250	10 / 5 / 2	37	2250	0.144	600	31.4	47	39.9	28	Brown
LCN0603T-33NJ-S	33	250	10 / 5 / 2	40	2300	0.220	600	36	67	49.5	42	White
LCN0603T-36NJ-S	36	250	10 / 5 / 2	38	2080	0.250	600	39.4	47	52.7	24	Red
LCN0603T-39NJ-S	39	250	10 / 5 / 2	40	2200	0.250	600	42.7	60	60.2	40	Black
LCN0603T-43NJ-S	43	250	10 / 5 / 2	39	2000	0.280	600	47	44	64.9	21	Orange
LCN0603T-47NJ-S	47	200	10 / 5 / 2	38	2000	0.280	600	52.2	62	77.2	35	Brown
LCN0603T-56NJ-S	56	200	10 / 5 / 2	38	1900	0.310	600	62.5	56	97	26	Red
LCN0603T-68NJ-S	68	200	10 / 5 / 2	37	1700	0.340	600	80.5	54	168	21	Orange
LCN0603T-72NJ-S	72	150	10 / 5 / 2	34	1700	0.490	400	82	53	135	20	Yellow
LCN0603T-82NJ-S	82	150	10 / 5 / 2	34	1700	0.540	400	96.2	54	177	21	Green
LCN0603T-R10J-S	100	150	10 / 5 / 2	34	1400	0.580	400	124	49			Blue
LCN0603T-R11J-S	110	150	10 / 5 / 2	32	1350	0.610	300	138	43			Violet
LCN0603T-R12J-S	120	150	10 / 5 / 2	32	1300	0.650	300	166	39			Gray
LCN0603T-R15J-S	150	150	10 / 5 / 2	28	990	0.920	280	250	25			White
LCN0603T-R18J-S	180	100	10 / 5 / 2	25	990	1.250	240	305	22			Black
LCN0603T-R22J-S	220	100	10 / 5 / 2	25	900	2.100	200	480	8			Brown
LCN0603T-R27J-S	270	100	10 / 5 / 2	24	900	2.300	170	980	4			Red

1. When ordering, please specify tolerance and packaging codes. Ex: LCN0603T-R12J-S

Tolerance : G = ±2% , J = 5% , K = 10% , M = 20%

Packaging : Clear tape and reel { standard }.

2. L , Q : HP4287A

3. SRF : HP8753D / E4991A

4. RDC: DIGITAL MULTIMETER SC-7401 4291A

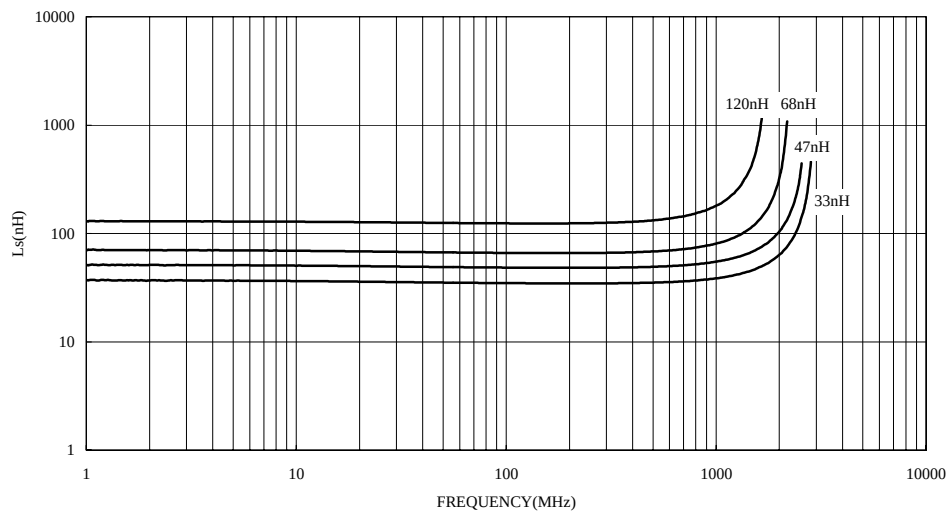
5. For 15°C rise.

6. Operating temperature range —40°C to 125°C

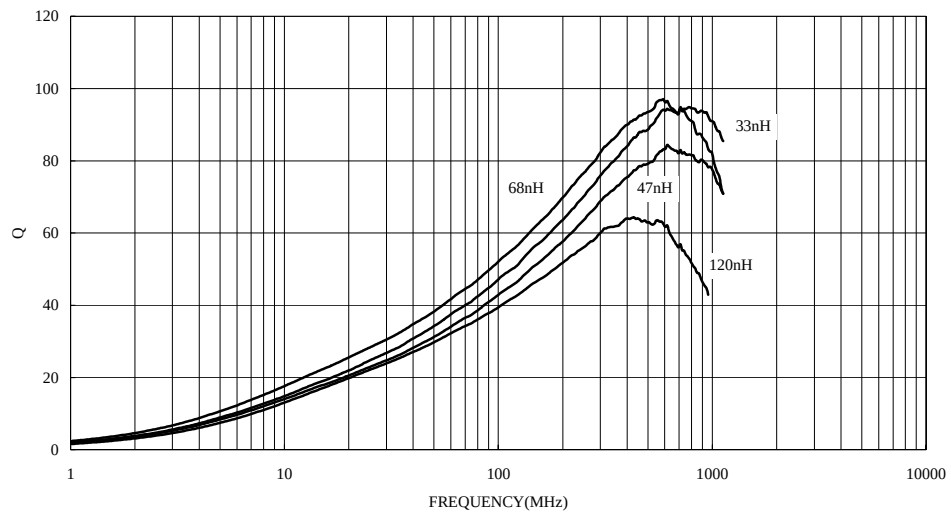
WOUND CHIP INDUCTORS / LCN SERIES

Test Instruments : E4991A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS

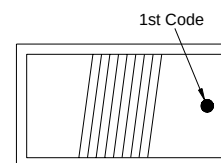


WOUND CHIP INDUCTORS / LCN SERIES

Electrical Characteristics

Part Number	Inductance (nH)	Tolerance (±%)	Test Frequency (MHz)	Q Min	Test Frequency (MHz)	Self Resonant Frequency (MHz)Min	DC Resistance (Ω)max	Rated current (mA)max	Color Coding
LCN0805T-2N8K-S	2.8	10 / 5 / 2	250	70	1500	7900	0.06	800	Gray
LCN0805T-3N0K-S	3.0	10 / 5 / 2	250	65	1500	7900	0.06	800	White
LCN0805T-3N3K-S	3.3	10 / 5 / 2	250	50	1500	7900	0.08	600	Black
LCN0805T-5N6K-S	5.6	10 / 5 / 2	250	65	1000	5500	0.08	600	Orange
LCN0805T-6N8K-S	6.8	10 / 5 / 2	250	50	1000	5500	0.11	600	Brown
LCN0805T-7N5K-S	7.5	10 / 5 / 2	250	50	1000	4500	0.14	600	Green
LCN0805T-8N2K-S	8.2	10 / 5 / 2	250	50	1000	4700	0.12	600	Red
LCN0805T-10NK-S	10	10 / 5 / 2	250	60	500	4200	0.10	600	Blue
LCN0805T-12NK-S	12	10 / 5 / 2	250	50	500	4000	0.15	600	Orange
LCN0805T-15NJ-S	15	10 / 5 / 2	250	50	500	3400	0.17	600	Yellow
LCN0805T-18NJ-S	18	10 / 5 / 2	250	50	500	3300	0.20	600	Green
LCN0805T-22NJ-S	22	10 / 5 / 2	250	55	500	2600	0.22	500	Blue
LCN0805T-24NJ-S	24	10 / 5 / 2	250	50	500	2000	0.22	500	Gray
LCN0805T-27NJ-S	27	10 / 5 / 2	250	55	500	2500	0.25	500	Violet
LCN0805T-33NJ-S	33	10 / 5 / 2	250	60	500	2050	0.27	500	Gray
LCN0805T-36NJ-S	36	10 / 5 / 2	250	55	500	1700	0.27	500	Orange
LCN0805T-39NJ-S	39	10 / 5 / 2	250	60	500	2000	0.29	500	White
LCN0805T-43NJ-S	43	10 / 5 / 2	200	60	500	1650	0.34	500	Yellow
LCN0805T-47NJ-S	47	10 / 5 / 2	200	60	500	1650	0.31	500	Black
LCN0805T-56NJ-S	56	10 / 5 / 2	200	60	500	1550	0.34	500	Brown
LCN0805T-68NJ-S	68	10 / 5 / 2	200	60	500	1450	0.38	500	Red
LCN0805T-82NJ-S	82	10 / 5 / 2	150	65	500	1300	0.42	400	Orange
LCN0805T-91NJ-S	91	10 / 5 / 2	150	65	500	1200	0.48	400	Black
LCN0805T-R10J-S	100	10 / 5 / 2	150	65	500	1200	0.46	400	Yellow
LCN0805T-R11J-S	110	10 / 5 / 2	150	50	250	1000	0.48	400	Brown
LCN0805T-R12J-S	120	10 / 5 / 2	150	50	250	1100	0.51	400	Green
LCN0805T-R15J-S	150	10 / 5 / 2	100	50	250	920	0.56	400	Blue
LCN0805T-R18J-S	180	10 / 5 / 2	100	50	250	870	0.64	400	Violet
LCN0805T-R20J-S	200	10 / 5 / 2	100	50	250	860	0.68	400	Red
LCN0805T-R22J-S	220	10 / 5 / 2	100	50	250	850	0.70	400	Gray
LCN0805T-R24J-S	240	10 / 5 / 2	100	44	250	690	1.00	350	Red
LCN0805T-R25J-S	250	10 / 5 / 2	100	45	250	660	1.20	350	Yellow
LCN0805T-R27J-S	270	10 / 5 / 2	100	48	250	650	1.30	350	White
LCN0805T-R33J-S	330	10 / 5 / 2	100	48	250	600	1.65	310	Black
LCN0805T-R39J-S	390	10 / 5 / 2	100	25	250	400	1.80	290	Brown
LCN0805T-R47J-S	470	10 / 5 / 2	50	33	100	400	2.0	250	Violet
LCN0805T-R56J-S	560	10 / 5 / 2	25	20	50	200	2.1	230	Orange
LCN0805T-R68J-S	680	10 / 5 / 2	25	18	50	130	2.3	190	Green
LCN0805T-R82J-S	820	10 / 5 / 2	25	15	50	100	2.5	180	Blue

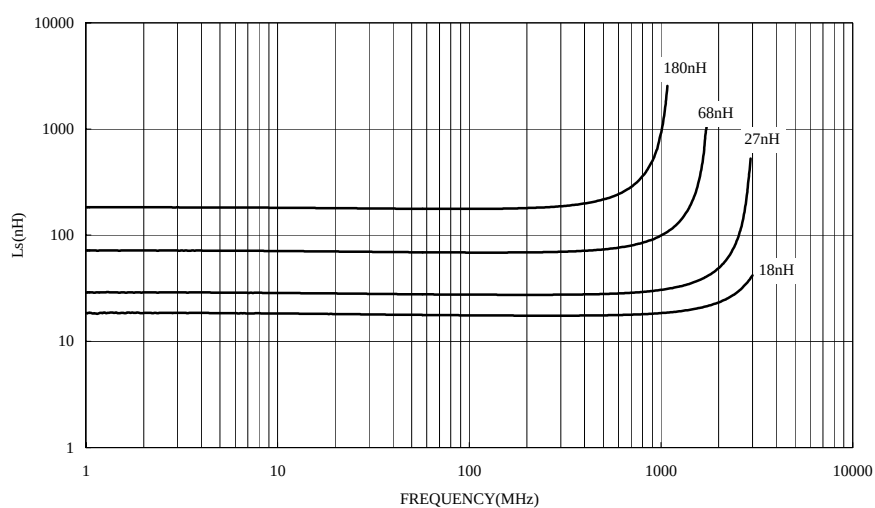
- When ordering , please specify tolerance and packaging code. Ex:LCN0805T-R10NJ-S
 Tolerance : J = 5% , K = 10% , M = 20%
 Packaging : Clear tape and reel (standard) .
- L , Q , RDC : HP4287A
- S R F : HP8753D / E4991A .
- Operating temperature rang -40°C to + 125°C



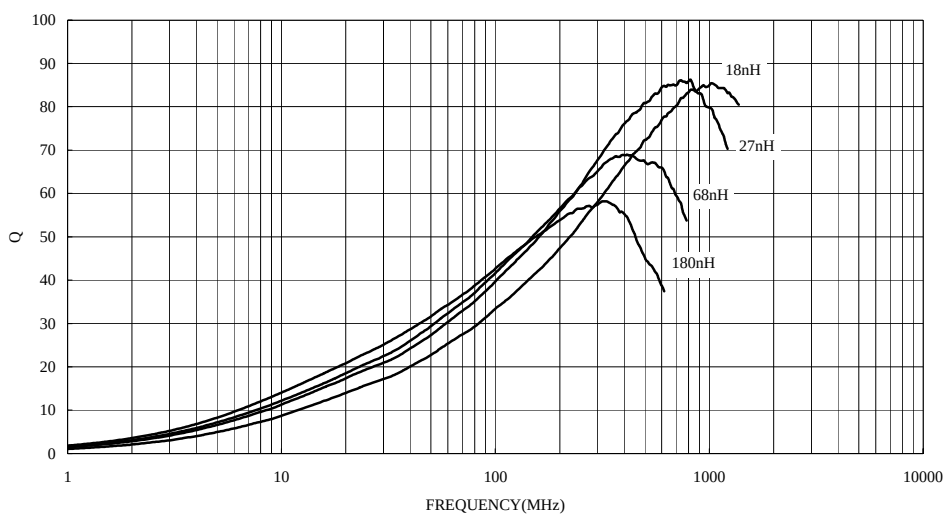
COLOR CODING

Test Instruments : E4991A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



WOUND CHIP INDUCTORS / LCN SERIES

Electrical Characteristics

Part Number	Inductance (nH)	Tolerance (±%)	Test Frequency (MHz)	Q Min	Test Frequency (MHz)	Self Resonant Frequency (MHz)Min	DC Resistance (Ω)max	Rated current (mA)max	COLOR CODING		
									1 ST	2 ND	3 RD
LCN1008T-4N7K-S	4.7	10 / 5 / 2	50	50	500	4100	0.08	1000	Black	Yellow	Violet
LCN1008T-5N6K-S	5.6	10 / 5 / 2	50	50	500	4100	0.15	1000	Black	Green	Blue
LCN1008T-10NK-S	10	10 / 5 / 2	50	50	500	4100	0.08	1000	Brown	Black	Black
LCN1008T-12NK-S	12	10 / 5 / 2	50	50	500	3300	0.09	1000	Brown	Red	Black
LCN1008T-15NK-S	15	10 / 5 / 2	50	50	500	2500	0.10	1000	Brown	Green	Black
LCN1008T-18NK-S	18	10 / 5 / 2	50	50	350	2500	0.11	1000	Brown	Gray	Black
LCN1008T-22NJ-S	22	10 / 5 / 2	50	55	350	2400	0.12	1000	Red	Red	Black
LCN1008T-27NJ-S	27	10 / 5 / 2	50	55	350	1600	0.13	1000	Red	Violet	Black
LCN1008T-33NJ-S	33	10 / 5 / 2	50	60	350	1600	0.14	1000	Orange	Orange	Black
LCN1008T-39NJ-S	39	10 / 5 / 2	50	60	350	1500	0.15	1000	Orange	White	Black
LCN1008T-47NJ-S	47	10 / 5 / 2	50	65	350	1500	0.16	1000	Yellow	Violet	Black
LCN1008T-56NJ-S	56	10 / 5 / 2	50	65	350	1300	0.18	1000	Green	Blue	Black
LCN1008T-68NJ-S	68	10 / 5 / 2	50	65	350	1300	0.20	1000	Blue	Gray	Black
LCN1008T-82NJ-S	82	10 / 5 / 2	50	60	350	1000	0.22	1000	Gray	Red	Black
LCN1008T-R10J-S	100	10 / 5 / 2	25	60	350	1000	0.56	650	Brown	Black	Brown
LCN1008T-R12J-S	120	10 / 5 / 2	25	60	350	950	0.63	650	Brown	Red	Brown
LCN1008T-R15J-S	150	10 / 5 / 2	25	45	100	850	0.70	580	Brown	Green	Brown
LCN1008T-R18J-S	180	10 / 5 / 2	25	45	100	750	0.77	620	Brown	Gray	Brown
LCN1008T-R22J-S	220	10 / 5 / 2	25	45	100	700	0.84	500	Red	Red	Brown
LCN1008T-R27J-S	270	10 / 5 / 2	25	45	100	600	0.91	500	Red	Violet	Brown
LCN1008T-R33J-S	330	10 / 5 / 2	25	45	100	570	1.05	450	Orange	Orange	Brown
LCN1008T-R39J-S	390	10 / 5 / 2	25	45	100	500	1.12	470	Orange	White	Brown
LCN1008T-R47J-S	470	10 / 5 / 2	25	45	100	450	1.19	470	Yellow	Violet	Brown
LCN1008T-R56J-S	560	10 / 5 / 2	25	45	100	415	1.33	400	Green	Blue	Brown
LCN1008T-R62J-S	620	10 / 5 / 2	25	45	100	375	1.40	300	Blue	Red	Brown
LCN1008T-R68J-S	680	10 / 5 / 2	25	45	100	375	1.47	400	Blue	Gray	Brown
LCN1008T-R75J-S	750	10 / 5 / 2	25	45	100	360	1.54	360	Violet	Green	Brown
LCN1008T-R82J-S	820	10 / 5 / 2	25	45	100	350	1.61	400	Gray	Red	Brown
LCN1008T-R91J-S	910	10 / 5 / 2	25	35	50	320	1.68	380	White	Brown	Brown
LCN1008T-1R0J-S	1000	10 / 5 / 2	25	35	50	220	1.75	370	Brown	Black	Red
LCN1008T-1R2J-S	1200	10 / 5 / 2	7.9	35	50	186	2.0	310	Brown	Red	Red
LCN1008T-1R5J-S	1500	10 / 5 / 2	7.9	28	50	200	2.3	330	Brown	Green	Red
LCN1008T-1R8J-S	1800	10 / 5 / 2	7.9	25	50	170	2.6	300	Brown	Gray	Red
LCN1008T-2R2J-S	2200	10 / 5 / 2	7.9	20	50	110	2.8	280	Red	Red	Red
LCN1008T-2R7J-S	2700	10 / 5 / 2	7.9	15	25	140	3.2	290	Red	Violet	Red
LCN1008T-3R3J-S	3300	10 / 5 / 2	7.9	15	25	100	3.4	290	Orange	Orange	Red
LCN1008T-3R9J-S	3900	10 / 5 / 2	7.9	15	25	100	3.6	260	Orange	White	Red
LCN1008T-4R7J-S	4700	10 / 5 / 2	7.9	13	25	90	4.0	260	Yellow	Violet	Red
LCN1008T-5R6J-S	5600	10 / 5 / 2	7.9	16	7.9	20	4.0	240	Green	Yellow	Red
LCN1008T-6R8J-S	6800	10 / 5 / 2	7.9	18	7.9	40	4.9	200	Yellow	Gray	Red
LCN1008T-8R2J-S	8200	10 / 5 / 2	7.9	18	7.9	25	6.0	170	Gray	Red	Red

► When ordering , please specify tolerance and packaging code. Ex:LCN1008T-3R3J-S

Tolerance : G = 2% , J = 5% , K = 10%

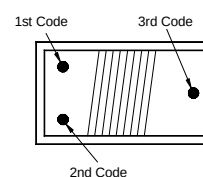
Packaging : Clear tape and reel (standard) .

► L , Q : HP4287A

► S R F : HP8753D / E4991A .

► RDC : DIGITAL MULTIMETER SC - 7401

► Operating temperature rang -40°C to +125°C

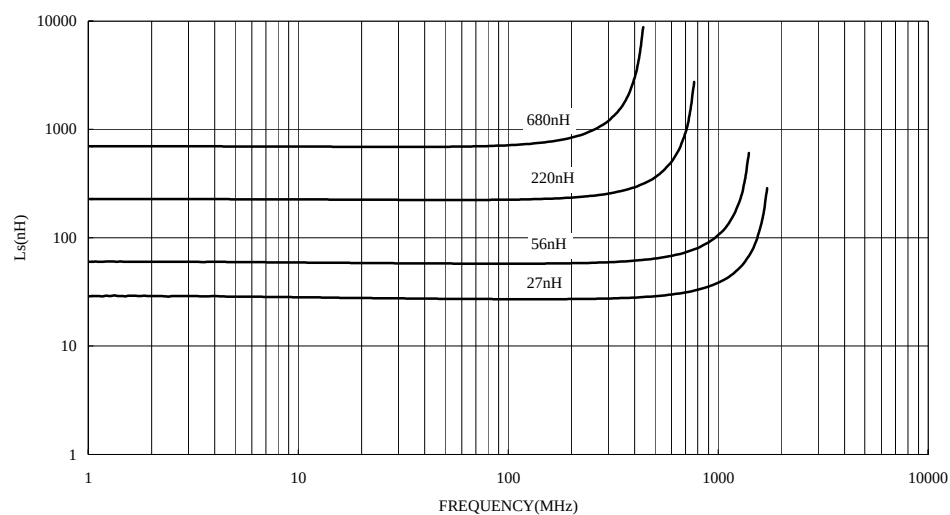


COLOR CODING

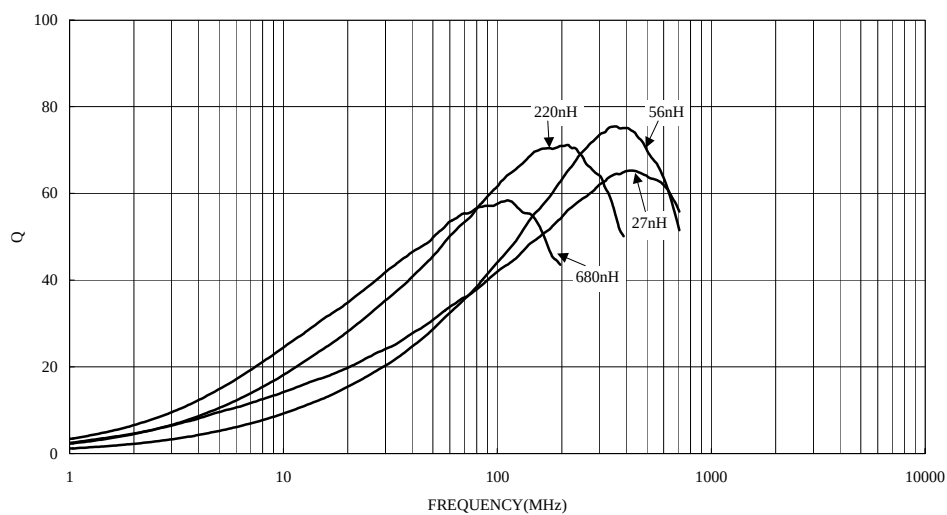
WOUND CHIP INDUCTORS / LCN SERIES

Test Instruments : E4991A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



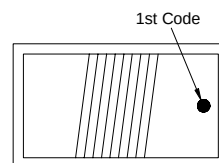
Q vs. FREQUENCY CHARACTERISTICS



Color Coding

0603 & 0805 Series-

Due to the small size of the chip inductor, the component will not be marked with three color dots. Instead, there is only one color dot which represents an inductance value in nanohenries:



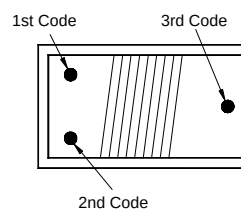
0603 Series		0805 Series	
Color	nH	Color	nH
Black	1.8	Black	3.3
Brown	3.9	Brown	6.8
Red	6.8	Red	8.2
Orange	10	Orange	12
Yellow	12	Yellow	15
Green	15	Green	18
Blue	18	Blue	22
Violet	22	Violet	27
Gray	27	Gray	33
White	33	White	39
Black	39	Black	47
Brown	47	Brown	56
Red	56	Red	68
Orange	68	Orange	82
Yellow	72	Yellow	100
Green	82	Green	120
Blue	100	Blue	150
Violet	110	Violet	180
Gray	120	Gray	220
		White	270
		Black	330
		Brown	390

1008 Series-

These parts are marked with 3 color dots.

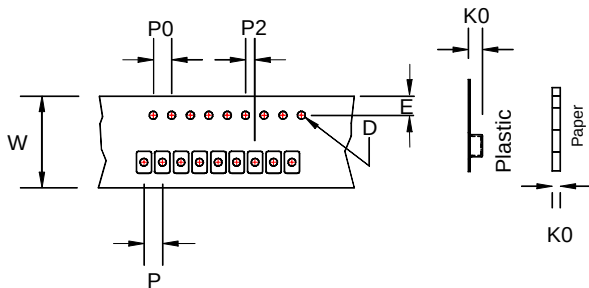
Each color dots show inductance in nanohenries.

0=Black	5=Green
1=Brown	6=Blue
2=Red	7=Violet
3=Orange	8=Gray
4=Yellow	9=White

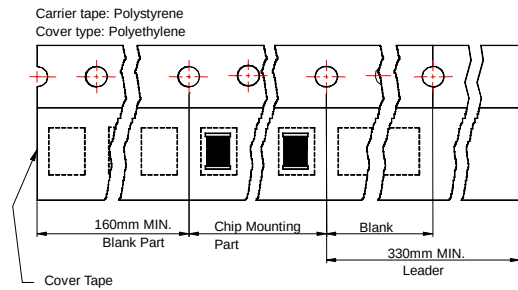


WOUND CHIP INDUCTORS / LCN SERIES

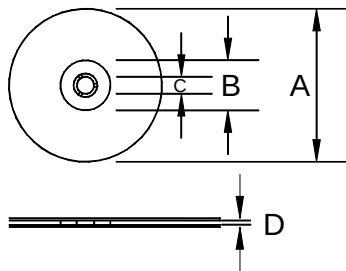
Tape Dimensions



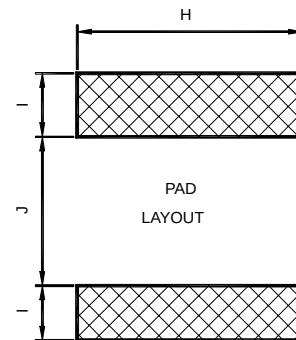
Tape Material



Reel Dimensions



Recommended Pattern



Dimensions in mm

TYPE	Tape Dimensions							Reel Dimensions				Recommended Pattern				Quantity / Reel
	K0	D	E	W	P	P0	P2	A	B	C	D	Unit	H	I	J	
LCN0603	1.05	1.55	1.75	8	4	4	2	178	60	13	9	in mm	0.040 1.02	0.025 0.64	0.025 0.64	4000
LCN0805	1.35	1.55	1.75	8	4	4	2	178	60	13	9	in mm	0.07 1.78	0.04 1.02	0.03 0.76	2500
LCN1008	2.25	1.55	1.75	8	4	4	2	178	60	13	9	in mm	0.10 2.54	0.04 1.02	0.05 1.27	2000

1-1 Mechanical Performance

No	Item	Specification	Test Method
1-1-1	Vibration	Appearance: No damage L change: within $\pm 10\%$ Q change: within $\pm 30\%$	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
1-1-2	Resistance to Soldering Heat	Appearance: No damage	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 260 $\pm 5^\circ\text{C}$ Immersion Time: 10 ± 1 sec
1-1-3	Solderability	The electrodes shall be at least 90% covered with new solder coating	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 230 $\pm 5^\circ\text{C}$ Immersion Time: 4 ± 1 sec

1-2 Environmental Performance

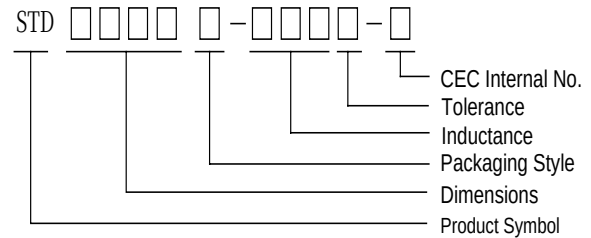
No	Item	Specification	Test Method															
1-2-1	Temperature Cycle	Appearance: No damage L change: within±10% Q change: within±30%	One cycle: <table><tr><th>Step</th><th>Temperature (°C)</th><th>Time (min)</th></tr><tr><td>1</td><td>-25±3</td><td>30</td></tr><tr><td>2</td><td>25±2</td><td>3</td></tr><tr><td>3</td><td>85±3</td><td>30</td></tr><tr><td>4</td><td>25±2</td><td>3</td></tr></table> Total: 100cycles Measured after exposure in the room condition for 24hrs	Step	Temperature (°C)	Time (min)	1	-25±3	30	2	25±2	3	3	85±3	30	4	25±2	3
Step	Temperature (°C)	Time (min)																
1	-25±3	30																
2	25±2	3																
3	85±3	30																
4	25±2	3																
1-2-2	Humidity Resistance		Temperature: 40±2°C Relative Humidity: 90 ~ 95% Time: 1000hrs Measured after exposure in the room condition for 24hrs															
1-2-3	High Temperature Resistance		Temperature: 85±3°C Relative Humidity: 20% Applied Current: Rated Current Time: 1000hrs Measured after exposure in the room condition for 24hrs															
1-2-4	Low Temperature Resistance		Temperature: -25±3°C Relative Humidity: 0% Time: 1000hrs Measured after exposure in the room condition for 24hrs															

SMD POWER INDUCTORS / STD SERIES

CLS SMD power inductors are best designed for noise / EMI / RFI filters for surface mounting applications.

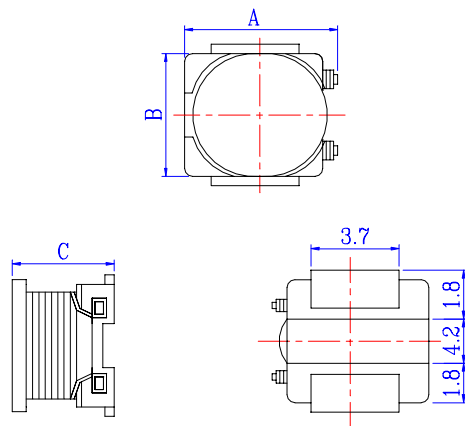
These components contain tremendous electrode straight, solder heat resistance and outstanding solderability. These products are specially designed for flow, reflow and wave soldering required for surface mounting applications.

Product Identification



Shapes and Dimensions

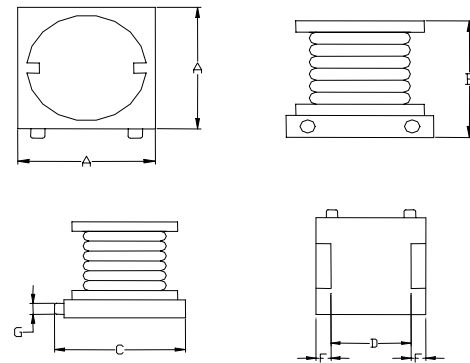
STD0804 series



Dimensions in mm

A	B	C
10.5 ⁺⁰	7.8 ⁺⁰	7.0 ⁺⁰

STD1109 series



Dimensions in mm

A	B	C	D	E	F	G
11.6 ⁺⁰	8.5 ⁺⁰	14.0 ⁺⁰	6	4	2.55	3 ⁺⁰

Electrical Characteristics

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	DC Resistance (Ω^{+0})	Rated current (mA)
STD0804T-560K-S	56	10	0.25	900
STD0804T-680K-S	68	10	0.30	800
STD0804T-820K-S	82	10	0.37	700
STD0804T-101K-S	100	10	0.38	600
STD0804T-121K-S	120	10	0.58	550
STD0804T-151K-S	150	10	0.72	500
STD0804T-181K-S	180	10	0.80	450
STD0804T-221K-S	220	10	0.83	400
STD0804T-271K-S	270	10	1.10	350
STD0804T-331K-S	330	10	1.15	300

- Tested at HP4263A 1kHz , 1 Volt.
- Inductance drop = 10% typ. At rated Isat.
- Operating temperature range -40°C to 85°C

SMD POWER INDCUTORS / STD SERIES

Electrical Characteristics

Part Number	Inductance (μ H)	Tolerance ($\pm\%$)	DC Resistance (Ω)	Rated current (A)MAX.
STD1109T-100M-B	10	20	0.06	3.50
STD1109T-120M-B	12	20	0.07	3.40
STD1109T-150M-B	15	20	0.08	3.10
STD1109T-180M-B	18	20	0.09	3.00
STD1109T-220M-B	22	20	0.10	2.60
STD1109T-270M-B	27	20	0.11	2.40
STD1109T-330M-B	33	20	0.12	2.30
STD1109T-390M-B	39	20	0.14	2.10
STD1109T-470M-B	47	20	0.17	1.95
STD1109T-560M-B	56	20	0.19	1.85
STD1109T-680M-B	68	20	0.22	1.65
STD1109T-820M-B	82	20	0.25	1.50
STD1109T-101M-B	100	20	0.35	1.40
STD1109T-121M-B	120	20	0.40	1.30
STD1109T-151M-B	150	20	0.47	1.20
STD1109T-181M-B	180	20	0.63	1.00
STD1109T-221M-B	220	20	0.73	0.95
STD1109T-271M-B	270	20	0.97	0.90
STD1109T-331M-B	330	20	1.15	0.80
STD1109T-391M-B	390	20	1.30	0.75
STD1109T-471M-B	470	20	1.48	0.65
STD1109T-561M-B	560	20	1.90	0.60
STD1109T-681M-B	680	20	2.45	0.50
STD1109T-821M-B	820	20	2.55	0.48
STD1109T-102M-B	1000	20	3.00	0.46
STD1109T-122M-B	1200	20	3.50	0.35

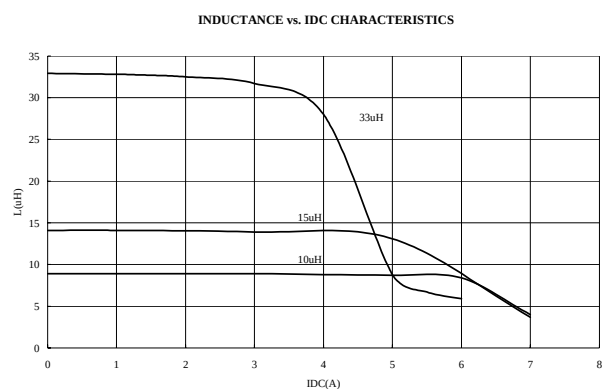
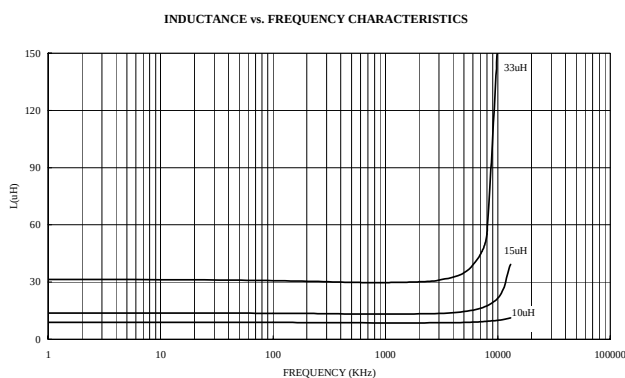
➤ Tested at HP4263A 1kHz , 1 Volt.

➤ Test Instruments: HP4261 RF Impedance for L, IDC

Digital Multimeter SC-7401 for RDC

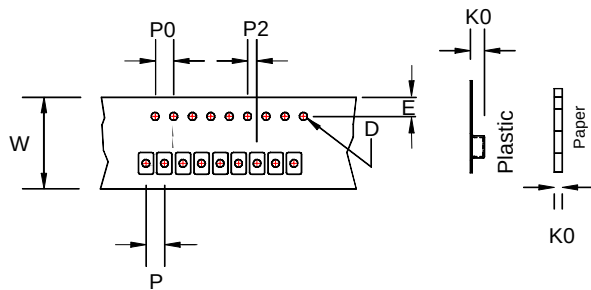
Typical Electrical Characteristics: Test

Instruments : HP4191A RF Impedance Analyzer

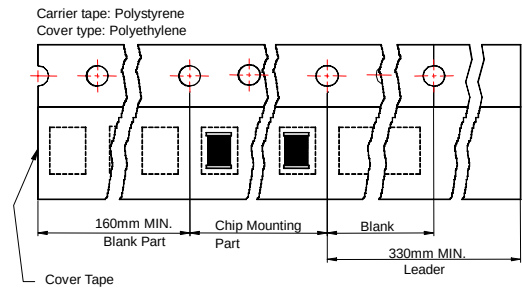


SMD POWER INDCUTORS / STD SERIES

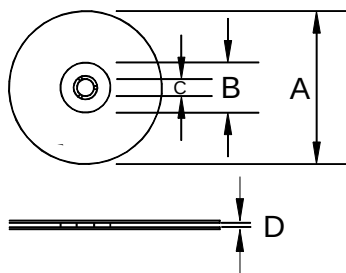
Tape Dimensions



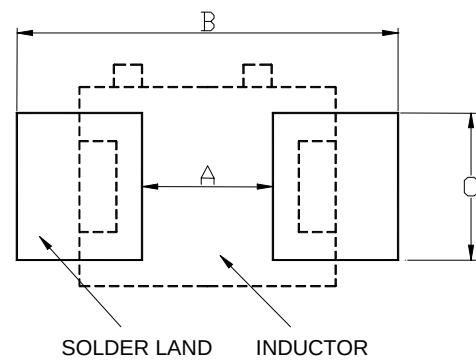
Tape Material



Reel Dimensions



Recommended Pattern



Dimensions in mm

TYPE	Tape Dimensions							Recommended Pattern			Reel Dimensions				Quantity PCS / REEL
	K0	D	E	W	P	P0	P2	A	B	C	A	B	C	D	
STD0804	5.4	1.55	1.75	24	16	4	2	4.0	9	4.5	330	100	13	24.4	750
STD1109	8.7	1.55	1.75	24	20	4	2	6	12 ~ 14	5	330	100	13	24.4	400

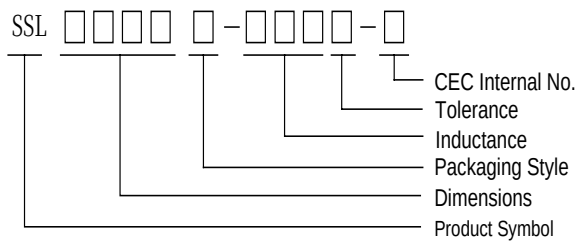
SMD POWER INDUCTORS / SSL0400 SERIES

This Series is designed for applications requiring high inductance, high current and an ultra-low profile.

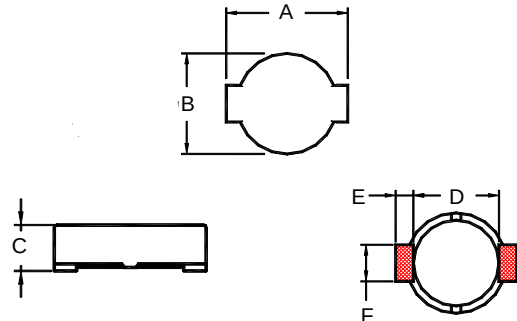
The SSL0400T measures only 2 mm high and has a footprint of just 5.3 x 6.5mm. But despite this small size, it is available in versions that will handle up to 2.5 Amps. The series covers a wide range of inductance values from 1 μ H to 1mH.

The core is completely enclosed in a rugged ceramic case giving it a flat top that provides the optimum surface for reliable pick and place operations.

Product Identification



Shapes and Dimensions



Dimensions in mm

A	B	C	D	E	F
6.50 ⁺⁰	5.60 ⁺⁰	2.00 ⁺⁰	4.3	1.0	2.00

Electrical Characteristics

Part Number	Inductance ^① (μ H))	Tolerance ($\pm$ %)	DC Resistance (Ohms) max	Self Resonant Frequency (MHz) ref	I sat ^② (A)	I rms ^③ (A)
SSL0400T-1R0M-S	1.0	20	0.05	230	2.25	2.3
SSL0400T-1R5M-S	1.5	20	0.06	180	1.98	2.1
SSL0400T-2R2M-S	2.2	20	0.07	140	1.62	1.7
SSL0400T-3R3M-S	3.3	20	0.10	110	1.26	1.3
SSL0400T-4R7M-S	4.7	20	0.12	100	1.08	1.1
SSL0400T-6R8M-S	6.8	20	0.19	80	0.99	1.0
SSL0400T-100M-S	10	20	0.26	60	0.90	0.90
SSL0400T-150M-S	15	20	0.40	45	0.72	0.70
SSL0400T-220M-S	22	20	0.54	35	0.54	0.50
SSL0400T-330M-S	33	20	0.74	30	0.45	0.45
SSL0400T-470M-S	47	20	1.1	22	0.40	0.40
SSL0400T-680M-S	68	20	1.6	20	0.31	0.35
SSL0400T-101M-S	100	20	2.3	15	0.27	0.30
SSL0400T-151M-S	150	20	3.2	10	0.22	0.25
SSL0400T-221M-S	220	20	5.7	9	0.16	0.18
SSL0400T-331M-S	330	20	8.2	8	0.14	0.16
SSL0400T-471M-S	470	20	10.8	7	0.12	0.12
SSL0400T-681M-S	680	20	17.2	5	0.10	0.10
SSL0400T-102M-S	1000	20	22.6	4	0.07	0.08

① Inductance tested at 100 kHz, 0.1 Vrms.

② Inductance drop = 10% typ. at Isat.

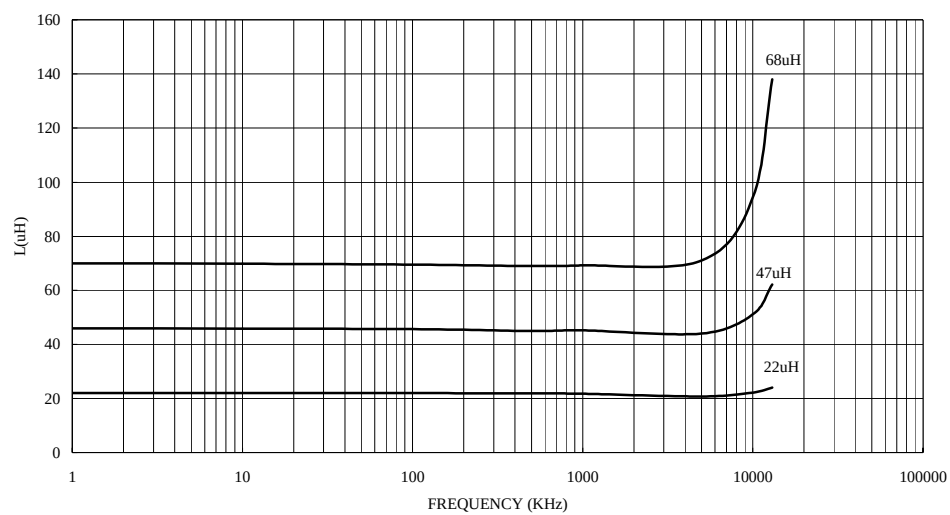
③ $\Delta T = 30^{\circ}\text{C}$ rise typ at Irms.

➤ Operating temperature range -40°C to $+85^{\circ}\text{C}$

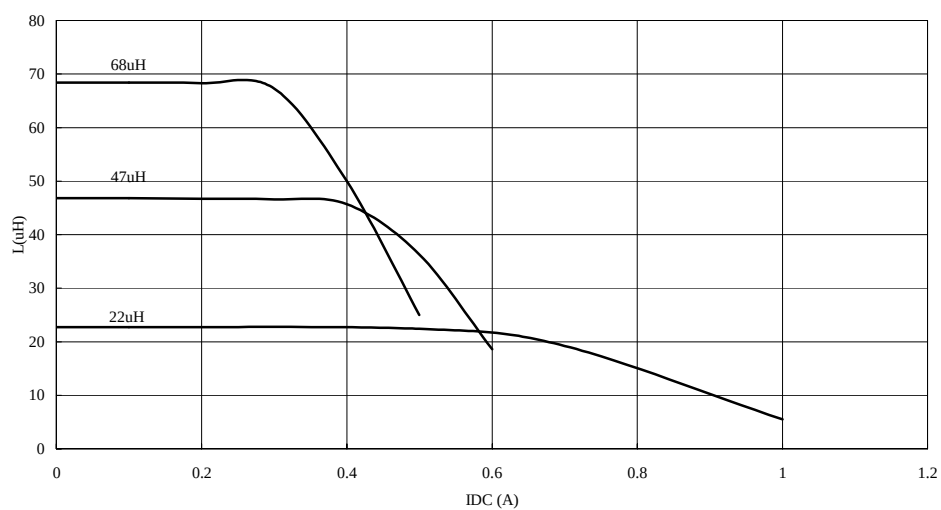
SMD POWER INDUCTORS / SSL0400 SERIES

Test Instruments :

INDUCTANCE vs. FREQUENCY CHARACTERISTICS

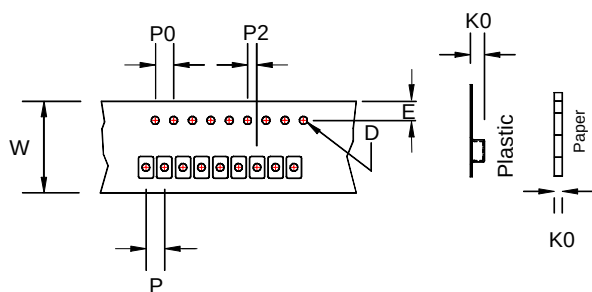


INDUCTANCE vs. IDC CHARACTERISTICS

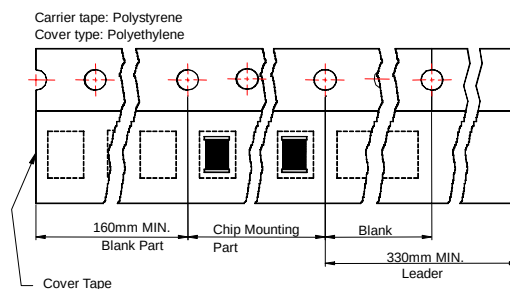


SMD POWER INDCUTORS / SSL0400 SERIES

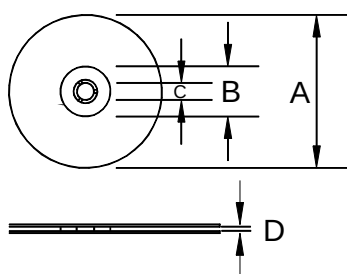
Tape Dimensions



Tape Material

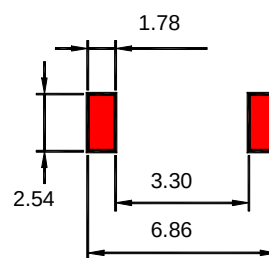


Reel Dimensions



Recommended Pattern

Land Pattern



Dimensions in mm

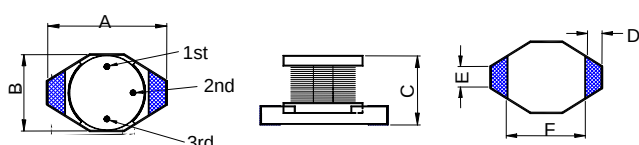
TYPE	Tape Dimensions							Reel Dimensions				Quantity (PCS / REEL)	
	K0	D	E	W	P	P0	P2	A	B	C	D	178mm	330mm
SSL0400	2.5	1.55	1.75	12	8	4	2	330	100	60	13.4	-	3500
								178	60		13.2	1000	-

SMD POWER INDUCTORS / SSL SERIES

For SSL series provide excellent current carrying capabilities in a small footprint. They have a flat top for reliable pick and place operations and features robust temperature deflection. In addition to the standard versions shown here, custom inductors are available to meet your exact requirement.

Shapes and Dimensions

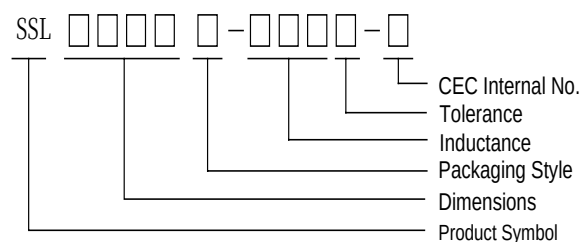
SSL0401 series



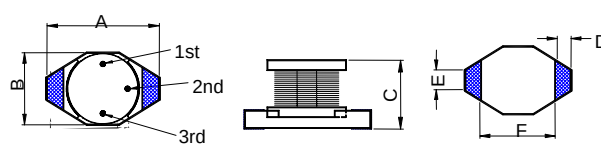
Dimensions in mm

A	B	C	D	E	F
6.60 ⁺⁰	4.45 ⁺⁰	2.49 ⁺⁰	1.02	1.27	4.32

Product Identification



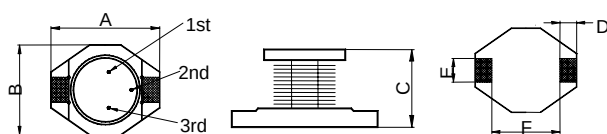
SSL0402 series



Dimensions in mm

A	B	C	D	E	F
6.60 ⁺⁰	4.45 ⁺⁰	2.92 ⁺⁰	1.02	1.27	4.32

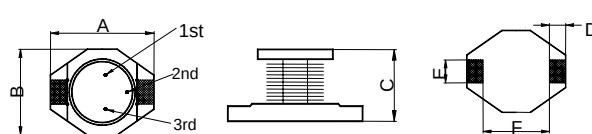
SSL0802 series



Dimensions in mm

A	B	C	D	E	F
12.95 ⁺⁰	9.4 ⁺⁰	3.0 ⁺⁰	2.54	2.54	7.62

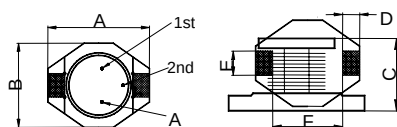
SSL0804 series



Dimensions in mm

A	B	C	D	E	F
12.95 ⁺⁰	9.40 ⁺⁰	5.21 ⁺⁰	2.54	2.54	7.62

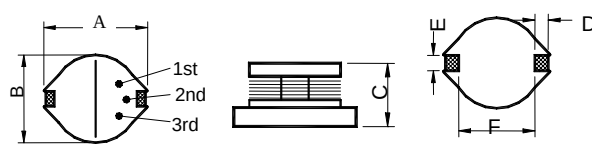
SSL0810 series



Dimensions in mm

A	B	C	D	E	F
12.95 ⁺⁰	9.40 ⁺⁰	11.43 ⁺⁰	2.54	2.54	7.62

SSL1306 series



Dimensions in mm

A	B	C	D	E	F
18.54 ⁺⁰	15.24 ⁺⁰	7.11 ⁺⁰	2.54	2.54	12.7

SMD POWER INDUCTORS / SSL0401 SERIES

Electrical Characteristics

Part Number	Inductance ^① (μ H)	Tolerance ($\pm\%$)	Self Resonant Frequency (MHz) Typ	DC Resistance (Ω^{+0})	Isat ^② (A)	Irms ^③ (A)
SSL0401T-1R0M-S	1.0	20	180	0.090	2.3	2.7
SSL0401T-1R5M-S	1.5	20	140	0.090	2.1	2.5
SSL0401T-2R2M-S	2.2	20	125	0.100	1.8	2.1
SSL0401T-3R3M-S	3.3	20	100	0.120	1.6	1.9
SSL0401T-4R7M-S	4.7	20	80	0.130	1.2	1.8
SSL0401T-6R8M-S	6.8	20	60	0.165	0.96	1.6
SSL0401T-100M-S	10	20	50	0.190	0.88	1.5
SSL0401T-150M-S	15	20	40	0.320	0.72	1.1
SSL0401T-220M-S	22	20	30	0.540	0.56	1.0
SSL0401T-330M-S	33	20	20	0.740	0.46	0.9

① Inductance tested at 100 kHz, 0.1 Vrms.

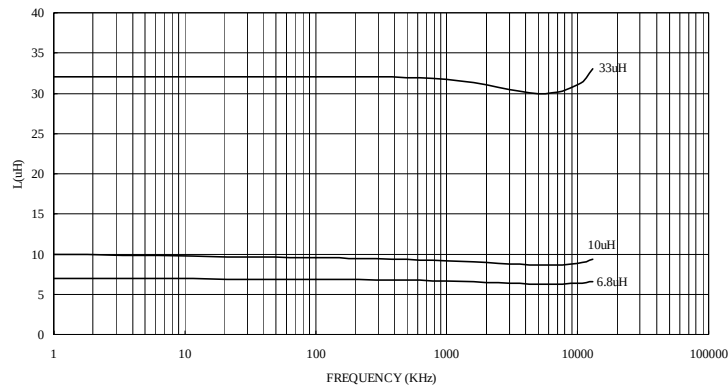
② Inductance drop = 10% typ. at Isat.

③ $\Delta T = 30^\circ\text{C}$ rise typ at Irms.

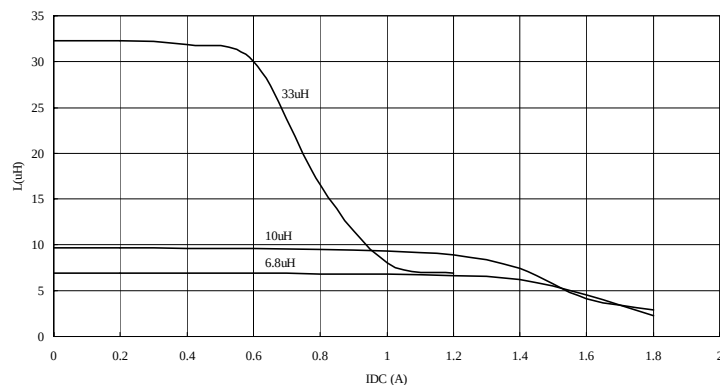
➤ Operating temperature range -40°C to $+85^\circ\text{C}$

Test Instruments :

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE vs. IDC CHARACTERISTICS



SMD POWER INDUCTORS / SSL0402 SERIES

Electrical Characteristics

Part Number	Inductance ^① (μH)	Tolerance (±%)	Self Resonant Frequency (MHz) Typ	DC Resistance (Ω ⁺⁰)	Isat ^② (A)	Irms ^③ (A)
SSL0402T-1R0M-S	1.0	20	130	0.05	2.90	2.9
SSL0402T-1R5M-S	1.5	20	115	0.05	2.60	2.8
SSL0402T-2R2M-S	2.2	20	90	0.07	2.30	2.4
SSL0402T-3R3M-S	3.3	20	70	0.08	2.00	2.0
SSL0402T-4R7M-S	4.7	20	50	0.09	1.50	1.5
SSL0402T-6R8M-S	6.8	20	45	0.13	1.20	1.4
SSL0402T-100M-S	10	20	35	0.16	1.10	1.1
SSL0402T-150M-S	15	20	30	0.23	0.90	1.2
SSL0402T-220M-S	22	20	20	0.37	0.70	0.8
SSL0402T-330M-S	33	20	15	0.51	0.58	0.6
SSL0402T-470M-S	47	20	14	0.64	0.50	0.5
SSL0402T-680M-S	68	20	11	0.86	0.40	0.4
SSL0402T-101M-S	100	20	9	1.27	0.31	0.3
SSL0402T-151M-S	150	20	6	2.00	0.27	0.25
SSL0402T-221M-S	220	20	5.5	3.11	0.22	0.20
SSL0402T-331M-S	330	20	5	3.80	0.18	0.16
SSL0402T-471M-S	470	20	4	5.06	0.06	0.15
SSL0402T-681M-S	680	20	3	9.20	0.14	0.12
SSL0402T-102M-S	1000	20	2	13.8	0.10	0.07

① Inductance tested at 100 kHz, 0.1 Vrms.

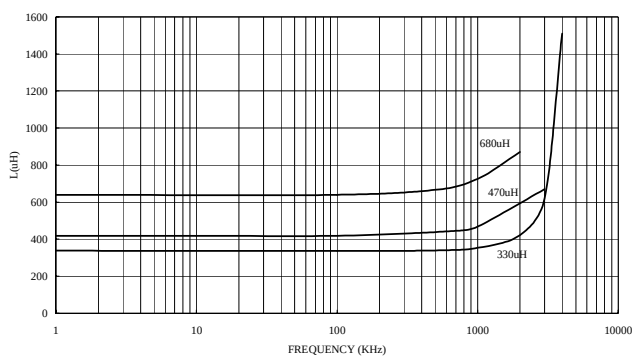
② Inductance drop = 10% typ. at Isat.

③ ΔT = 30°C rise typ at Irms.

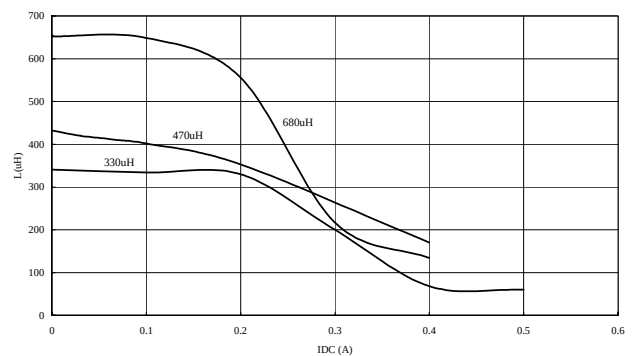
➤ Operating temperature range -40°C to +85°C

Test Instruments :

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE vs. IDC CHARACTERISTICS



SMD POWER INDUCTORS / SSL0802 SERIES

Electrical Characteristics

Part Number	Inductance ^① (μH)	Tolerance (±%)	Self Resonant Frequency (MHz) Typ	DC Resistance (Ω ⁺⁰)	Isat ^② (A)	Irms ^③ (A)
SSL0802T-100M-S	10	20	35	0.11	2.4	2.0
SSL0802T-150M-S	15	20	33	0.15	2.0	1.5
SSL0802T-220M-S	22	20	25	0.23	1.6	1.3
SSL0802T-330M-S	33	20	19	0.30	1.4	1.1
SSL0802T-470M-S	47	20	14	0.39	1.0	0.8
SSL0802T-680M-S	68	20	12	0.66	0.9	0.7
SSL0802T-101M-S	100	20	10	0.84	0.7	0.6
SSL0802T-151M-S	150	20	8	1.20	0.6	0.5
SSL0802T-221M-S	220	20	6	1.90	0.5	0.4
SSL0802T-331M-S	330	20	5	2.70	0.4	0.3
SSL0802T-471M-S	470	20	4	4.00	0.3	0.2
SSL0802T-681M-S	680	20	3	5.30	0.2	0.1
SSL0802T-102M-S	1000	20	2.5	8.40	0.1	0.05

① Inductance tested at 100 kHz, 0.1 Vrms.

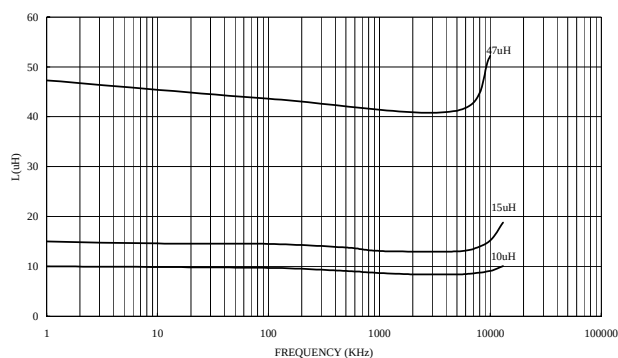
② Inductance drop = 10% typ. at Isat.

③ ΔT = 30°C rise typ at Irms.

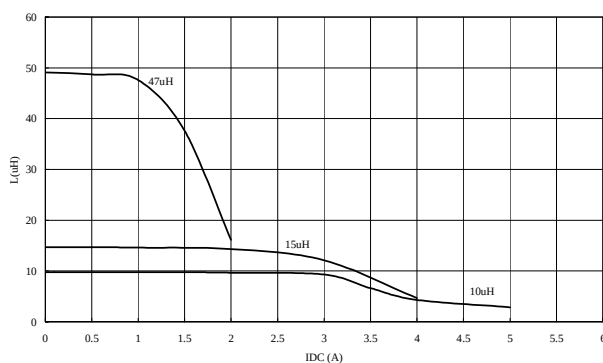
➤ Operating temperature range -40°C to +85°C

Test Instruments :

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE vs. IDC CHARACTERISTICS



SMD POWER INDUCTORS / SSL0804 SERIES

Electrical Characteristics

Part Number	Inductance ^① (μ H)	Tolerance ($\pm$ %)	Self Resonant Frequency (MHz) Typ	DC Resistance $\pm 15\%$ (Ω)	Isat ^② (A)	Irms ^③ (A)
SSL0804T-1R0M-S	1.0	20	100	0.008	9.0	6.8
SSL0804T-1R5M-S	1.5	20	90	0.009	8.0	6.4
SSL0804T-2R2M-S	2.2	20	80	0.010	7.0	6.1
SSL0804T-3R3M-S	3.3	20	65	0.013	6.4	5.4
SSL0804T-4R7M-S	4.7	20	45	0.016	5.4	4.8
SSL0804T-6R8M-S	6.8	20	38	0.019	4.6	4.4
SSL0804T-100M-S	10	20	30	0.025	3.8	3.9
SSL0804T-150M-S	15	20	27	0.040	3.0	3.1
SSL0804T-220M-S	22	20	19	0.050	2.6	2.7
SSL0804T-330M-S	33	20	15	0.088	2.0	2.1
SSL0804T-470M-S	47	20	12	0.12	1.6	1.8
SSL0804T-680M-S	68	20	10	0.16	1.4	1.5
SSL0804T-101M-S	100	20	9	0.23	1.2	1.3
SSL0804T-151M-S	150	20	6	0.33	1.0	1.0
SSL0804T-221M-S	220	20	5	0.53	0.8	0.8
SSL0804T-331M-S	330	20	4.5	0.81	0.6	0.6
SSL0804T-471M-S	470	20	3.5	1.10	0.5	0.5
SSL0804T-681M-S	680	20	2.5	1.60	0.4	0.4
SSL0804T-102M-S	1000	20	2.0	2.15	0.3	0.3

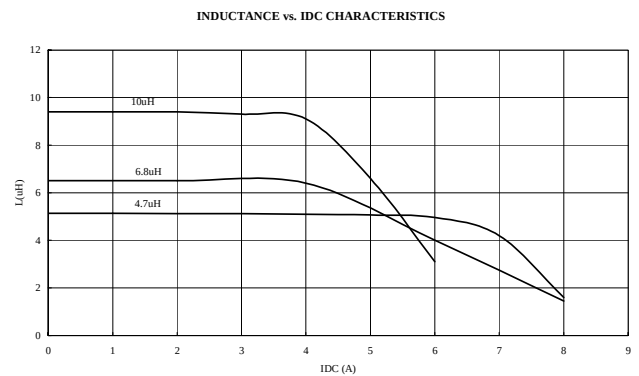
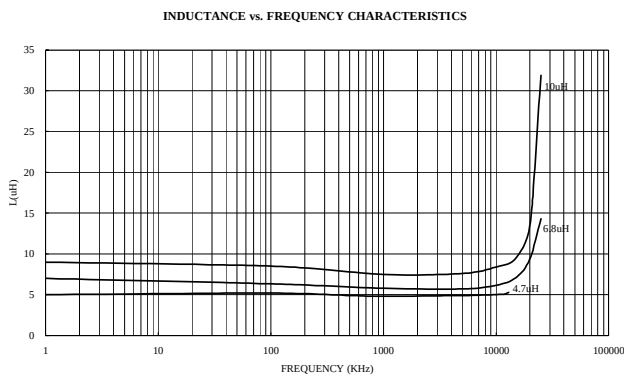
① Inductance tested at 100 kHz, 0.1 Vrms.

② Inductance drop = 10% typ. at Isat.

③ $\Delta T = 15^\circ\text{C}$ rise typ at Irms.

➤ Operating temperature range -40°C to $+85^\circ\text{C}$

Test Instruments :



SMD POWER INDUCTORS / SSL0810 SERIES

Electrical Characteristics

Part Number	Inductance ^① (μ H)	Tolerance ($\pm\%$)	DC Resistance (Ω ⁺⁰)	Self Resonant Frequency (MHz) Typ	Isat ^② (A)	Irms ^③ (A)
SSL0810T-100M-S	10	20	0.04	22	8.0	3.5
SSL0810T-150M-S	15	20	0.05	18	7.0	3.0
SSL0810T-220M-S	22	20	0.07	11	5.5	2.5
SSL0810T-330M-S	33	20	0.08	9	4.0	2.0
SSL0810T-470M-S	47	20	0.11	8	3.8	1.6
SSL0810T-560M-S	56	20	0.14	7.3	3.2	1.3
SSL0810T-680M-S	68	20	0.17	7	3.0	1.2
SSL0810T-101M-S	100	20	0.22	5	2.5	1.2
SSL0810T-151M-S	150	20	0.34	4	2.0	0.9
SSL0810T-221M-S	220	20	0.44	3.5	1.6	0.7
SSL0810T-331M-S	330	20	0.70	2.5	1.2	0.6
SSL0810T-471M-S	470	20	0.95	2	1.0	0.3
SSL0810T-681M-S	680	20	1.2	2	1.0	0.2
SSL0810T-102M-S	1000	20	2.0	1.5	0.8	0.1

① Tested at 100 kHz, 0.1 Vrms.

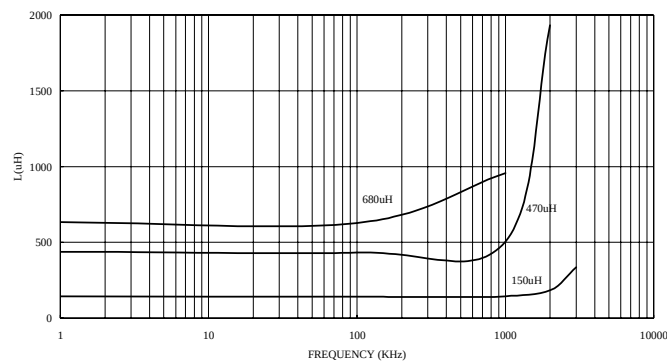
② Inductance drop = 10% typ. at Isat.

③ $\Delta T = 40^\circ\text{C}$ rise typ at Irms.

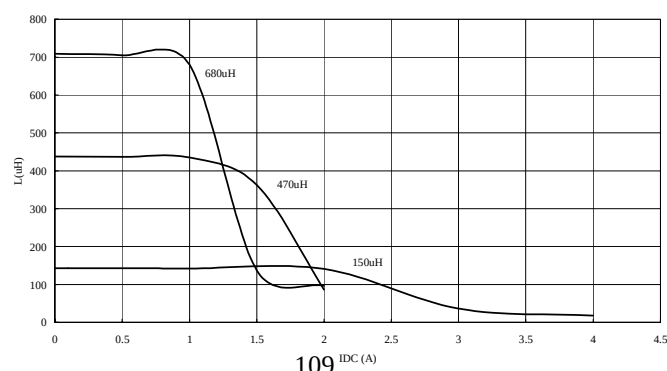
➤ Operating temperature range -40°C to $+85^\circ\text{C}$

Test Instruments :

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE vs. IDC CHARACTERISTICS



SMD POWER INDUCTORS / SSL1306 SERIES

Electrical Characteristics

Part Number	Inductance ^① (μ H)	Tolerance ($\pm$ %)	Self Resonant Frequency (MHz) Typ)	DC Resistance $\pm 15\%$ (Ω)	Isat ^② (A)	Irms ^③ (A)
SSL1306T-1R0M-S	1.0	20	80	0.011	20	8.6
SSL1306T-2R2M-S	2.2	20	80	0.014	16	7.1
SSL1306T-3R3M-S	3.3	20	60	0.016	14	6.2
SSL1306T-5R6M-S	5.6	20	40	0.022	12	5.3
SSL1306T-100M-S	10	20	30	0.032	10	4.3
SSL1306T-150M-S	15	20	22	0.036	8.0	4.0
SSL1306T-220M-S	22	20	20	0.047	7.0	3.5
SSL1306T-330M-S	33	20	15	0.066	5.5	3.0
SSL1306T-470M-S	47	20	9	0.087	4.5	2.6
SSL1306T-680M-S	68	20	8	0.13	3.5	2.3
SSL1306T-101M-S	100	20	7	0.19	3.0	1.8
SSL1306T-151M-S	150	20	6	0.25	2.6	1.5
SSL1306T-221M-S	220	20	5	0.38	2.4	1.2
SSL1306T-331M-S	330	20	4	0.56	1.9	1.0
SSL1306T-471M-S	470	20	3	0.85	1.4	0.82
SSL1306T-681M-S	680	20	2.5	1.2	1.2	0.72
SSL1306T-102M-S	1000	20	2	1.8	1.0	0.56
SSL1306T-472M-S	4700	20	0.3	7.5	0.4	0.2

① Tested at 100 kHz, 0.1 Vrms.

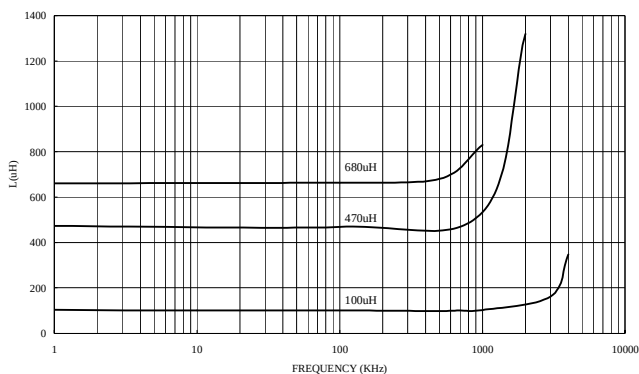
② Inductance drop = 10% typ. at Isat.

③ $\Delta T = 40^\circ\text{C}$ rise typ at Irms.

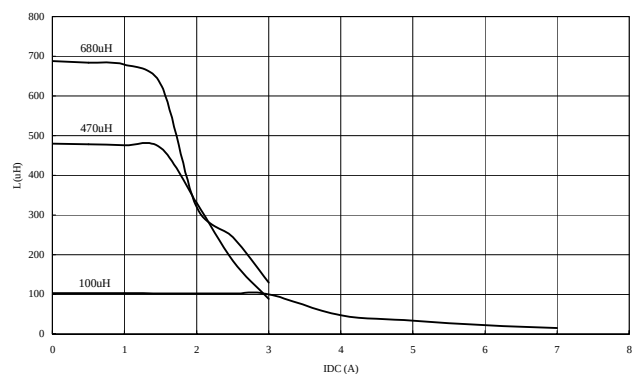
➤ Operating temperature range -40°C to $+85^\circ\text{C}$

Test Instruments :

INDUCTANCE vs. FREQUENCY CHARACTERISTICS

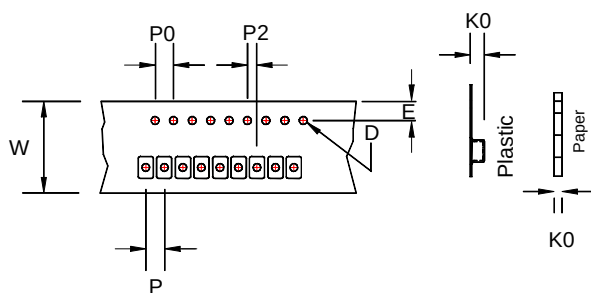


INDUCTANCE vs. IDC CHARACTERISTICS

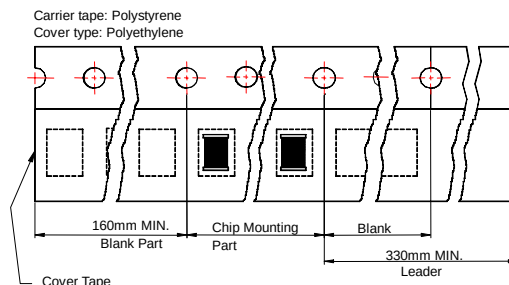


SMD POWER INDCUTORS / SSL SERIES

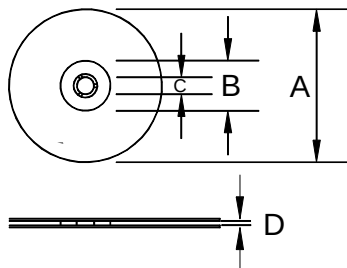
Tape Dimensions



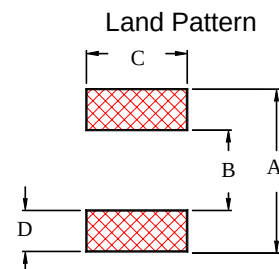
Tape Material



Reel Dimensions



Recommended Pattern



Dimensions in mm

TYPE	Tape Dimensions							Recommended Pattern				Reel Dimensions				Quantity (PCS / REEL)	
	K0	D	E	W	P	P0	P2	A	B	C	D	A	B	C	D	178mm	330mm
SSL0401	2.65	1.55	1.75	12	8	4	2	0.270	0.160	0.140	0.055	330	100	13	13.4	-	2500
								6.86	4.06	3.56	1.40	178	60		13.2	750	-
SSL0402	3	1.55	1.75	12	8	4	2	0.270	0.160	0.140	0.055	330	100	13	13.4	-	2500
								6.86	4.06	3.56	1.40	178	60		13.2	750	-
SSL0802	3.75	1.55	1.75	24	16	4	2	13.21	7.37	2.79	2.92	330	100	13	24.4	-	1000
SSL0804	5.4	1.55	1.75	24	16	4	2	13.21	7.37	2.79	2.92	330	100	13	24.4	-	750
SSL0810	11.5	1.55	1.75	24	20	4	2	13.21	7.37	2.79	2.92	330	100	13	24.4	-	225
SSL1306	7.5	1.55	1.75	32	20	4	2	13.21	7.37	2.79	2.92	330	100	13	33.4	-	250

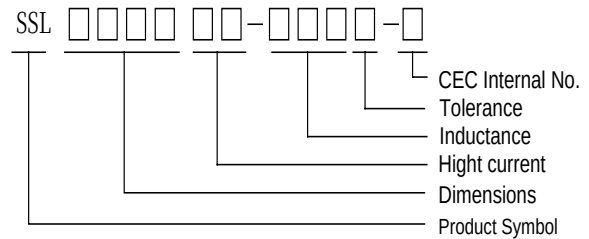
SMD POWER INDUCTORS / SSL-HC SERIES

These series have been specially designed for high current, low voltage DC-DC converter applications.

This simple, rugged design provides current ratings normally available only in much larger packages – up to 16Arms for a .33μH part. With its tinned self-leaded construction, the SSL0804HC achieves very low DCR values and excellent solderability. In addition to the standard parts shown, custom values are also available.

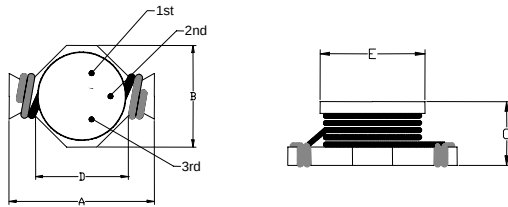
These inductors are less than .2" (5mm) high. They have very low resistance and a rugged self-leaded construction.

Product Identification



Shapes and Dimensions

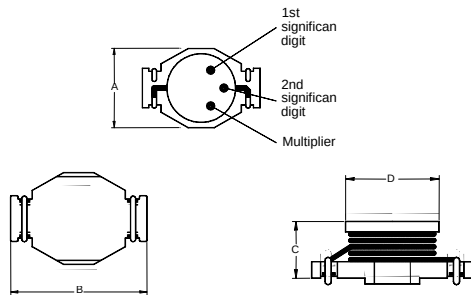
SSL0503HC series



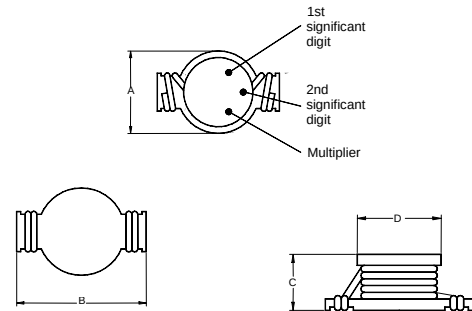
Dimensions in mm

Unit	A Max	B Max	C Max	D	E
In	0.350	0.240	0.197	0.230	0.180
mm	8.89	6.10	5.00	5.84	4.57

SSL0804HC series



SSL1306HC series



Dimensions in mm

Unit	A Max	B	C Max	D Max
In	0.390	0.520	0.250	0.330
mm	9.91	13.21	6.35	8.38

Dimensions in mm

Unit	A	B	C	D Max
In	0.640	0.88	0.315	0.5
mm	16.26	22.35	8.0	12.7

SMD POWER INDUCTORS / SSL-HC SERIES

Electrical Characteristics

Part Number	Inductance ^① (μ H)	Tolerance ($\pm$ %)	DC Resistance (Ω) max.	Self Resonant ^② Frequency (MHz) Typ)	Isat ^③ (A)	Irms ^④ (A)
SSL0503HC-R56M-S	0.56	20	0.010	200	7.7	6.0
SSL0503HC-1R2M-S	1.2	20	0.017	140	5.3	4.4
SSL0503HC-2R2M-S	2.2	20	0.035	100	3.5	3.1
SSL0503HC-4R7M-S	4.7	20	0.054	50	2.6	2.2
SSL0503HC-100M-S	10	20	0.111	40	1.9	1.5
SSL0503HC-150M-S	15	20	0.17	30	1.5	1.2
SSL0503HC-220M-S	22	20	0.25	25	1.2	1.0
SSL0503HC-330M-S	33	20	0.37	20	0.99	0.82
SSL0503HC-470M-S	47	20	0.47	15	0.87	0.72

① Inductance tested at 100 kHz, 0.25 Vrms.

② SRF measured using HP8753D network analyzer

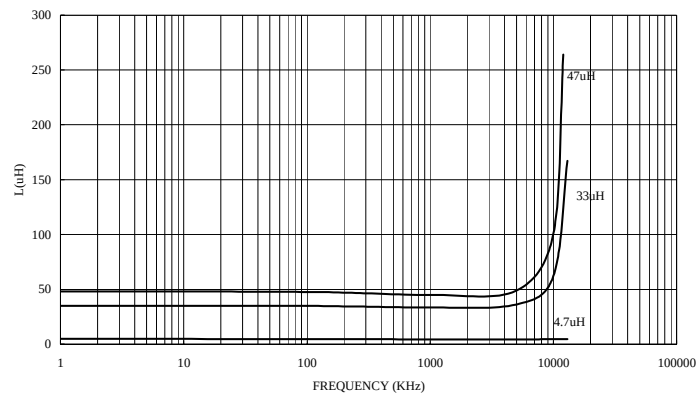
③ Inductance drop = 30% typ. at Isat.

④ $\Delta T = 40^\circ$ typ at Irms.

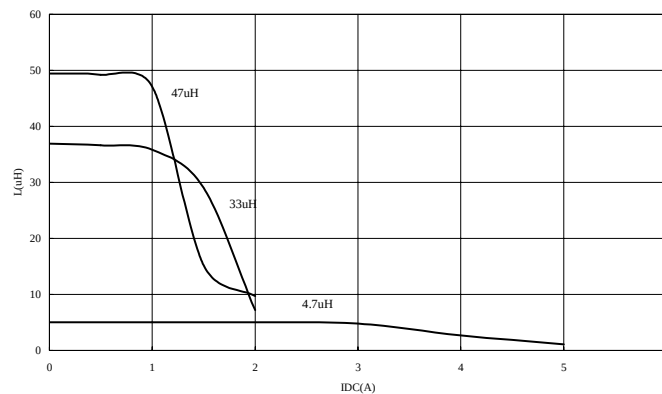
- Operating temperature range -40°C to $+85^\circ\text{C}$
- Electrical specifications at 25°C

Test Instruments :

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE vs. IDC CHARACTERISTICS



SMD POWER INDUCTORS / SSL-HC SERIES

Electrical Characteristics

Part Number	Inductance ^① (μ H)	Tolerance ($\pm$ %)	DC Resistance (Ω) max.	Self Resonant ^② Frequency (MHz) Typ	Isat ^③ (A)	Irms ^④ (A)
SSL0804HC-R33M-S	0.33	20	0.002	300	20.0	16.0
SSL0804HC-R68M-S	0.68	20	0.005	200	13.0	12.0
SSL0804HC-1R0M-S	1.0	20	0.006	100	11.0	10.0
SSL0804HC-1R5M-S	1.5	20	0.008	90	9.0	9.0
SSL0804HC-2R2M-S	2.2	20	0.011	90	7.8	7.4
SSL0804HC-2R7M-S	2.7	20	0.012	65	7.0	6.6
SSL0804HC-3R3M-S	3.3	20	0.014	65	6.4	5.9
SSL0804HC-4R7M-S	4.7	20	0.018	45	5.4	4.8
SSL0804HC-6R8M-S	6.8	20	0.035	35	3.6	5.0
SSL0804HC-100M-S	10.0	20	0.04	26	3.3	4.3
SSL0804HC-150M-S	15.0	20	0.06	21	2.4	3.5
SSL0804HC-220M-S	22.0	20	0.08	17	2.0	2.8
SSL0804HC-330M-S	33.0	20	0.15	14	1.7	2.1
SSL0804HC-470M-S	47.0	20	0.28	12	1.4	1.7
SSL0804HC-680M-S	68.0	20	0.3	9	1.2	1.5
SSL0804HC-101M-S	100.0	20	0.4	7	0.95	1.2

① Inductance tested at 100 kHz, 0.1 Vrms.

② SRF measured using HP8753D network analyzer

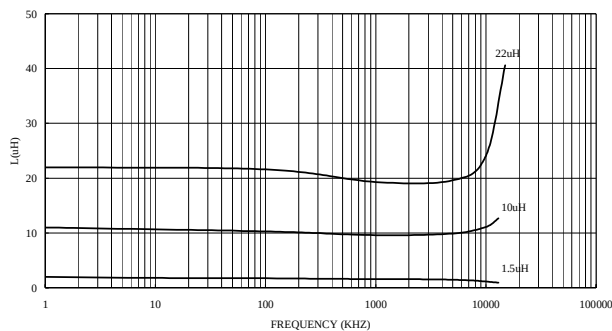
③ Inductance drop = 10% typ. at Isat.

④ $\Delta T = 40^\circ\text{C}$ typ at Irms.

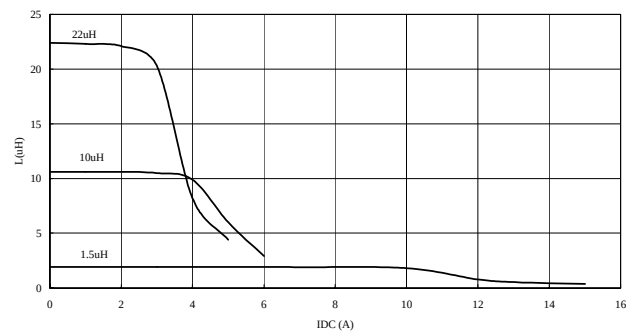
- Operating temperature range -40°C to $+85^\circ\text{C}$
- Electrical specifications at 25°C

Test Instruments :

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE vs. IDC CHARACTERISTICS



SMD POWER INDUCTORS / SSL-HC SERIES

Electrical Characteristics

Part Number	Inductance ^① (μ H)	Tolerance ($\pm$ %)	DC Resistance (m Ω)max	Self Resonant Frequency (MHz) Typ	Isat ^② (A) Typ	Irms ^③ (A)
SSL1306HC-R78M-S	0.78	20	2.6	156	30	15
SSL1306HC-1R5M-S	1.5	20	4.0	100	25	15
SSL1306HC-2R2M-S	2.2	20	6.1	75	20	12
SSL1306HC-3R3M-S	3.3	20	8.6	60	17	10
SSL1306HC-3R9M-S	3.9	20	10	55	15	9.0
SSL1306HC-4R7M-S	4.7	20	14	40	13	8.4
SSL1306HC-6R0M-S	6.0	20	17	35	12	7.5
SSL1306HC-7R8M-S	7.8	20	18	35	11	7.5
SSL1306HC-100M-S	10	20	26	28	10	6.0
SSL1306HC-150M-S	15	20	32	20	8	4.4

①L: Tested at 100kHz, 0.1 Vrms.(HP-4192A)

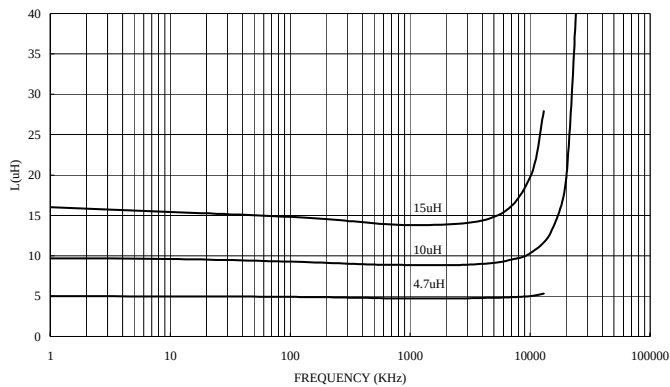
②Isat: Inductance drop = 10% typ.

③ $\Delta T = 40^{\circ}\text{C}$ typ at Irms.

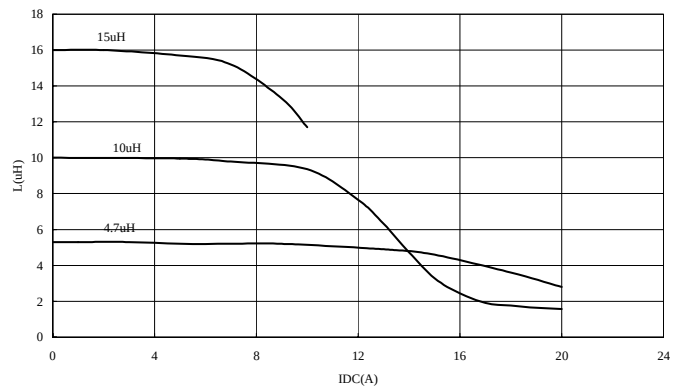
➤ Operating temperature range -40°C to $+85^{\circ}\text{C}$

Test Instruments :

INDUCTANCE vs. FREQUENCY CHARACTERISTICS

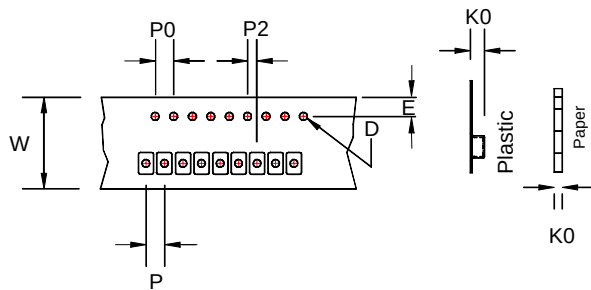


INDUCTANCE vs. IDC CHARACTERISTICS

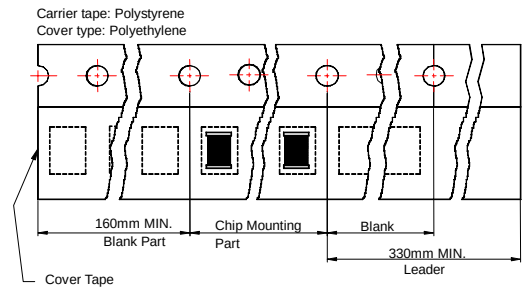


SMD POWER INDCUTORS / SSL-HC SERIES

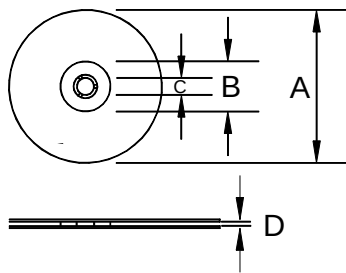
Tape Dimensions



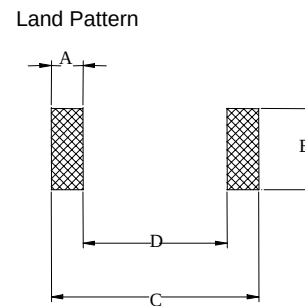
Tape Material



Reel Dimensions



Recommended Pattern



Dimensions in mm

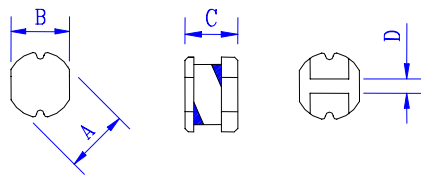
TPYE	Tape Dimensions							Recommended Pattern				Reel Dimensions				Quantity	
	K0	D	E	W	P	P0	P2	Unit	A	B	C	D	A	B	C	D	PCS / REEL
SSL0503HC	5.3	1.55	1.75	16	12	4	2	In mm	0.075 1.91	0.160 4.06	0.350 8.89	0.200 5.08	330	100	13	17.4	1000
SSL0804HC	6.1	1.55	1.75	24	16	4	2	In mm	0.060 1.52	0.400 10.16	0.160 4.06	- -	330	100	13	24.2	750
SSL1306HC	7.2	1.55	1.75	44	24	4	2	In mm	0.690 17.53	0.340 8.64	0.125 3.18	- -	330	100	13	45.4	250

SMD POWER INDUCTORS / SCD SERIES

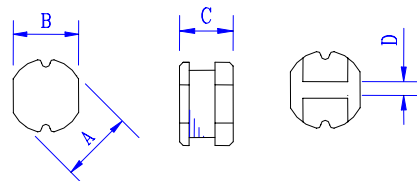
Various high power surface mountable type inductors are superior to high saturation. These are also magnetic shielding type for consideration against radiation.

Shapes and Dimensions

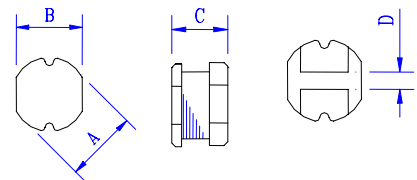
SCD0403 (1 μ H ~ 68 μ H)



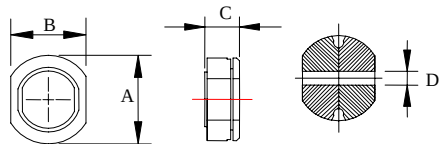
SCD0703 (10 μ H ~ 330 μ H)



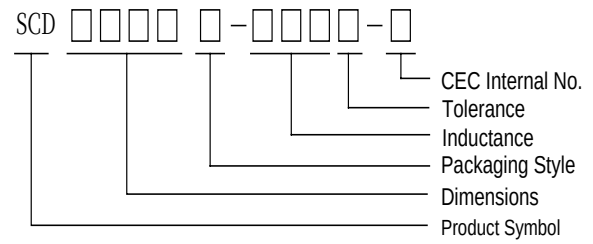
SCD1004 (10 μ H ~ 560 μ H)



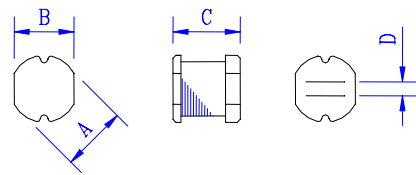
SCDR1005B (10 μ H ~ 470 μ H)



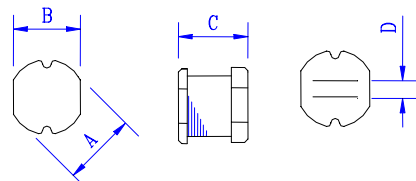
Product Identification



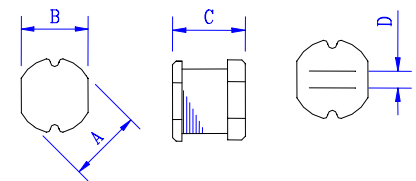
SCD0504 (10 μ H ~ 220 μ H)



SCD0705 (10 μ H ~ 470 μ H)



SCD1005 (10 μ H ~ 820 μ H)



Dimensions in mm

Dimension	SCD0403	SCD0504	SCD0703	SCD0705	SCD1004	SCD1005	SCDR1005B
A	4.5 ± 0.3	5.8 ± 0.3	7.8 ± 0.3	7.8 ± 0.3	10.0 ± 0.3	10.0 ± 0.4	10.0 ± 0.4
B	4.0 ± 0.3	5.2 ± 0.3	7.0 ± 0.3	7.0 ± 0.3	9.0 ± 0.3	9.0 ± 0.4	9.0 ± 0.4
C	3.2 ± 0.3	4.5 ± 0.4	3.5 ± 0.5	5.0 ± 0.5	4.2 ± 0.5	5.4 ± 0.4	5.0 ± 0.5
D	1.2	1.3	2.1	2.1	2.1	2.1	2.4

SMD POWER INDCUTORS / SCD SERIES

Standard Specifications

Stamp	Inductance (μ H)	D.C.R (Max)							Permissible D.C. Current						
		SCD 0403	SCD 0504	SCD 0703	SCD 0705	SCD 1004	SCD 1005	SCDR 1005B	SCD 0403	SCD 0504	SCD 0703	SCD 0705	SCD 1004	SCD 1005	SCDR 1005B
1R0	1.0	0.033	-	-	-	-	-	-	3.800	-	-	-	-	-	-
1R4	1.4	0.038	-	-	-	-	-	-	3.300	-	-	-	-	-	-
1R8	1.8	0.042	-	-	-	-	-	-	2.910	-	-	-	-	-	-
2R2	2.2	0.047	-	-	-	-	-	-	2.600	-	-	-	-	-	-
2R7	2.7	0.052	-	-	-	-	-	-	2.430	-	-	-	-	-	-
3R3	3.3	0.058	-	-	-	-	-	-	2.150	-	-	-	-	-	-
3R9	3.9	0.076	-	-	-	-	-	-	1.980	-	-	-	-	-	-
4R7	4.7	0.094	-	-	-	-	-	-	1.700	-	-	-	-	-	-
5R6	5.6	0.101	-	-	-	-	-	-	1.600	-	-	-	-	-	-
6R8	6.8	0.117	-	-	-	-	-	-	1.410	-	-	-	-	-	-
8R2	8.2	0.132	-	-	-	-	-	-	1.260	-	-	-	-	-	-
100	10	0.182	0.10	0.08	0.07	0.05	0.06	0.06	1.150	1.44	1.44	2.30	2.38	2.60	2.06
120	12	0.210	0.12	0.09	0.08	0.06	0.07	0.07	1.050	1.40	1.39	2.00	2.13	2.45	1.94
150	15	0.235	0.14	0.10	0.09	0.07	0.08	0.07	0.920	1.30	1.24	1.80	1.87	2.27	1.72
180	18	0.338	0.15	0.11	0.10	0.08	0.09	0.08	0.840	1.23	1.12	1.60	1.73	2.15	1.58
220	22	0.378	0.18	0.13	0.11	0.09	0.10	0.08	0.760	1.11	1.07	1.50	1.60	1.95	1.42
270	27	0.522	0.20	0.15	0.12	0.10	0.11	0.10	0.710	0.97	0.94	1.30	1.44	1.76	1.32
330	33	0.540	0.23	0.17	0.13	0.12	0.12	0.11	0.640	0.88	0.85	1.20	1.26	1.50	1.16
390	39	0.587	0.32	0.22	0.16	0.15	0.14	0.12	0.590	0.80	0.74	1.10	1.20	1.37	1.10
470	47	0.844	0.37	0.25	0.18	0.17	0.17	0.14	0.540	0.72	0.68	1.10	1.10	1.28	1.00
560	56	0.937	0.42	0.28	0.24	0.20	0.19	0.19	0.500	0.68	0.64	0.94	1.01	1.17	0.93
680	68	1.117	0.46	0.33	0.28	0.22	0.22	0.21	0.460	0.61	0.59	0.85	0.91	1.11	0.85
820	82	1.200	0.60	0.41	0.37	0.25	0.25	0.28	0.300	0.58	0.54	0.78	0.85	1.00	0.79
101	100	1.440	0.70	0.48	0.43	0.34	0.35	0.34	0.280	0.52	0.51	0.72	0.74	0.97	0.72
121	120	1.600	0.93	0.54	0.47	0.40	0.40	0.37	0.240	0.48	0.49	0.66	0.69	0.89	0.63
151	150	1.800	1.10	0.75	0.64	0.54	0.47	0.51	0.220	0.40	0.40	0.58	0.61	0.78	0.55
181	180	2.180	1.38	1.02	0.71	0.62	0.63	0.57	0.210	0.38	0.36	0.51	0.56	0.72	0.50
221	220	2.570	1.57	1.20	0.96	0.72	0.73	0.78	0.200	0.35	0.31	0.49	0.53	0.66	0.47
271	270	3.520	1.85	1.31	1.11	0.95	0.97	0.87	0.180	0.29	0.29	0.42	0.45	0.57	0.41
331	330	5.000	2.00	1.50	1.26	1.10	1.15	1.20	0.120	0.28	0.28	0.40	0.42	0.52	0.37
391	390	6.000	2.60	-	1.77	1.24	1.30	1.34	0.115	0.26	-	0.36	0.38	0.48	0.35
471	470	7.000	3.00	-	1.96	1.53	1.48	1.50	0.110	0.12	-	0.34	0.35	0.42	0.33
561	560	-	4.19	-	-	1.90	1.90	-	-	0.10	-	-	0.32	0.33	-
681	680	-	4.44	-	-	-	2.25	-	-	0.08	-	-	-	0.28	-
821	820	-	5.12	-	-	-	2.55	-	-	0.05	-	-	-	0.24	-
102	1000	-	10.00	-	-	-	-	-	-	0.03	-	-	-	-	-

Measuring Freq.(L): 1.0 ~ 8.2 μ H(7.96MHz), 10 ~ 82 μ H (2.52MHz) 100 ~ 1000 μ H (1kHz).

Test Instrument: HP 4192A

Tolerance Of Inductors

SCD0403	1.0 ~ 27 μ H $\pm$ 20%	33 ~ 68 μ H $\pm$ 10%	
SCD0504	10 ~ 27 μ H $\pm$ 20%	33 ~ 47 μ H $\pm$ 15%	56 ~ 220 μ H $\pm$ 10%
SCD0703	10 ~ 47 μ H $\pm$ 20%	56 ~ 330 μ H $\pm$ 10%	
SCD0705	10 ~ 470 μ H $\pm$ 10%		
SCD1004	10 ~ 47 μ H $\pm$ 20%	56 ~ 560 μ H $\pm$ 10%	
SCD1005	10 ~ 39 μ H $\pm$ 20%	47 ~ 820 μ H $\pm$ 10%	
SCDR1005B	10 ~ 27 μ H $\pm$ 20%	33 ~ 82 μ H $\pm$ 15%	100 ~ 470 μ H $\pm$ 10%

※ This indicates the value of current when the inductance is 10% lower than its initial value at D.C superposition or D.C current when at $\Delta t = 40^\circ$ whichever is lower.

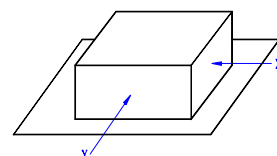
SMD POWER INDUCTORS / SCD SERIES

General Characteristics

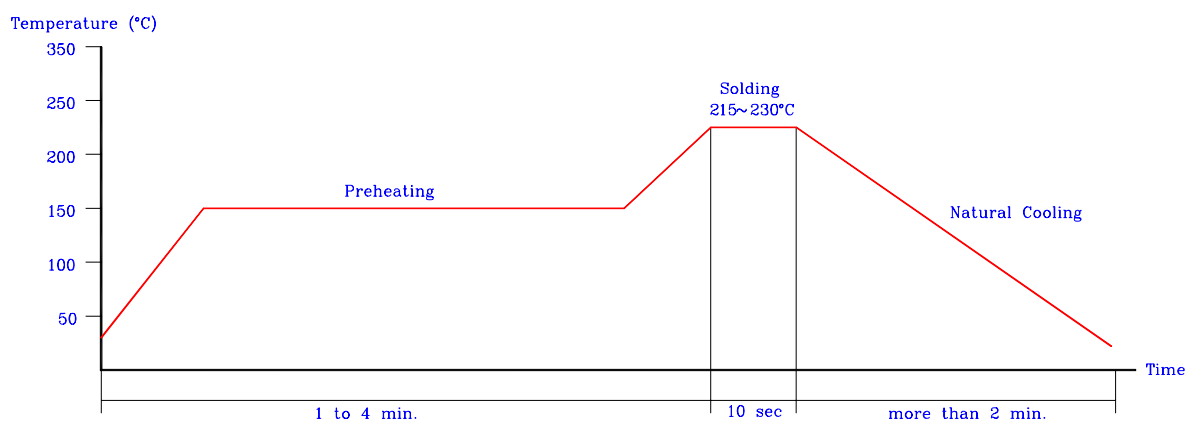
- **Operating Temperature** : -30 ~ +100°C (Contain Heading coil)
- **Appearance Inspection** : No external defects by visual inspection
- **Terminal Strength** : After soldering, between copper plate and terminals of coil, push in two directions of X, Y with standing as blow conditions.

Terminal should not peel off.(Refer to figure at right)

10.0N	10sec.	SCD0403	SCD0504
15.0N	10sec.	SCD0703	SCD0705
20.0N	10sec.	SCD1004	SCD1005



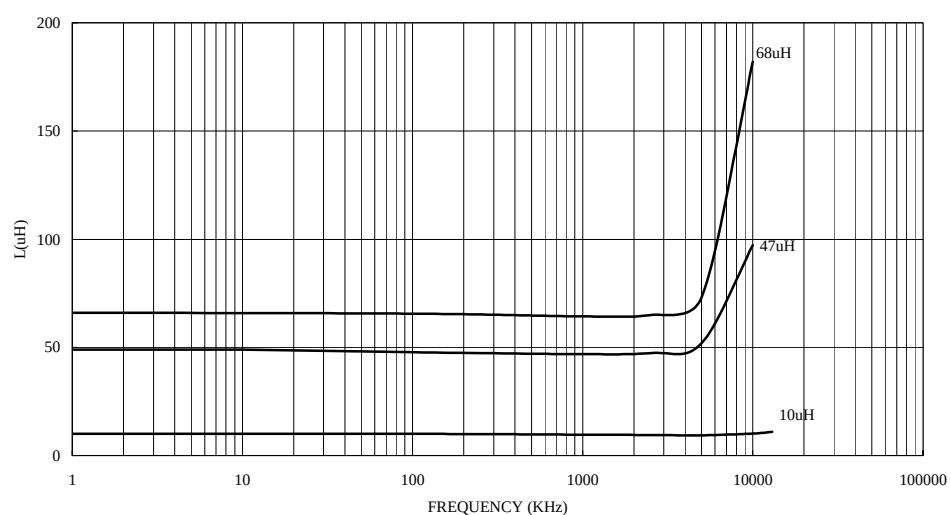
- **Heat endurance of reflow soldering** : Refer to below figure
- **Insulating resistance** : Over 100MΩ at 100V D.C between wire and core.
- **Dielectric Strength** : No dielectric breakdown at 100V D.C for 1 minute between wire and core.
- **Temperature characteristics** : Inductance coefficient $(0 \sim 2,000) \times 10^{-6} / ^\circ\text{C}$ (-25 ~ +80°C)
- **Humidity characteristics** : Inductance deviation within $\pm 5.0\%$, after 96 hours in 90 ~ 95% relative humidity at $40 \pm 2^\circ\text{C}$ and 1 hour drying under normal condition.
- **Vibration resistance** : Inductance deviation within $\pm 5.0\%$, after vibration for 1hour.
In each of three orientations at sweep vibration (10 ~ 55 ~ 10Hz)
With 1.5 mm p – p amplitude.



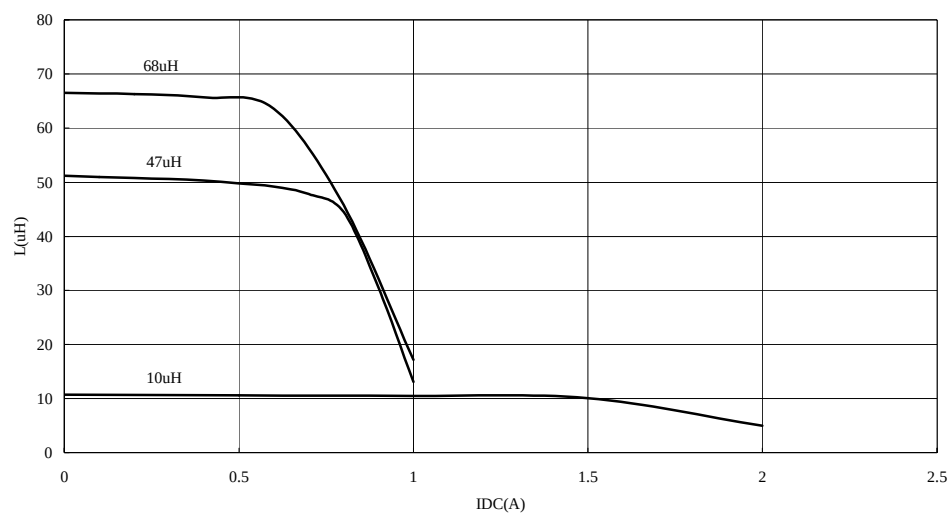
SMD POWER INDUCTORS / SCD SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



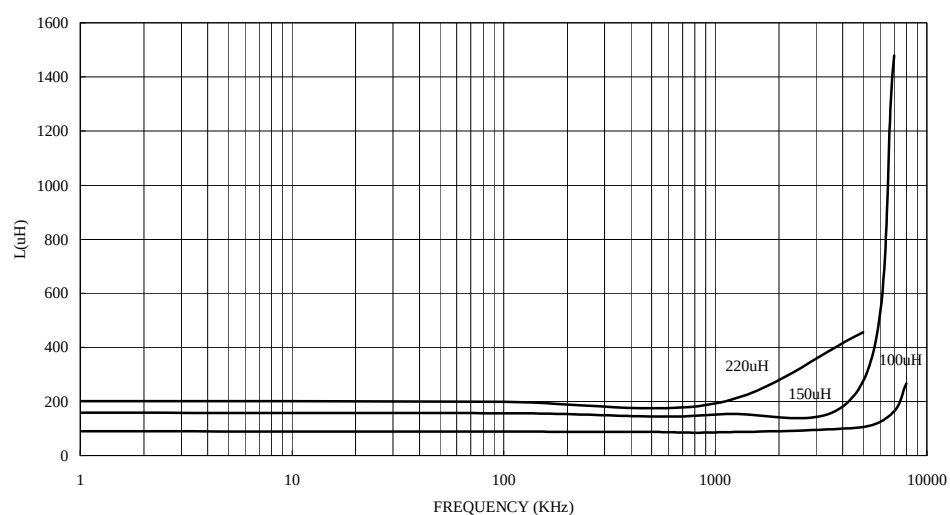
INDUCTANCE vs. IDC CHARACTERISTICS



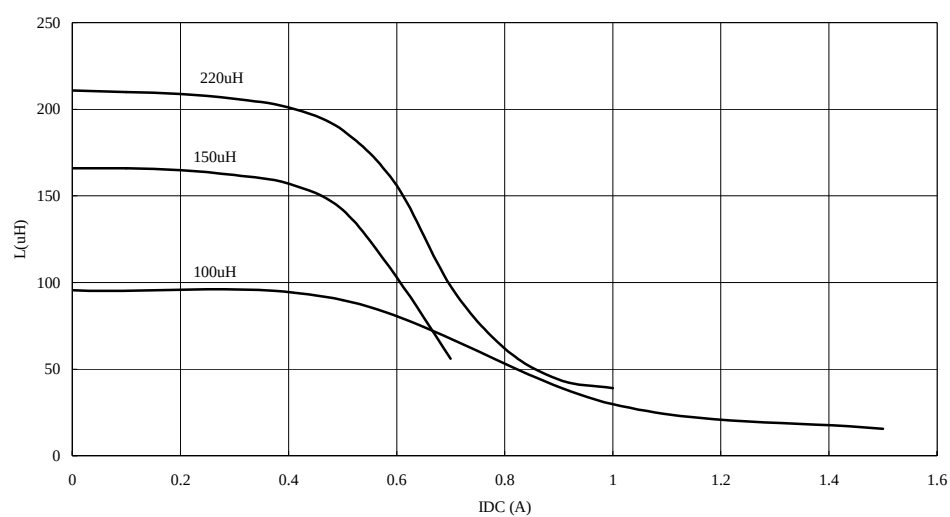
SMD POWER INDUCTORS / SCD SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



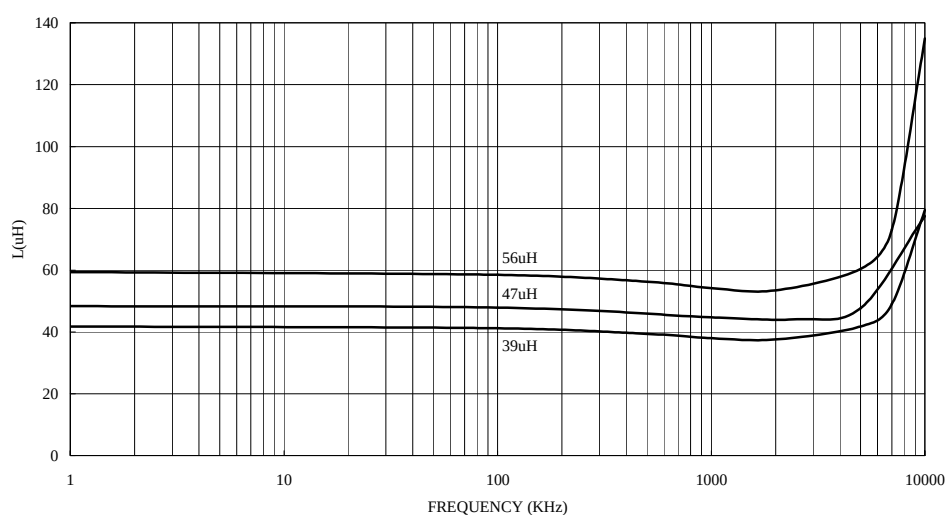
INDUCTANCE vs. IDC CHARACTERISTICS



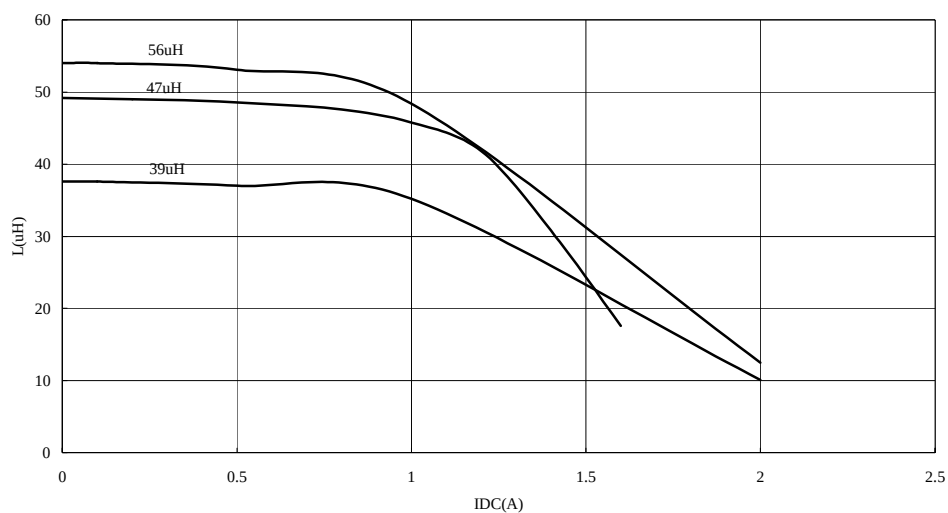
SMD POWER INDUCTORS / SCD SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



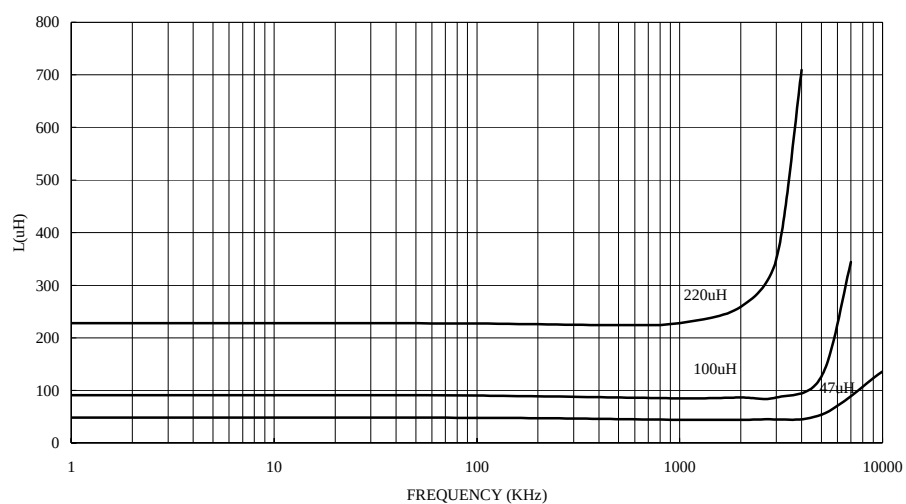
INDUCTANCE vs. IDC CHARACTERISTICS



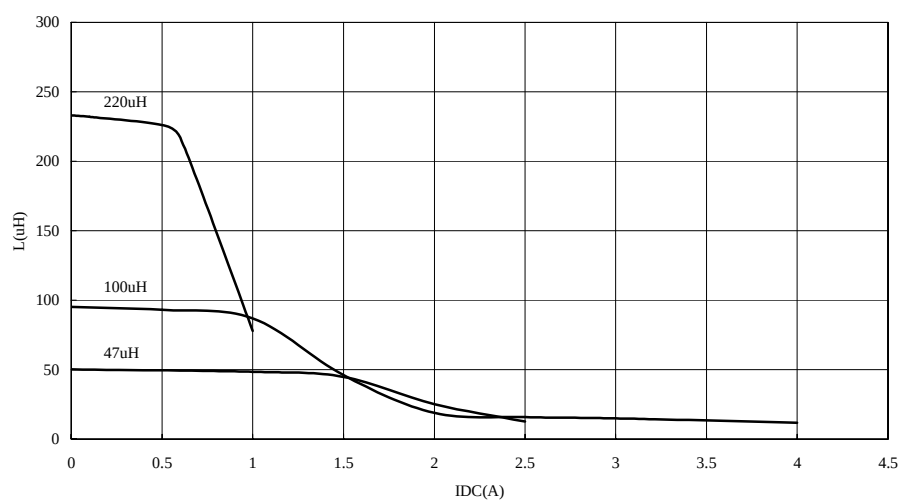
SMD POWER INDUCTORS / SCD SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



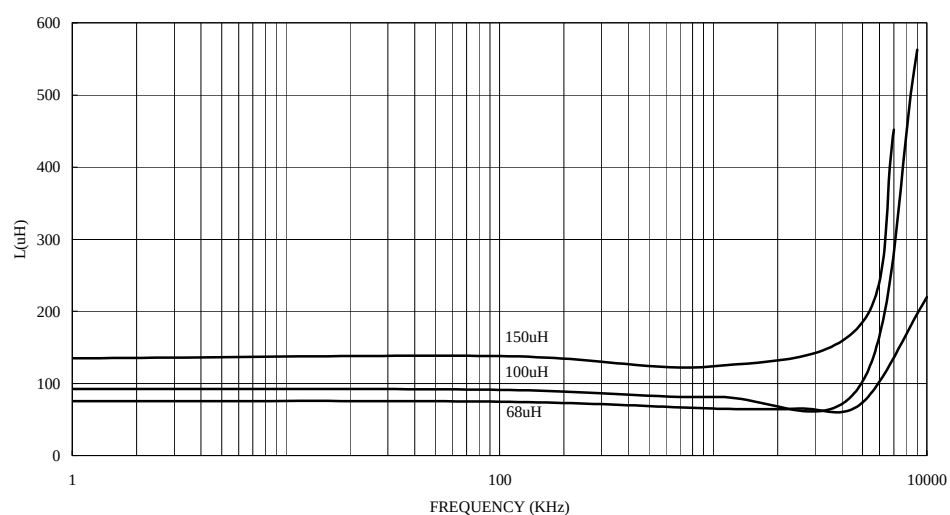
INDUCTANCE vs. IDC CHARACTERISTICS



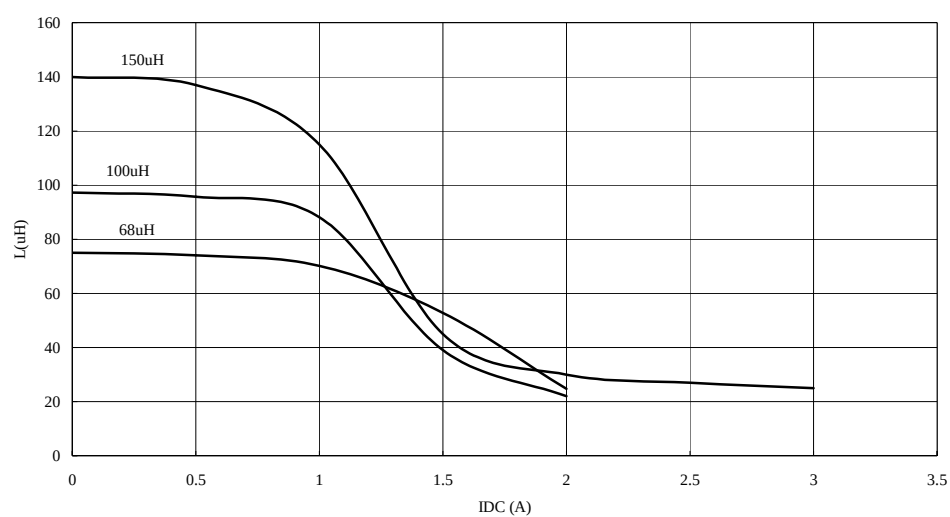
SMD POWER INDUCTORS / SCD SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



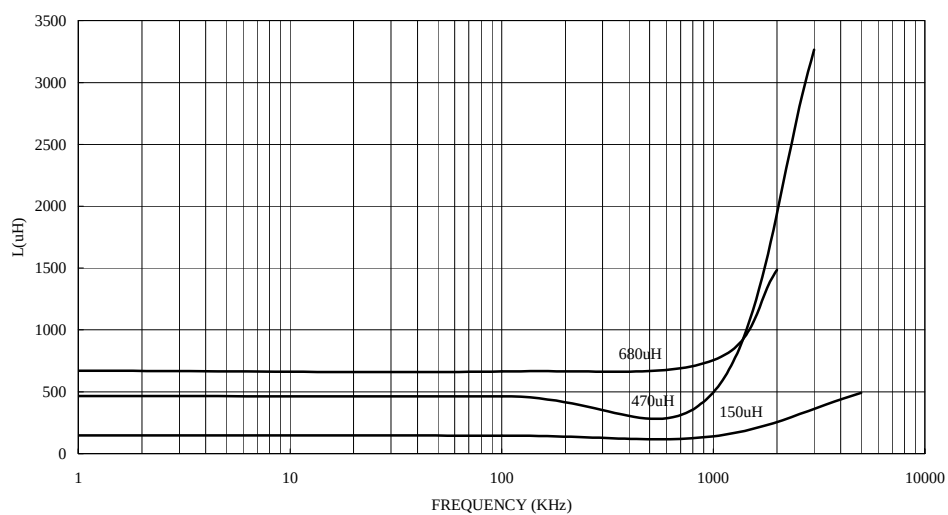
INDUCTANCE vs. IDC CHARACTERISTICS



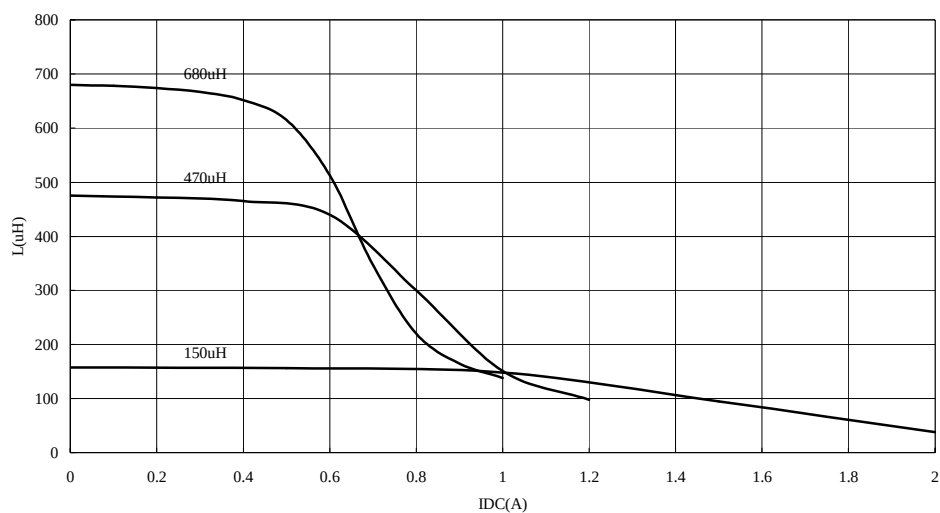
SMD POWER INDUCTORS / SCD SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



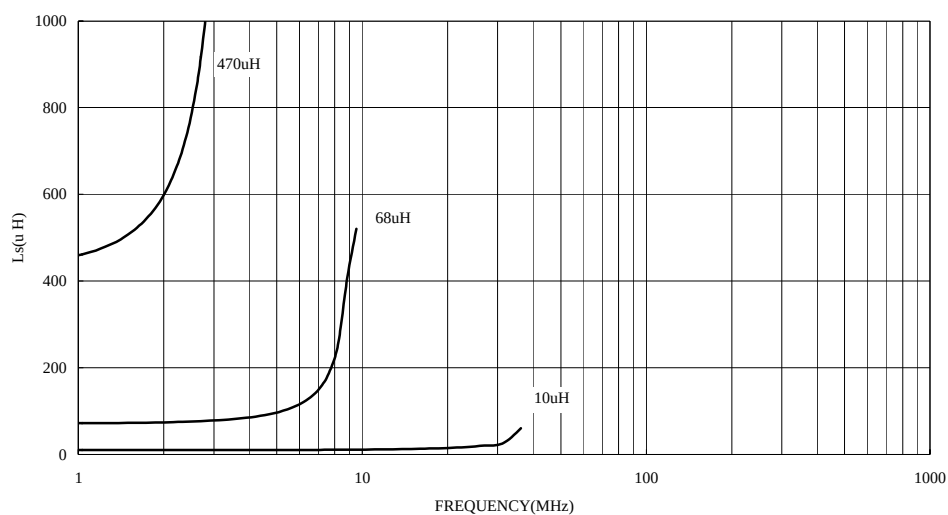
INDUCTANCE vs. IDC CHARACTERISTICS



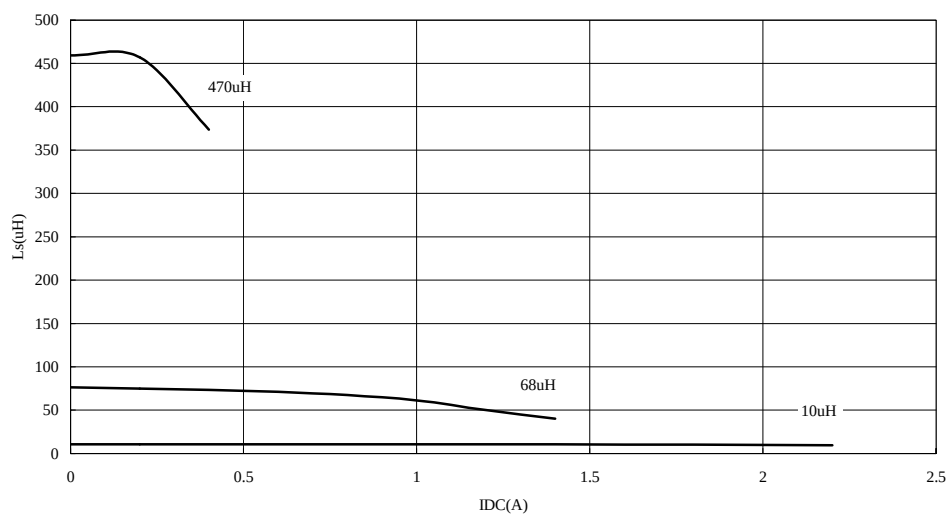
SMD POWER INDUCTORS / SCD SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS

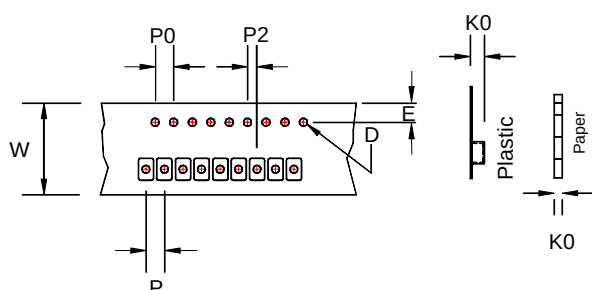


INDUCTANCE vs. IDC CHARACTERISTICS

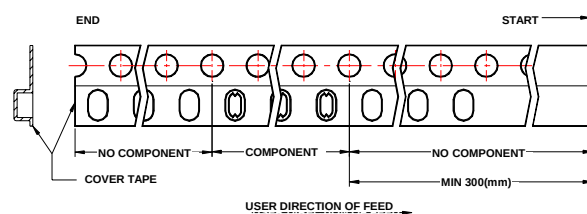


SMD POWER INDCUTORS / SCD SERIES

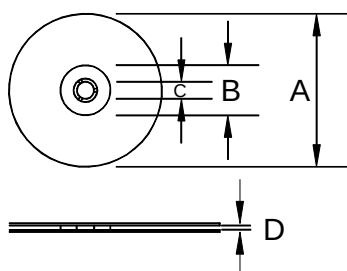
Tape Dimensions



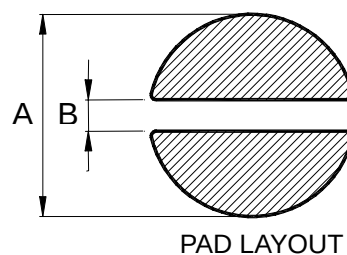
Tape Material



Reel Dimensions



Recommended Pattern



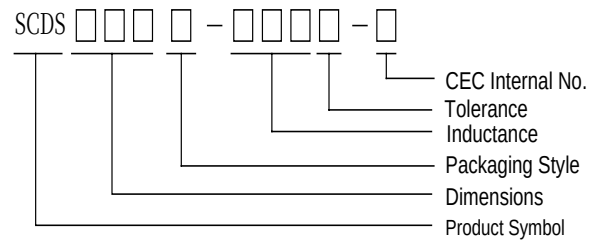
Dimensions in mm

TYPE	Tape Dimensions							Recommended Pattern		Reel Dimensions				Quantity PCS / REEL
	K0	D	E	W	P	P0	P2	A	B	A	B	C	D	
SCD0403	3.6	1.55	1.75	12	8	4	2	5.5	1.2	330	100	13	13.4	2000
SCD0504	5	1.55	1.75	16	12	4	2	6.8	1.3	330	100	13	17.4	1000
SCD0703	3.8	1.55	1.75	16	12	4	2	8.8	2.1	330	100	13	17.4	1000
SCD0705	5.5	1.55	1.75	16	12	4	2	8.8	2.1	330	100	13	17.4	700
SCD1004	5.8	1.55	1.75	24	12	4	2	11	2.1	330	100	13	24.4	700
SCD1005	5.8	1.55	1.75	24	12	4	2	11	2.1	330	100	13	24.4	700
SCDR1005B	5.8	1.55	1.75	24	12	4	2	10	2.5	330	100	13	24.4	700

SHIELDED SMD POWER INDUCTORS / SCDS SERIES

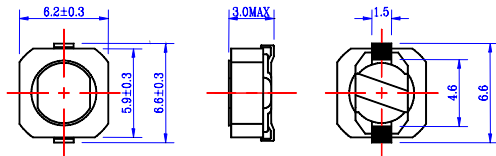
SMT power inductor are formed by directly connected ferrite electrode with magnetic shielding.

Product Identification

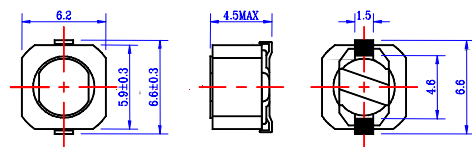


Shapes and Dimensions

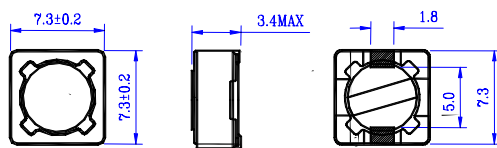
SCDS62B (3.3 μ H ~ 330 μ H)



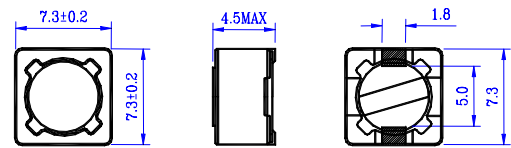
SCDS64B (10 μ H ~ 1000 μ H)



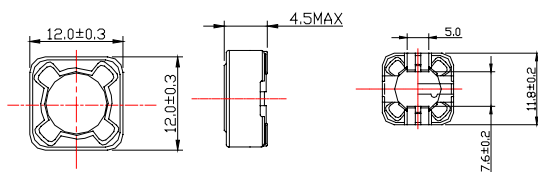
SCDS73 (10 μ H ~ 1.0mH)



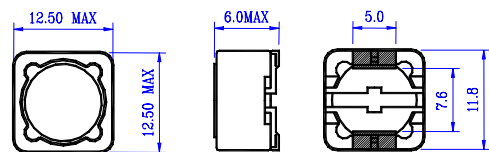
SCDS74 (10 μ H ~ 1.0mH)



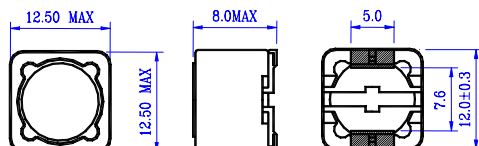
SCDS124 (3.9 μ H ~ 330mH)



SCDS125 (10 μ H ~ 1.0mH)



SCDS127 (10 μ H ~ 47mH)



SHIELDED SMD POWER INDUCTORS / SCDS SERIES

Standard Specifications

Stamp	Inductance (μ H)	DCR(Ω) Max							IDC(A) Min						
		SCDS 62B	SCDS 64B	SCDS 73	SCDS 74	SCDS 124	SCDS 125	SCDS 127	SCDS 62B	SCDS 64B	SCDS 73	SCDS 74	SCDS 124	SCDS 125	SCDS 127
1R2N	1.2	-	-	-	-	-	-	7.0m	-	-	-	-	-	-	9.80
2R4N	2.4	-	-	-	-	-	-	11.5m	-	-	-	-	-	-	8.00
3R3N	3.3 *	68m	-	-	-	-	-	-	1.94	-	-	-	-	-	-
3R5N	3.5	-	-	-	-	-	-	13.5m	-	-	-	-	-	-	7.50
3R9N	3.9	-	-	-	-	0.015	-	-	-	-	-	-	6.50	-	-
4R7N	4.7 *	80m	-	-	-	0.018	-	15.8m	1.63	-	-	-	5.70	-	6.80
5R5N	5.5 *	96m	-	-	-	-	-	-	1.40	-	-	-	-	-	-
6R1N	6.1	-	-	-	-	-	-	17.6m	-	-	-	-	-	-	6.60
6R8N	6.8 *	0.10	-	-	-	0.023	-	-	1.33	-	-	-	4.90	-	-
7R6N	7.6	-	-	-	-	-	-	20.0m	-	-	-	-	-	-	5.90
8R2N	8.2 *	0.10	-	-	-	-	-	20.0m	1.14	-	-	-	-	-	5.90
100M	10 **	0.15	0.12	72m	49m	0.028	25m	21.6m	1.10	1.35	1.68	1.84	4.50	4.00	5.40
120M	12 **	0.20	0.13	98m	58m	0.038	27m	24.3m	1.00	1.22	1.52	1.71	4.00	3.50	4.90
150M	15 **	0.23	0.18	0.13	81m	0.050	30m	27.0m	0.90	1.11	1.33	1.47	3.20	3.30	4.50
180M	18 **	0.27	0.24	0.14	91m	0.057	34m	39.2m	0.80	1.02	1.20	1.31	3.10	3.00	3.90
220M	22 **	0.34	0.27	0.19	0.11	0.066	36m	43.2m	0.74	0.91	1.07	1.23	2.90	2.80	3.60
270M	27 **	0.38	0.30	0.21	0.15	0.080	51m	45.9m	0.66	0.82	0.96	1.12	2.80	2.30	3.40
330M	33 **	0.45	0.33	0.24	0.17	0.097	57m	64.8m	0.59	0.74	0.91	0.96	2.70	2.10	3.00
390M	39 **	0.49	0.37	0.32	0.23	0.132	68m	72.9m	0.54	0.69	0.77	0.91	2.10	2.00	2.75
470M	47 **	0.69	0.52	0.36	0.26	0.150	75m	0.10	0.50	0.62	0.76	0.88	1.90	1.80	2.50
560M	56 **	0.78	0.56	0.47	0.35	0.190	0.11	0.11	0.46	0.58	0.68	0.75	1.80	1.70	2.35
680M	68 **	1.07	0.63	0.52	0.38	0.220	0.12	0.14	0.42	0.51	0.61	0.69	1.50	1.50	2.10
820M	82 **	1.21	0.71	0.69	0.43	0.260	0.14	0.46	0.38	0.46	0.57	0.61	1.30	1.40	1.95
101M	100 ***	1.39	1.03	0.79	0.61	0.308	0.16	0.22	0.34	0.42	0.50	0.60	1.20	1.30	1.70
121M	120 ***	1.90	1.15	0.89	0.66	0.380	0.17	0.25	0.31	0.38	0.49	0.52	1.10	1.10	1.60
151M	150 ***	2.18	1.68	1.27	0.88	0.530	0.23	0.28	0.28	0.35	0.43	0.46	0.95	1.00	1.42
181M	180 ***	2.77	1.87	1.45	0.98	0.620	0.29	0.35	0.26	0.32	0.39	0.42	0.85	0.90	1.30
221M	220 ***	3.12	2.08	1.65	1.17	0.700	0.40	0.39	0.23	0.29	0.35	0.36	0.80	0.80	1.16
271M	270 ***	4.38	2.37	2.31	1.64	0.876	0.46	0.56	0.22	0.26	0.32	0.34	0.60	0.75	1.06
331M	330 ***	4.94	2.67	2.62	1.86	0.990	0.51	0.64	0.19	0.23	0.28	0.32	0.50	0.68	0.95
391M	390	-	2.94	2.94	2.85	-	0.69	0.70	-	0.22	0.26	0.29	-	0.65	0.88
471M	470	-	3.93	4.18	3.01	-	0.77	0.98	-	0.20	0.24	0.26	-	0.58	0.79
561M	560	-	5.43	4.67	3.62	-	0.86	1.07	-	0.18	0.22	0.23	-	0.54	0.93
681M	680	-	7.32	5.73	4.63	-	1.20	1.46	-	0.17	0.19	0.22	-	0.48	0.67
821M	820	-	8.24	6.54	5.20	-	1.34	1.64	-	0.15	0.18	0.20	-	0.43	0.60
102M	1000	-	9.26	9.44	6.00	-	1.53	1.82	-	0.14	0.16	0.18	-	0.40	0.55

Common measuring Freq.(L) : 1KHz/1V

Specific Freq for **SCDS62B** : * at 7.96MHz ** at 2.52MHz *** at 1KHz

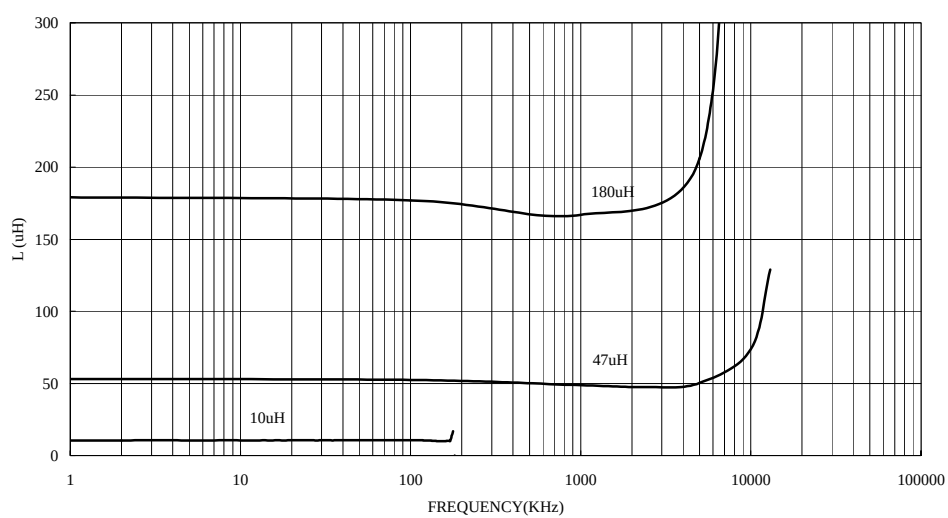
Tolerance of Inductance: SCDS62B $\pm 20\%$ (M) SCDS125 $\pm 20\%$ (M)
 SCDS64B $\pm 20\%$ (M) SCDS127 $^{+40}_{-20}\%$ (N) $\pm 20\%$ (M)
 SCDS73 $\pm 20\%$ (M)
 SCDS74 $\pm 20\%$ (M)
 SCDS124 $\pm 20\%$ (M)

Inductance drop=35% typ at IDC

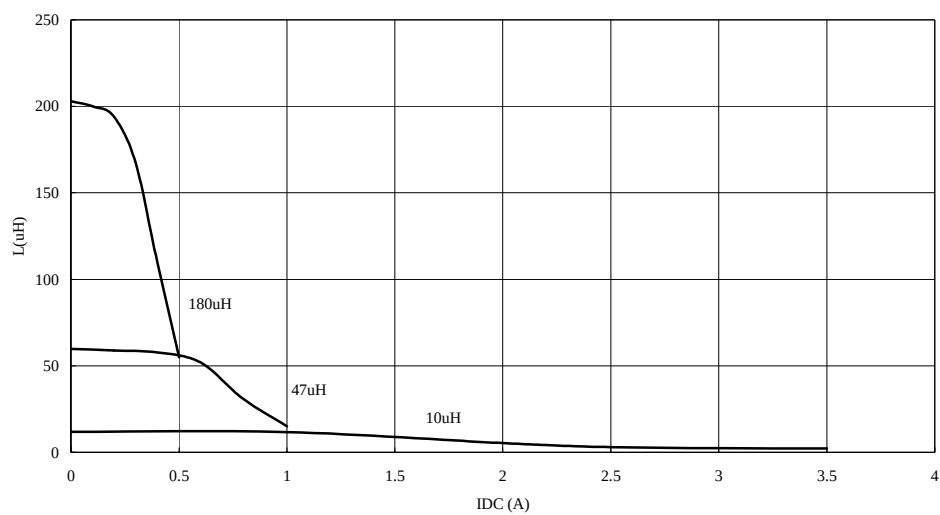
SHIELDED SMD POWER INDCUTORS / SCDS SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



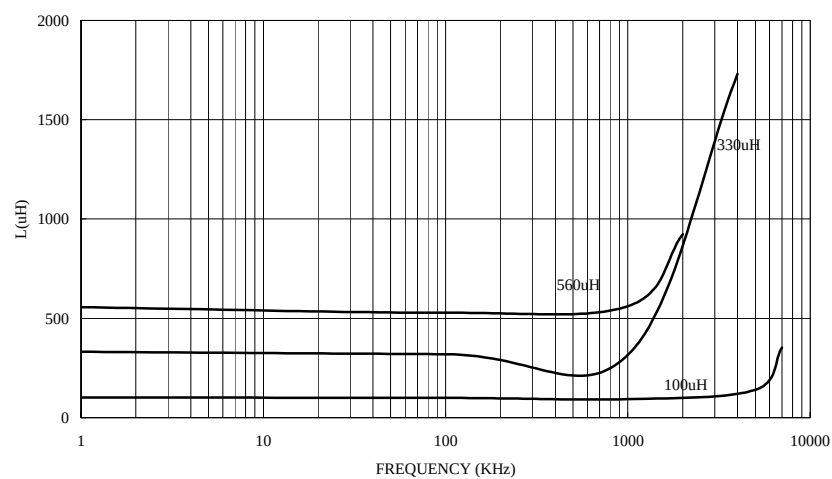
INDUCTANCE vs. IDC CHARACTERISTICS



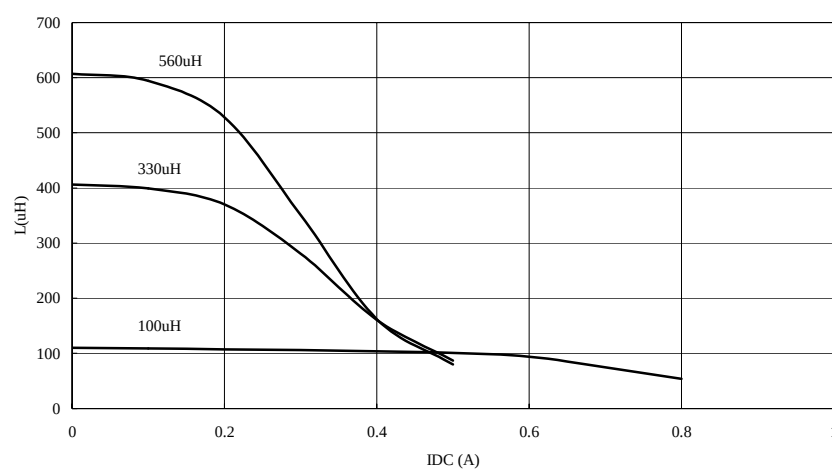
SHIELDED SMD POWER INDCUTORS / SCDS SERIES

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INDUCTANCE vs. FREQUENCY CHARACTERISTICS



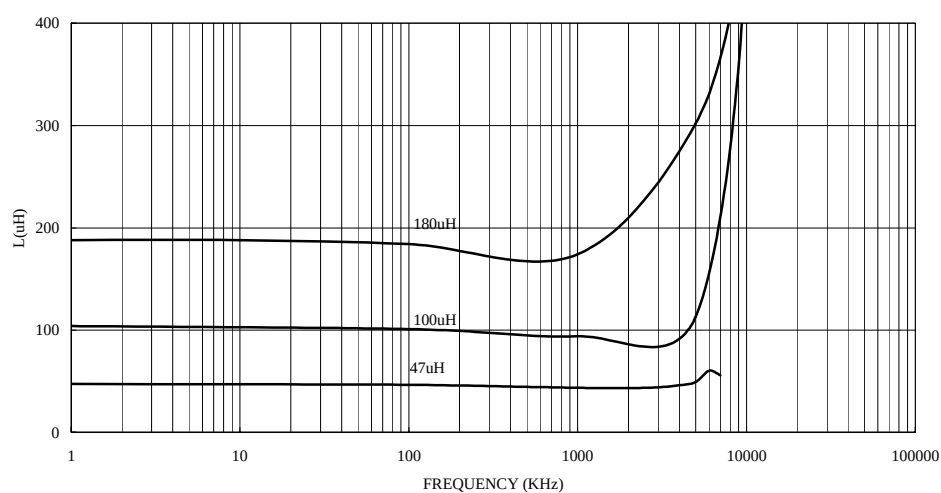
INDUCTANCE vs. IDC CHARACTERISTICS



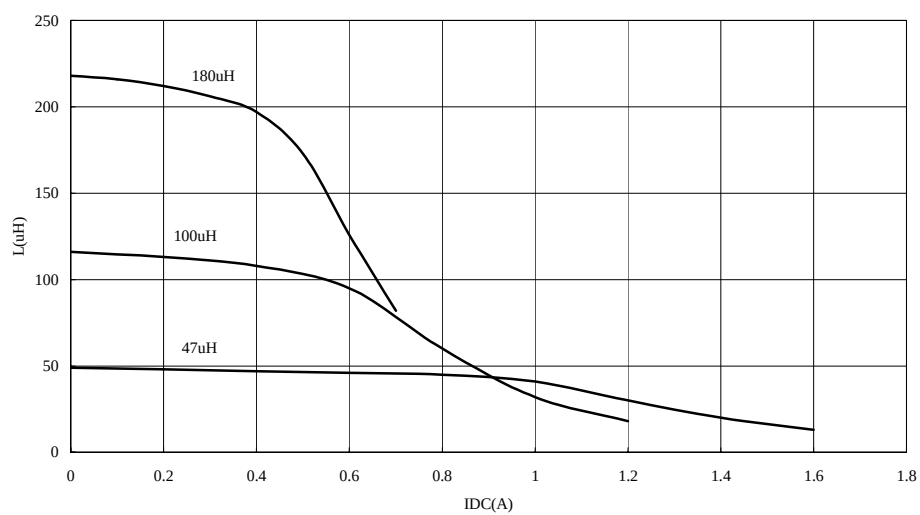
SHIELDED SMD POWER INDCUTORS / SCDS SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



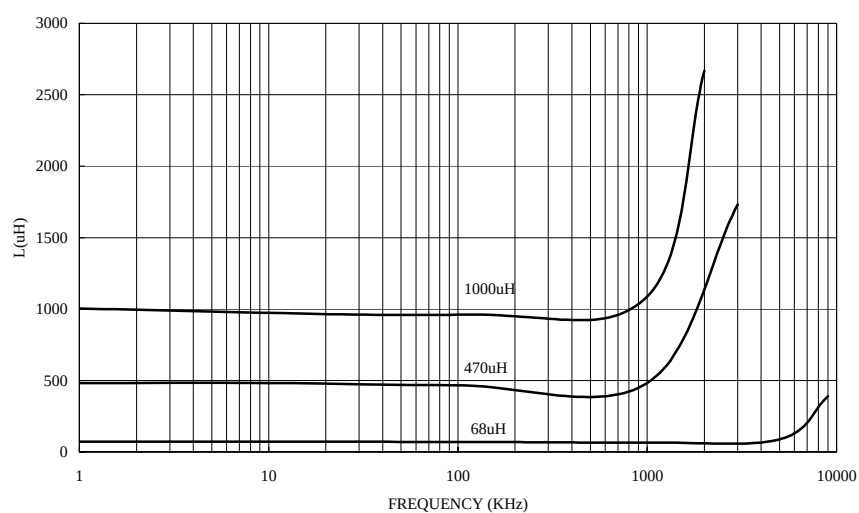
INDUCTANCE vs. IDC CHARACTERISTICS



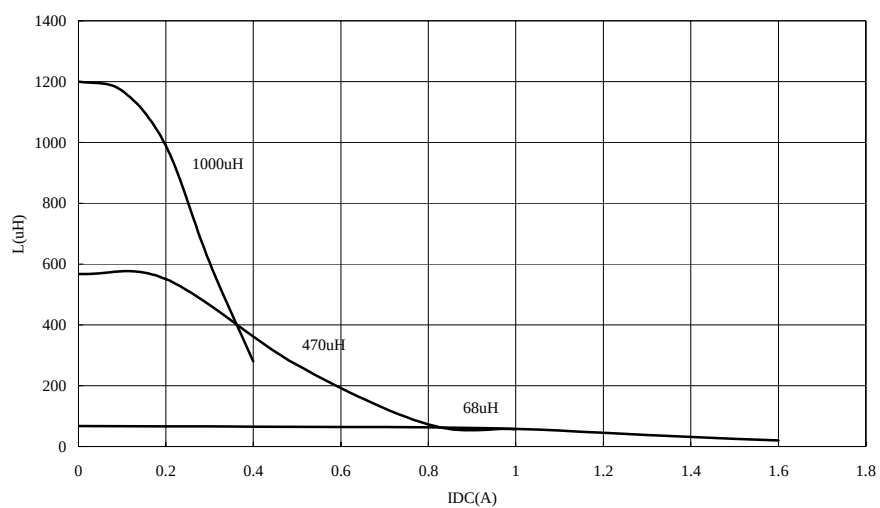
SHIELDED SMD POWER INDCUTORS / SCDS SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

INDCUTANCE vs. FREQUENCY CHARACTERISTICS



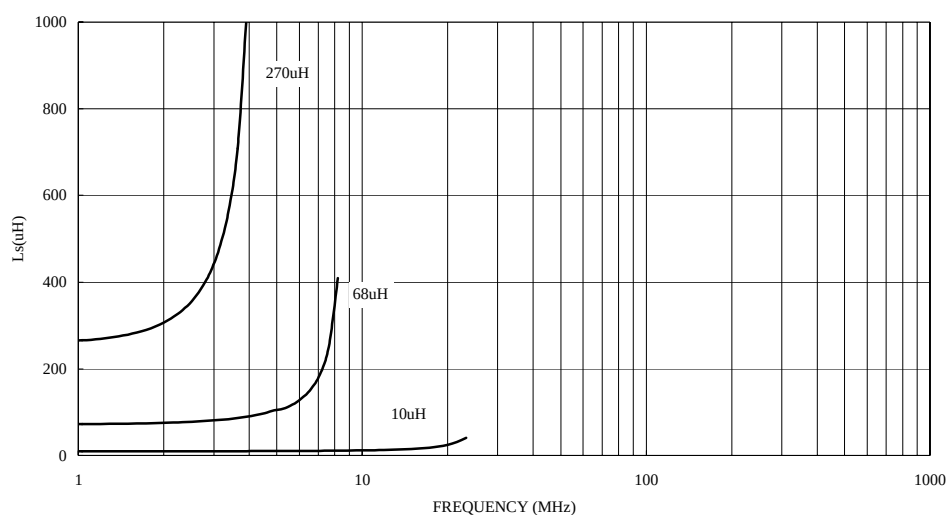
INDUCTANCE vs. IDC CHARACTERISTICS



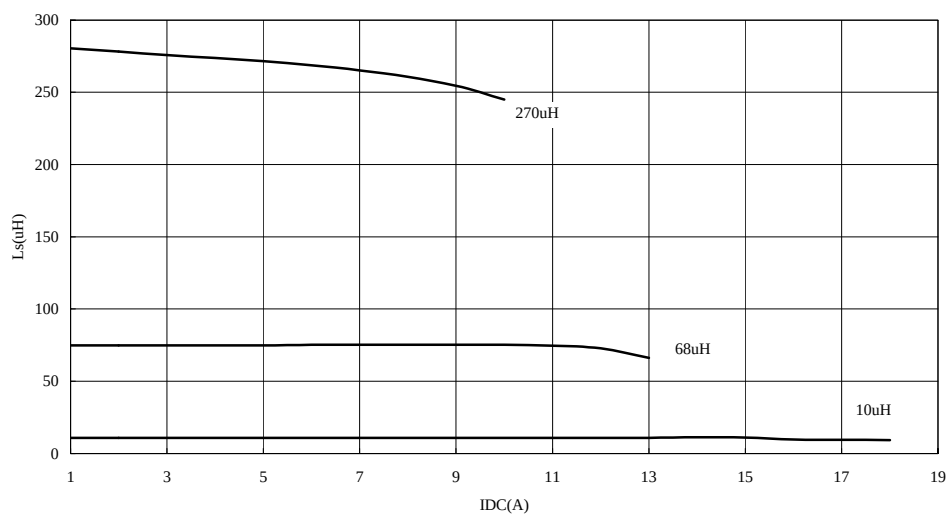
SHIELDED SMD POWER INDUCTORS / SCDS SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



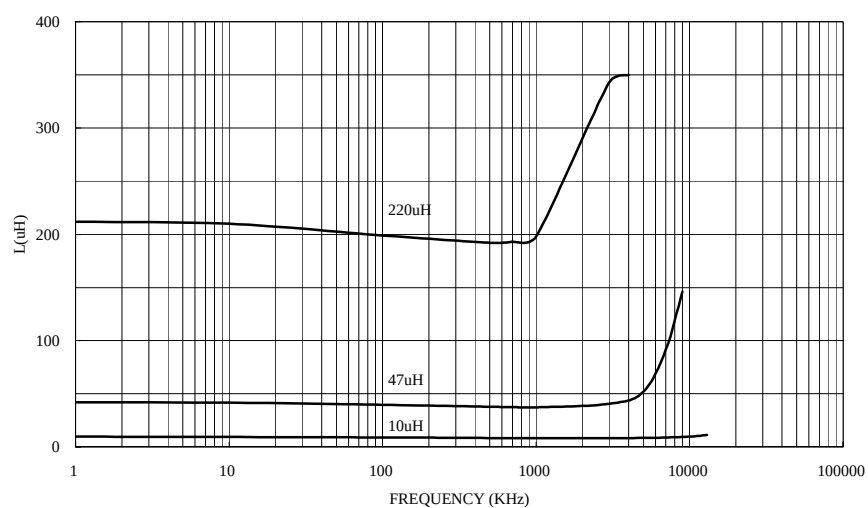
INDUCTANCE vs. IDC CHARACTERISTICS



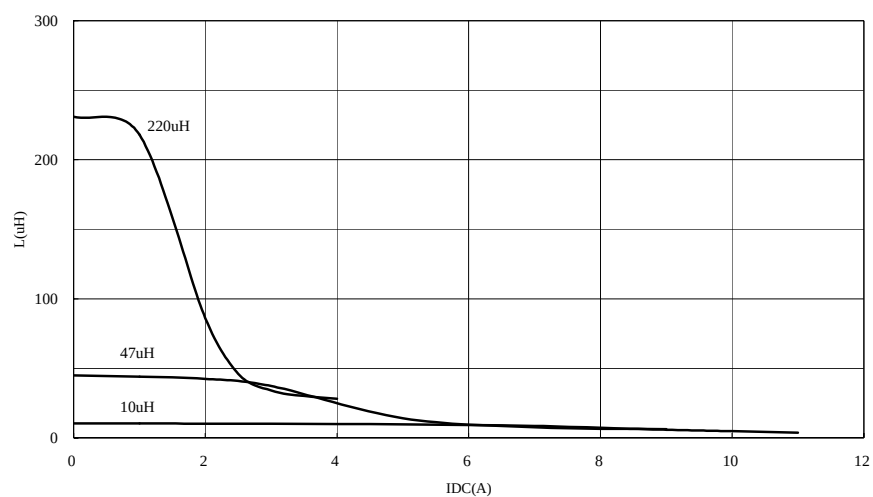
SHIELDED SMD POWER INDUCTORS / SCDS SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



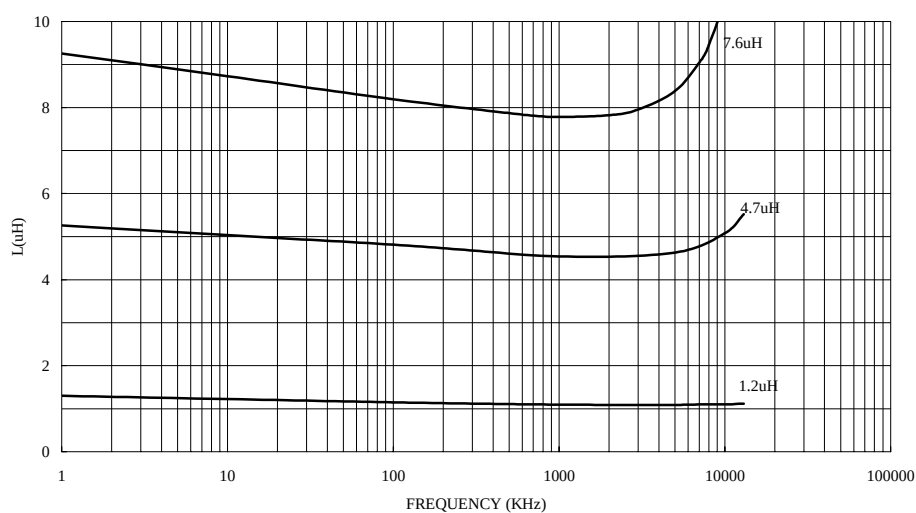
INDUCTANCE vs. IDC CHARACTERISTICS



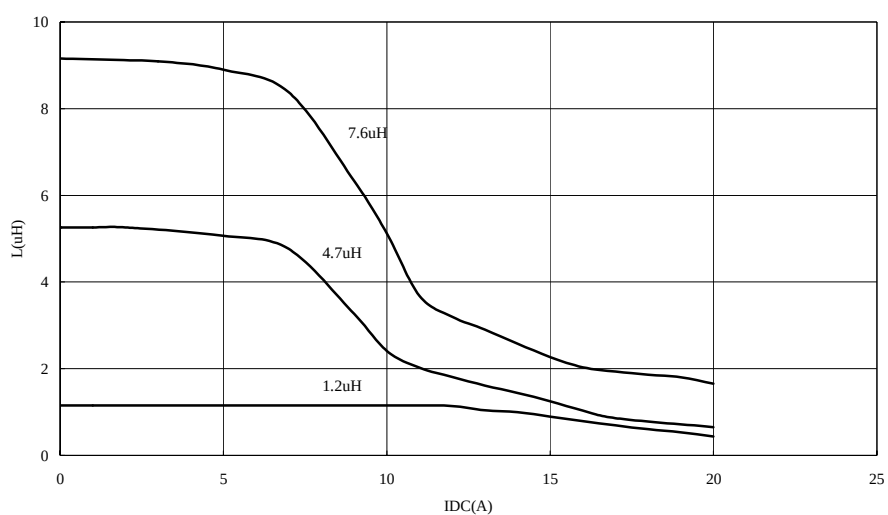
SHIELDED SMD POWER INDUCTORS / SCDS SERIES

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INDUCTANCE vs. FREQUENCY CHARACTERISTICS

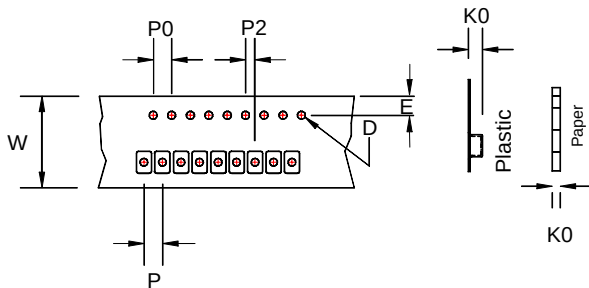


INDUCTANCE vs. IDC CHARACTERISTICS

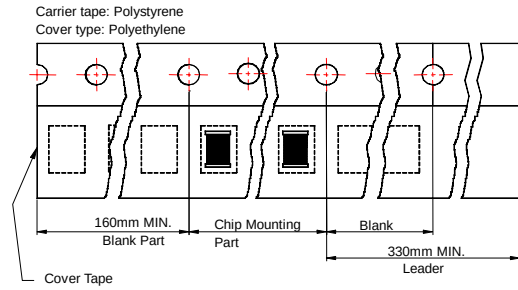


SHIELDED SMD POWER INDCUTORS / SCDS SERIES

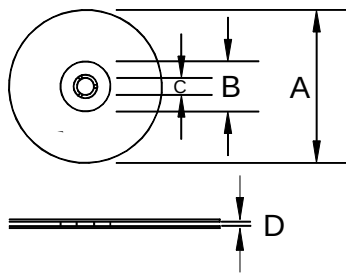
Tape Dimensions



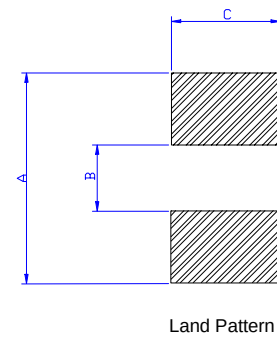
Tape Material



Reel Dimensions



Recommended Pattern



Dimensions in mm

TYPE	Tape Dimensions							Recommended Pattern			Reel Dimensions				Quantity PCS / REEL
	K0	D	E	W	P	P0	P2	A	B	C	A	B	C	D	
SCDS62B	3.4	1.55	1.75	16	12	4	2	8.1	4	2.5	330	100	13	17.4	1500
SCDS64B	4.9	1.55	1.75	16	12	4	2	8.1	4	2.5	330	100	13	17.4	1000
SCDS73T	3.6	1.55	1.75	16	12	4	2	8.8	4	2.8	330	100	13	17.4	1600
SCDS74T	5	1.55	1.75	16	12	4	2	8.8	4	2.8	330	100	13	17.4	1000
SCDS124T	5.7	1.55	1.75	24	16	4	2	13.3	6	6	330	100	13	24.4	600
SCDS125T	6.7	1.55	1.75	24	16	4	2	13.3	6	6	330	100	13	24.4	600
SCDS127T	8.7	1.55	1.75	24	16	4	2	13.5	6	6	330	100	13	24.4	500

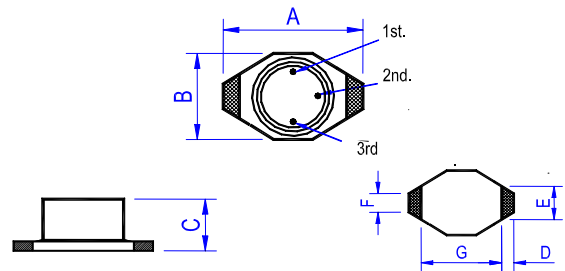
SHIELDED SMD POWER INDUCTORS / SDS0402BL SERIES

These shielded ultra-miniature inductors can help designers achieving significantly longer battery life in handheld communication devices and other portable products.

The SDS0402BL Series offers the highest efficiency, smallest size and lowest cost of any comparable part. DC resistance is 10% to 60% lower than other inductors, with greatest efficiency improvements seen at inductance values from 100 to 10,000 μ H.

These magnetically shielded inductors are designed with a flat top and constructed of heat resistant materials to ensure trouble-free assembly and reflow operations.

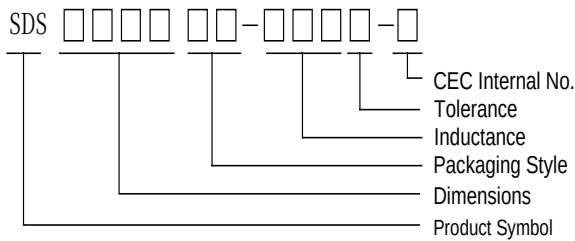
Shapes and Dimensions



Dimensions in mm

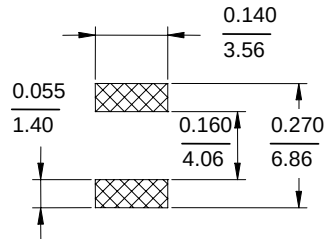
A	B	C	D	E	F	G
6.60 ⁺⁰	4.45 ⁺⁰	2.29 ⁺⁰	1.02	3.05	1.27	4.32

Product Identification



Recommended Pattern

Land Pattern



Electrical Characteristics

Part Number	Inductance ^① (mH)	Tolerance (±%)	DC Resistance (Ω *) Max	Insulation Core-winding (Mohms)	Self Resonant Frequency (MHz) Typ	Current Max ^② (mA)
SDS0402BL-101M-S	0.10	20	0.95	> 10	12	220
SDS0402BL-151M-S	0.15	20	1.4	> 10	10	200
SDS0402BL-221M-S	0.22	20	1.7	> 10	8	180
SDS0402BL-331M-S	0.33	20	2.2	> 10	6	160
SDS0402BL-471M-S	0.47	20	3.8	> 10	5	140
SDS0402BL-681M-S	0.68	20	4.9	> 10	4	120
SDS0402BL-102M-S	1.0	20	9	> 10	2	100
SDS0402BL-152M-S	1.5	20	11	> 10	1	80
SDS0402BL-222M-S	2.2	20	19	> 10	1	50
SDS0402BL-332M-S	3.3	20	24	> 10	1	40
SDS0402BL-472M-S	4.7	20	30	> 10	1	30
SDS0402BL-682M-S	6.8	20	56	> 10	0.9	20
SDS0402BL-103M-S	10.0	20	74	> 10	0.8	10

① Inductance tested at 0.1 Vrms, 100kHz.

② 30°C temperature rise

➤ Operating temperature range —40°C to +85°C

➤ Electrical specifications at 25°C

SHIELDED SMD POWER INDUCTORS / SDS SERIES

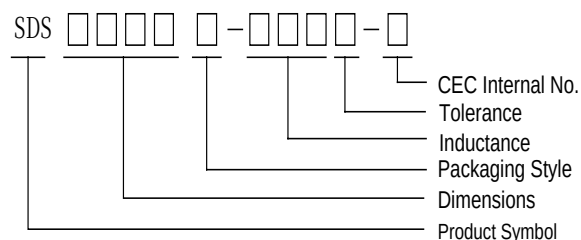
These shielded ultra-miniature inductors can help designers achieving significantly longer battery life in handheld communication devices and other portable products.

The SDS0402 Series offers the highest efficiency, smallest size and lowest cost of any comparable part. DC resistance is 10% to 60% lower than other inductors, with greatest efficiency improvements seen at inductance values from 100 to 10,000 μ H.

The SDS1306 series features saturation current ratings as high as 9 Amps and rms current ratings up to 3.9 Amps. Low DC resistance (as low as .040 Ohms) keeps power losses to a minimum.

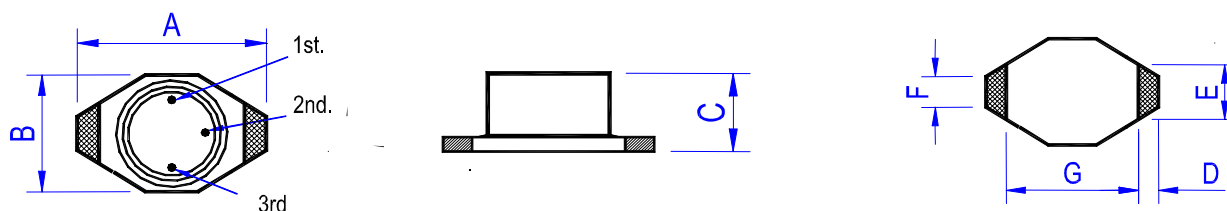
These magnetically shielded inductors are designed with a flat top and constructed of heat resistant materials to ensure trouble-free assembly and reflow operations.

Product Identification

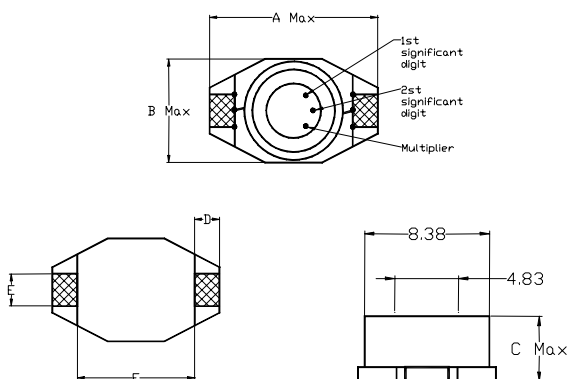


Shapes and Dimensions

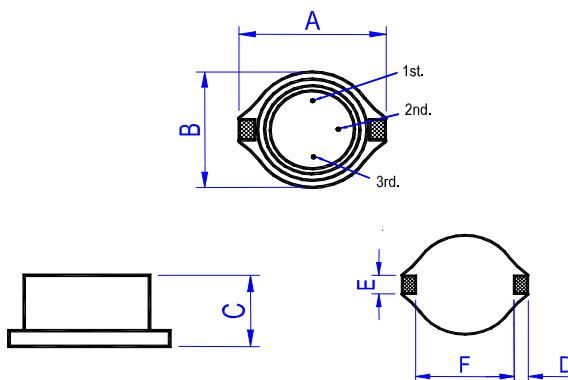
SDS0402 series



SDS0804 series



SDS1306 series



Dimensions in mm

TYPE	A	B	C	D	E	F	G
SDS0402	6.60 ⁺⁰	4.45 ⁺⁰	2.29 ⁺⁰	1.02	3.05	1.27	4.32
SDS0804	12.95 ⁺⁰	9.40 ⁺⁰	5.08 ⁺⁰	2.54	2.54	7.62	-
SDS1306	18.54 ⁺⁰	15.24 ⁺⁰	7.62 ⁺⁰	2.54	2.54	12.7	-

SHIELDED SMD POWER INDCUTORS / SDS SERIES

Electrical Characteristics

Part Number	Inductance ^① (μH)	Tolerance (±%)	Q Min	Q Frequency (Khz)	DC Resistance (Ω ⁺⁰) Max	Self Resonant Frequency (MHz) Typ	Current Max ^② (A)
SDS0402T-1R0M-S	1.0	20	30	200	0.040	250	3.0
SDS0402T-1R5M-S	1.5	20	30	200	0.045	125	2.8
SDS0402T-2R2M-S	2.2	20	40	200	0.050	120	1.8
SDS0402T-3R3M-S	3.3	20	40	200	0.055	120	1.6
SDS0402T-4R7M-S	4.7	20	40	200	0.060	105	1.4
SDS0402T-6R8M-S	6.8	20	40	200	0.065	50	1.2
SDS0402T-100M-S	10	20	40	200	0.075	38	1.0
SDS0402T-150M-S	15	20	40	100	0.090	33	0.80
SDS0402T-220M-S	22	20	40	100	0.110	25	0.70
SDS0402T-330M-S	33	20	40	100	0.190	20	0.60
SDS0402T-470M-S	47	20	40	100	0.230	20	0.50
SDS0402T-680M-S	68	20	40	100	0.290	15	0.40
SDS0402T-101M-S	100	20	40	100	0.480	10	0.30
SDS0402T-151M-S	150	20	40	100	0.590	9	0.26
SDS0402T-221M-S	220	20	40	100	0.770	6	0.22
SDS0402T-331M-S	330	20	40	100	1.4	5	0.20
SDS0402T-471M-S	470	20	40	100	1.8	4	0.19
SDS0402T-681M-S	680	20	40	100	2.2	3	0.18
SDS0402T-102M-S	1000	20	40	100	3.4	2	0.15
SDS0402T-152M-S	1500	20	50	100	4.2	2	0.12
SDS0402T-222M-S	2200	20	50	100	10	2	0.10
SDS0402T-332M-S	3300	20	50	100	13	1	0.08
SDS0402T-472M-S	4700	20	50	100	15	1	0.06
SDS0402T-682M-S	6800	20	50	100	28	1	0.04
SDS0402T-103M-S	10000	20	50	100	46	0.8	0.02

① Inductance tested at 0.1 Vrms, 100kHz.

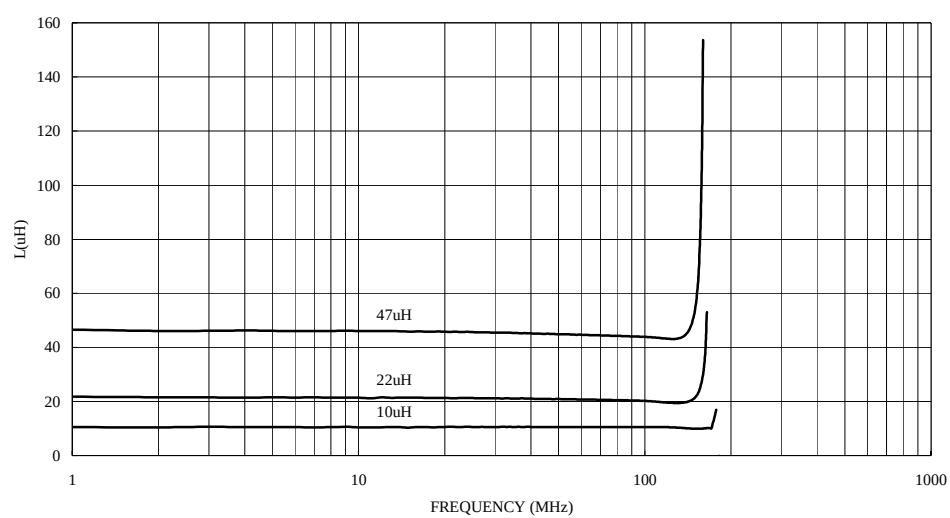
② 30°C temperature rise

➤ Operating temperature range -40°C to +85°C

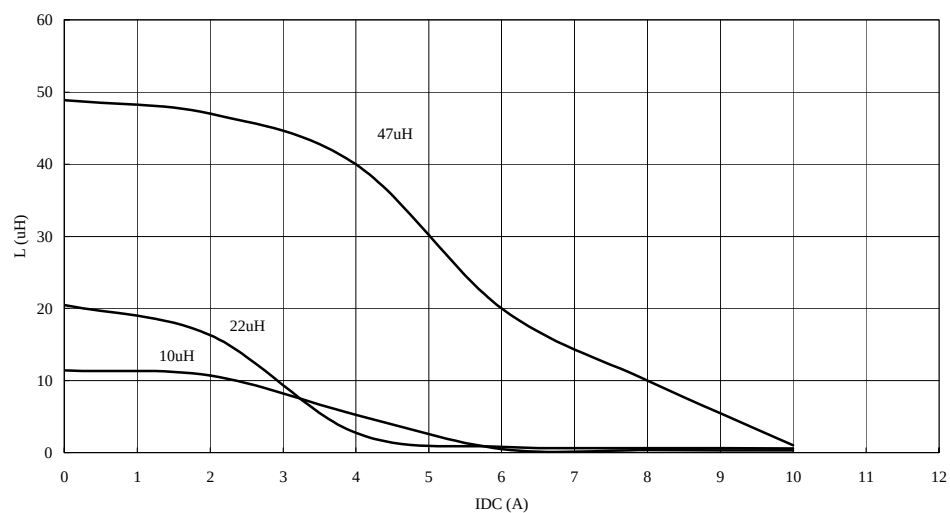
SHIELDED SMD POWER INDUCTORS / SDS SERIES

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE vs. IDC CHARACTERISTICS



SHIELDED SMD POWER INDCUTORS / SDS SERIES

Electrical Characteristics

Part Number	Inductance ^① (μH)	Tolerance (±%)	DC Resistance (Ω)Max	Rated current ^② (A)	Irms ^③ (A)	Self Resonant Frequency (Mhz) Typ
SDS0804T-1R0M-S	1.0	20	0.021	5.6	5.0	140
SDS0804T-1R5M-S	1.5	20	0.022	5.2	4.5	120
SDS0804T-2R2M-S	2.2	20	0.032	5.0	3.8	80
SDS0804T-3R3M-S	3.3	20	0.039	3.9	3.3	70
SDS0804T-4R7M-S	4.7	20	0.054	3.2	2.7	40
SDS0804T-6R8M-S	6.8	20	0.075	2.8	2.2	38
SDS0804T-100M-S	10.0	20	0.101	2.4	2.0	35
SDS0804T-150M-S	15.0	20	0.15	2.0	1.5	25
SDS0804T-220M-S	22.0	20	0.207	1.6	1.3	19
SDS0804T-330M-S	33.0	20	0.334	1.4	1.1	15
SDS0804T-470M-S	47.0	20	0.472	1.0	0.8	13

① Tested at 100kHz , 0.1 Vrms.

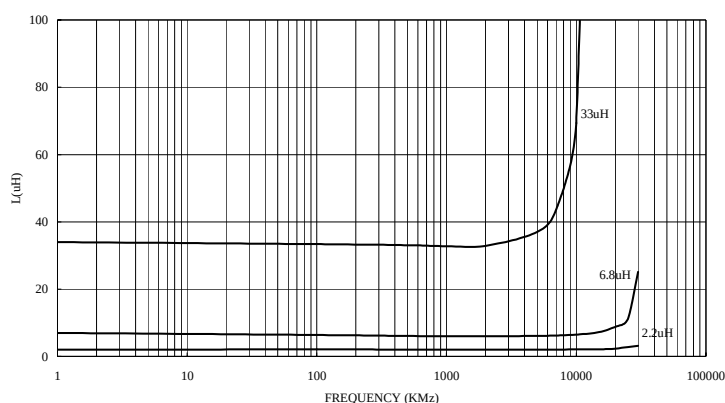
② Inductance drop = 10% typ. At rated Isat.

③ 40° rise typ. at Irms.

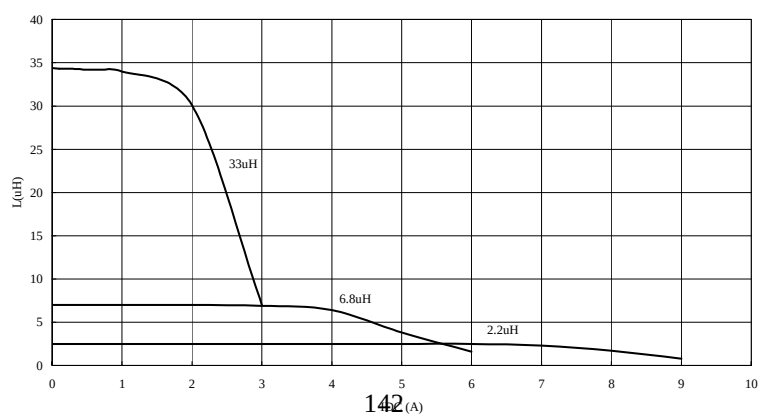
➤ Operating temperature range -40°C to 85°C

Test Instruments : HP4291A Impedance / Material Analyzer

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE vs. IDC CHARACTERISTICS



SHIELDED SMD POWER INDCUTORS / SDS SERIES

Electrical Characteristics

Part Number	Inductance * (μ H)	Tolerance ($\pm\%$)	DC Resistance (Ω)Max	Isat ** (A)	Irms *** (A)	Self Resonant Frequency (MHz) (REF)
SDS1306T-100M-S	10	20	0.040	5.5	3.9	24
SDS1306T-150M-S	15	20	0.048	4.5	3.4	16
SDS1306T-220M-S	22	20	0.059	3.5	3.1	14
SDS1306T-330M-S	33	20	0.075	3.3	2.8	11
SDS1306T-470M-S	47	20	0.097	2.7	2.4	8.0
SDS1306T-680M-S	68	20	0.138	2.2	2.0	7.0
SDS1306T-101M-S	100	20	0.207	1.7	1.7	5.5
SDS1306T-151M-S	150	20	0.293	1.3	1.3	4.8
SDS1306T-221M-S	220	20	0.470	1.1	1.1	4.0
SDS1306T-331M-S	330	20	0.780	0.86	0.86	3.0
SDS1306T-471M-S	470	20	1.08	0.73	0.73	2.4
SDS1306T-681M-S	680	20	1.40	0.64	0.64	2.0
SDS1306T-102M-S	1000	20	2.01	0.53	0.53	1.0

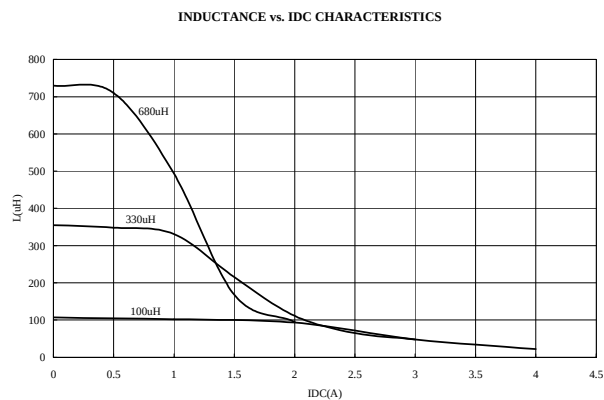
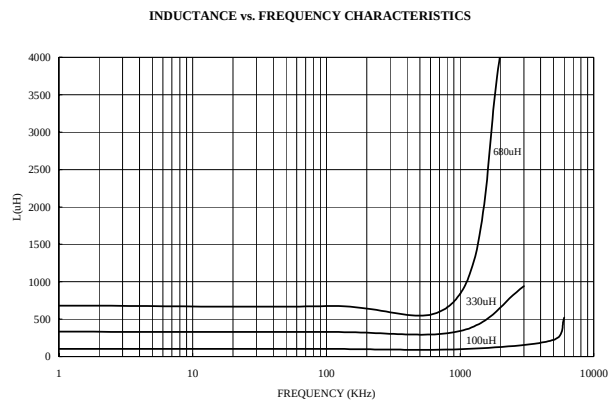
* Inductance tested at 0.1 Vrms, 100kHz.

** Inductance drop 10% typ. at Isat.

*** 40°C rise typ. at Irms.

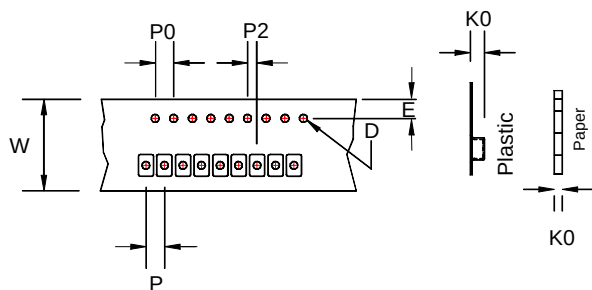
➤ Operating temperature range -40°C to $+85^{\circ}\text{C}$

Test Instruments : HP4291A Impedance / Material Analyzer

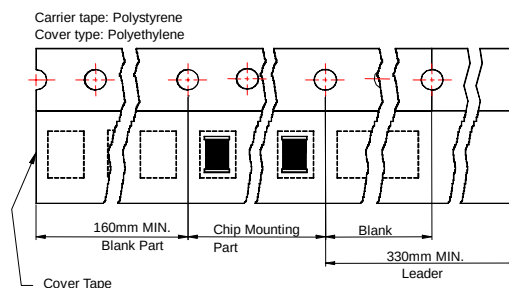


SHIELDED SMD POWER INDCUTORS / SDS SERIES

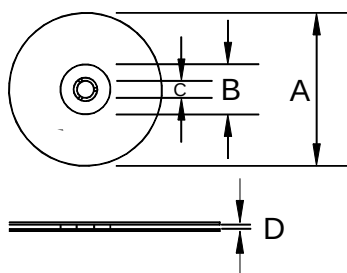
Tape Dimensions



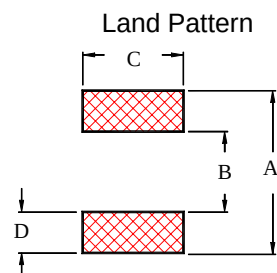
Tape Material



Reel Dimensions



Recommended Pattern



Dimensions in mm

TYPE	Tape Dimensions							Recommended Pattern				Reel Dimensions				Quantity (PCS / REEL)	
	K0	D	E	W	P	P0	P2	A	B	C	D	A	B	C	D	178mm	330mm
SDS0402BL	3.2	1.55	1.75	12	8	4	2	0.270	0.160	0.140	0.055	330	100	13	13.4	-	2500
								6.86	4.06	3.56	1.40	178	60	13	13.2	750	-
SDS0402T	3.2	1.55	1.75	12	8	4	2	6.86	4.06	3.56	1.40	330	100	13	13.4	-	2500
								6.86	4.06	3.56	1.40	178	60	13	13.2	750	-
SDS0804T	5.4	1.55	1.75	24	16	4	2	13.21	7.37	2.79	2.92	330	100	13	24.4	-	1000
SDS1306T	7.5	1.55	1.75	32	20	4	2	18.29	12.45	2.79	2.92	330	100	13	33.4	-	250

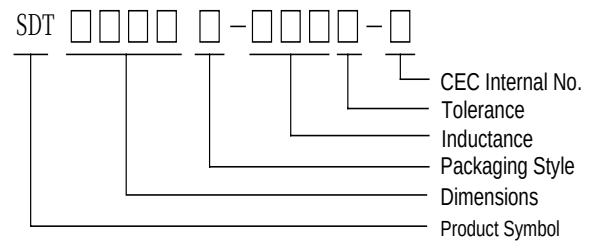
SHIELDED SMD POWER INDUCTORS / SDT SERIES

These inductors are designed for a wide variety of applications including board mounted DC-DC converters, miniature power supplies, and voltage multiplying circuits. They function equally well in filter and smoothing circuit applications.

The CLS SDT Series represents the ultimate in cost effective miniature power inductors. They are constructed of materials specially developed for surface mount applications to ensure the best possible reliability and ease of using and handling.

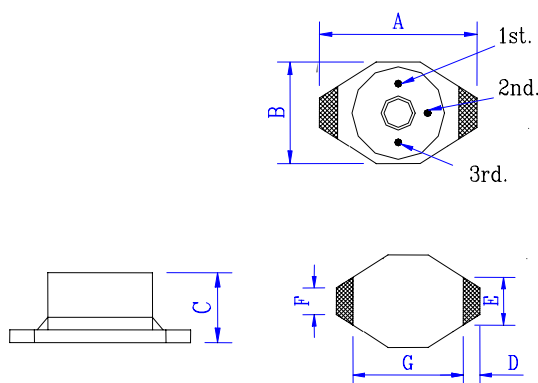
Because of their "swinging" inductance vs. current characteristics, the SSL0402 Series can be used as ultra high L inductors at zero or low current.

Product Identification



Shapes and Dimensions

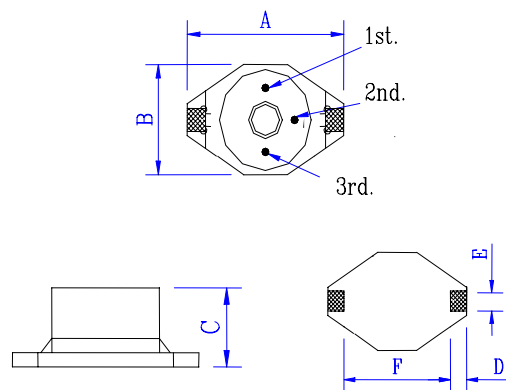
SDT0402 series



Dimensions in mm

A	B	C	D	E	F	G
6.60 ⁺⁰	4.45 ⁺⁰	2.92 ⁺⁰	1.02	2.34	1.27	4.32

SDT0804 series



Dimensions in mm

A	B	C	D	E	F
12.95 ⁺⁰	9.4 ⁺⁰	5.08 ⁺⁰	2.54	2.54	7.62

SHIELDED SMD POWER INDUCTORS / SDT0402 SERIES

Electrical Characteristics

Specifications			Operating Parameters				
Part Number	Inductance @100kHz,0 Adc ($\mu\text{H} \pm 20\%$)	DC Resistance (Ω)Max	Self Resonant Frequency (MHz) typ	Inductance Rating① (μH)	Current Rating② (A)	Max Energy Storage (μJoules)	Max Switching Frequency
SDT0402T-1R0M-S	1.0	0.045	180	0.60	2.0	1.8	1 MHz
SDT0402T-1R5M-S	1.5	0.050	120	0.80	1.9	1.8	1 MHz
SDT0402T-2R2M-S	2.2	0.060	100	0.90	1.5	1.8	1 MHz
SDT0402T-3R3M-S	3.3	0.070	70	1.5	1.2	1.4	1 MHz
SDT0402T-4R7M-S	4.7	0.080	60	2.0	1.2	1.6	1 MHz
SDT0402T-6R8M-S	6.8	0.085	50	3.0	1.0	1.9	1 MHz
SDT0402T-100M-S	10	0.095	45	5.0	0.7	1.2	1 MHz
SDT0402T-150M-S	15	0.135	35	6.0	0.6	1.1	1 MHz
SDT0402T-220M-S	22	0.160	25	10	0.5	1.2	1 MHz
SDT0402T-330M-S	33	0.275	20	12	0.45	1.5	1 MHz
SDT0402T-470M-S	47	0.300	17	20	0.34	1.3	1 MHz
SDT0402T-680M-S	68	0.575	14	30	0.29	1.4	1 MHz
SDT0402T-101M-S	100	1.100	12	40	0.24	1.5	1 MHz
SDT0402T-151M-S	150	1.400	7	60	0.20	1.4	500 kHz
SDT0402T-221M-S	220	2.250	7	90	0.17	1.6	500 kHz
SDT0402T-331M-S	330	2.900	6	100	0.16	1.4	500 kHz
SDT0402T-471M-S	470	3.600	4	150	0.14	1.5	500 kHz
SDT0402T-681M-S	680	4.550	3.5	200	0.12	1.4	500 kHz
SDT0402T-102M-S	1000	8.100	2.5	400	0.08	1.4	500 kHz

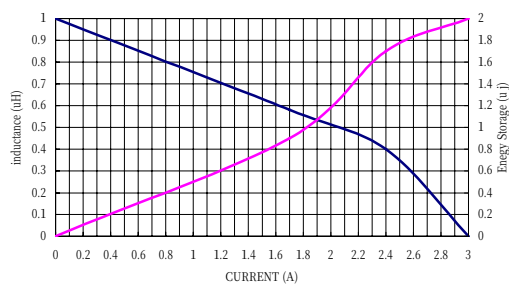
① Measured at the rated current. Refer to curves below for more detail.

② Average maximum allowable current. SDT Series inductors are designed for current spikes as high as 2X the current rating

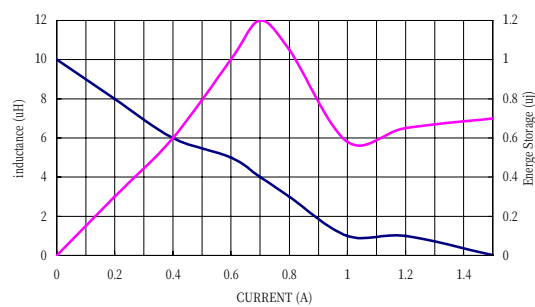
➤ Operating temperature range -40°C to 85°C

Typical Inductance Energy Storage VS. Current

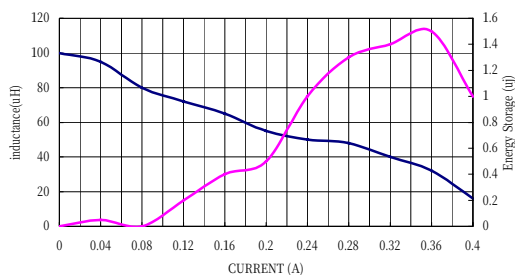
SDT0402Y-1R0M-S



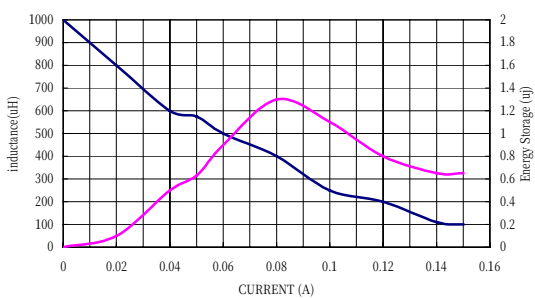
SDT0402T-100M-S



SDT0402T-101M-S



SDT0402T-102M-S



SHIELDED SMD POWER INDUCTORS / SDT0804 SERIES

Electrical Characteristics

Specifications			Operating Parameters				
Part Number	Inductance @100kHz, 0 Adc ($\mu\text{H} \pm 20\%$)	DC Resistance (Ω) Max	Self Resonant Frequency (MHz) Typ	Inductance Rating① (μH)	Current Rating② (A)	Max Energy Storage (μJoules)	Max Switching Frequency
SDT0804T-1R0M-S	1.0	0.025	60	0.50	5.0	9	1 MHz
SDT0804T-1R5M-S	1.5	0.030	55	0.70	5.0	12	1 MHz
SDT0804T-2R2M-S	2.2	0.035	55	1.00	5.0	15	1 MHz
SDT0804T-3R3M-S	3.3	0.040	50	1.50	5.0	16	1 MHz
SDT0804T-4R7M-S	4.7	0.045	45	2.00	3.0	10	1 MHz
SDT0804T-6R8M-S	6.8	0.050	40	4.00	2.5	14	1 MHz
SDT0804T-100M-S	10	0.055	35	5.00	2.0	11	1 MHz
SDT0804T-150M-S	15	0.060	25	6.00	1.8	12	1 MHz
SDT0804T-220M-S	22	0.084	22	10	1.5	11	1 MHz
SDT0804T-330M-S	33	0.090	18	12	1.3	13	1 MHz
SDT0804T-470M-S	47	0.11	16	27	1.0	13	1 MHz
SDT0804T-680M-S	68	0.15	12	40	0.90	17	1 MHz
SDT0804T-101M-S	100	0.29	9	50	0.80	15	1 MHz
SDT0804T-151M-S	150	0.36	8	80	0.60	15	500 kHz
SDT0804T-221M-S	220	0.39	6	90	0.50	10	500 kHz
SDT0804T-331M-S	330	0.73	5	150	0.40	13	500 kHz
SDT0804T-471M-S	470	0.88	4	200	0.35	13	500 kHz
SDT0804T-681M-S	680	1.15	3	300	0.30	13	500 kHz
SDT0804T-102M-S	1000	1.45	2.5	420	0.25	13	500 kHz

① Measured at the rated current. Refer to curves below for more detail.

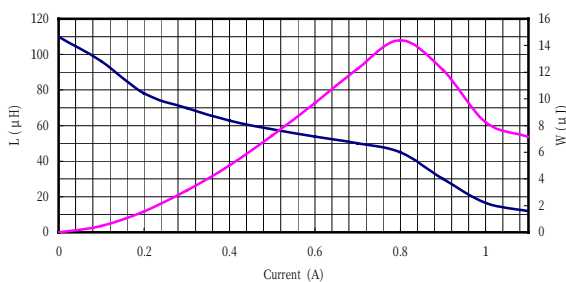
② Average maximum allowable current. SDT Series inductors are designed for current

③ spikes as high as 2X the current rating

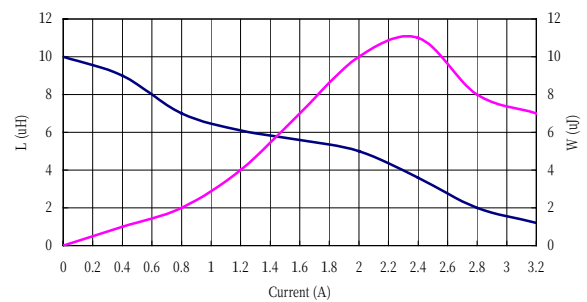
➤ Operating temperature range -40°C to 85°C

Typical Inductance Energy Storage VS. Current

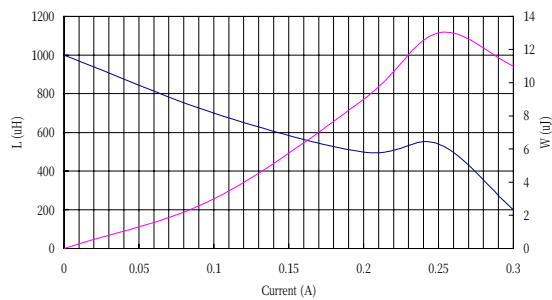
SDT0804T-1R0M-S



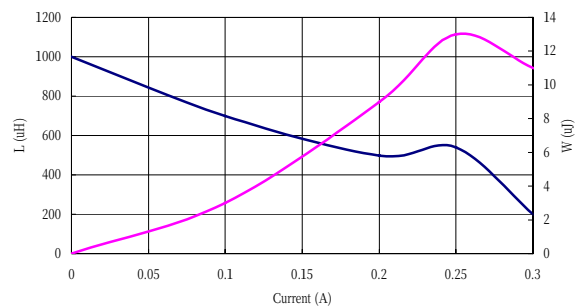
SDT0804T-100M-S



SDT0804T-102M-S

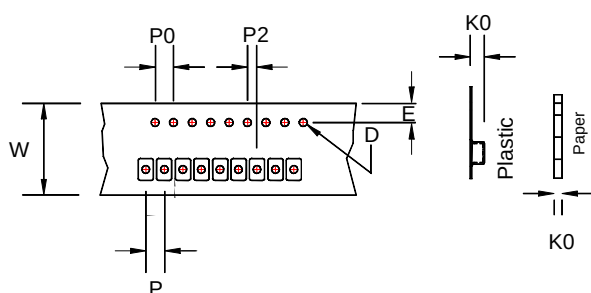


SDT0804T-102M-S

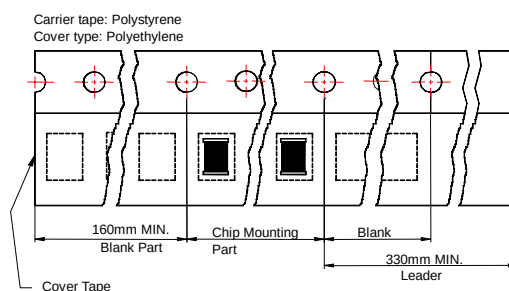


SHIELDED SMD POWER INDCUTORS / SDT SERIES

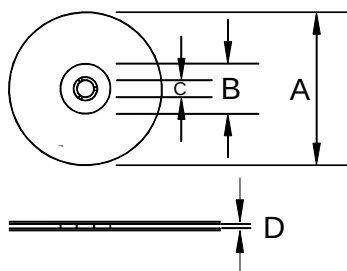
Tape Dimensions



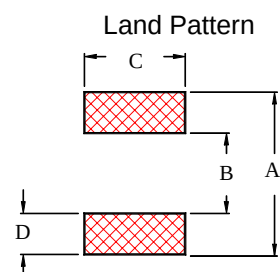
Tape Material



Reel Dimensions



Recommended Pattern



Dimensions in mm

TYPE	Tape Dimensions							Recommended Pattern				Reel Dimensions				Quantity (PCS / REEL)	
	K0	D	E	W	P	P0	P2	A	B	C	D	A	B	C	D	178mm	330mm
SDT0402	3.2	1.55	1.75	12	8	4	2	0.270	0.160	0.140	0.055	330	100	13	13.4	-	2500
								6.86	4.06	3.56	1.40	178	60		13.2	750	-
SDT0804	5.4	1.55	1.75	24	16	4	2	0.520	0.290	0.110	0.115	330	100	13	24.4	-	1000
								13.21	7.37	2.79	2.92						

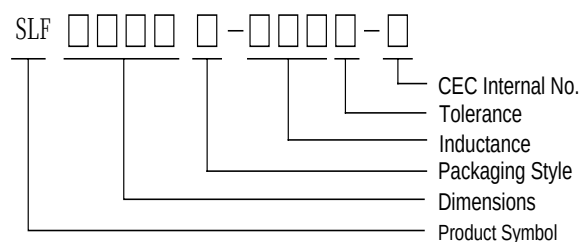
SMD POWER INDUCTORS / SLF SERIES

Designed for low – profile type with low Rdc and large current.
The magnetic shielded type is suitable for high density mounting.

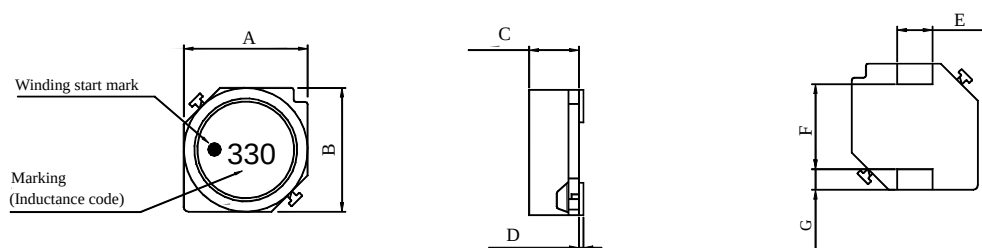
Flat bottom surface allows for reliable mounting onto the board.
Soldering conditions can be easily confirmed when mounting onto the board.

Provide with embossed carrier type packaging for automatic mounting machine.

Product Identification



Shapes and Dimensions



Dimensions in mm

TYPE	A	B	C	D	E	F	G	Weight g typ
SLF0628	6 ± 0.3	6 ± 0.3	2.8 ± 0.3	0.05typ	2 ± 0.1	3.0 typ	1.5	0.3
SLF0728	7 ± 0.3	7 ± 0.3	2.8 ± 0.3	0.1typ	2 ± 0.1	4.0 typ	1.5	0.4
SLF0730	7 ± 0.3	7 ± 0.3	3.0 ± 0.3	0.1typ	2 ± 0.1	4.0 typ	1.5	0.4
SLF0732	7 ± 0.3	7 ± 0.3	3.2 ± 0.3	0.1typ	2 ± 0.1	4.0 typ	1.5	0.4
SLF0745	7 ± 0.3	7 ± 0.3	4.5 ± 0.3	0.1typ	2 ± 0.1	4.0 typ	1.5	0.6
SLF1045	10.1 ± 0.3	10.1 ± 0.3	4.5 ± 0.3	0.15typ	3 ± 0.1	6 ± 0.2	2 ± 0.15	1.3
SLF1255	12.5 ± 0.3	12.5 ± 0.3	5.5 ± 0.3	0.1typ	3 ± 0.1	8.6 ± 0.3	2 ± 0.15	2.4
SLF1265	12.5 ± 0.3	12.5 ± 0.3	6.5 ± 0.35	0.1typ	3 ± 0.1	8.6 ± 0.3	2 ± 0.15	2.8
SLF1275	12.5 ± 0.3	12.5 ± 0.3	7.5 ± 0.35	0.1typ	3 ± 0.1	8.6 ± 0.3	2 ± 0.15	3.3

SMD POWER INDUCTORS / SLF0628、0728 SERIES

Electrical Characteristics

SLF0628 series

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Test Frequency L (kHz)	DC Resistance (Ω) $\pm$ 20%	Rated current (A) Max.	Itemp (A) Max.
SLF0628T-4R7M-S	4.7	20	1	0.0284	1.6	2.5
SLF0628T-6R8M-S	6.8	20	1	0.0354	1.5	2.2
SLF0628T-100M-S	10	20	1	0.0532	1.3	1.8
SLF0628T-150M-S	15	20	1	0.0745	1.0	1.4
SLF0628T-220M-S	22	20	1	0.104	0.77	1.3
SLF0628T-330M-S	33	20	1	0.148	0.69	1.1
SLF0628T-470M-S	47	20	1	0.21	0.59	0.92
SLF0628T-680M-S	68	20	1	0.29	0.50	0.78
SLF0628T-101M-S	100	20	1	0.43	0.42	0.64

- IDC current : Value obtained when DC current flows and the initial value of inductance has fallen by 30%
- Itemp current :Value obtained when current flows and the temperature has risen to 25°C
- Test equipment Inductance : HP4192A LF impedance analyzer or equivalent(Test frequency:1KHz/0.5V)
RDC :SC-7401 digital multimeter ,or equivalent.

SLF0728 series

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Test Frequency L (kHz)	DC Resistance (Ω) $\pm$ 20%	Rated current (A) Max.
SLF0728T-3R3M-S	3.3	20	1	0.037	1.6
SLF0728T-4R7M-S	4.7	20	1	0.045	1.5
SLF0728T-6R8M-S	6.8	20	1	0.059	1.3
SLF0728T-100M-S	10	20	1	0.083	1.1
SLF0728T-150M-S	15	20	1	0.13	0.88
SLF0728T-220M-S	22	20	1	0.18	0.75
SLF0728T-330M-S	33	20	1	0.24	0.65
SLF0728T-470M-S	47	20	1	0.34	0.54

- IDC current : Value obtained when DC current flows and the initial value of inductance has fallen by 10%
- Test equipment Inductance : HP4192A LF impedance analyzer or equivalent(Test frequency:1KHz/0.5V)
RDC :SC-7401 digital multimeter ,or equivalent.

SMD POWER INDUCTORS / SLF0730、0732 SERIES

Electrical Characteristics

SLF0730 series

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Test Frequency L (kHz)	DC Resistance (Ω) $\pm$ 20%	Rated current (A) Max
SLF0730T-3R3M-S	3.3	20	1	0.023	1.8
SLF0730T-4R7M-S	4.7	20	1	0.036	1.6
SLF0730T-6R8M-S	6.8	20	1	0.041	1.5
SLF0730T-100M-S	10	20	1	0.053	1.3
SLF0730T-150M-S	15	20	1	0.084	1
SLF0730T-220M-S	22	20	1	0.11	0.86
SLF0730T-330M-S	33	20	1	0.16	0.65
SLF0730T-470M-S	47	20	1	0.24	0.57
SLF0730T-680M-S	68	20	1	0.31	0.49
SLF0730T-101M-S	100	20	1	0.45	0.35

- IDC current : Value obtained when DC current flows and the initial value of inductance has fallen by 10%
- Test equipment Inductance : HP4192A LF impedance analyzer or equivalent(Test frequency:1KHz/0.5V)
RDC :SC-7401 digital multimeter ,or equivalent.

SLF0732 series

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Test Frequency L (kHz)	DC Resistance (Ω) $\pm$ 20%	Rated current (A) Max
SLF0732T-3R3M-S	3.3	20	1	0.023	1.9
SLF0732T-4R7M-S	4.7	20	1	0.036	1.7
SLF0732T-6R8M-S	6.8	20	1	0.041	1.6
SLF0732T-100M-S	10	20	1	0.053	1.4
SLF0732T-150M-S	15	20	1	0.075	1.1
SLF0732T-220M-S	22	20	1	0.11	0.96
SLF0732T-330M-S	33	20	1	0.16	0.75
SLF0732T-470M-S	47	20	1	0.24	0.67
SLF0732T-680M-S	68	20	1	0.31	0.59
SLF0732T-101M-S	100	20	1	0.45	0.45
SLF0732T-151M-S	150	20	1	0.65	0.37
SLF0732T-221M-S	220	20	1	1.05	0.29
SLF0732T-331M-S	330	20	1	1.67	0.22
SLF0732T-471M-S	470	20	1	2.05	0.2
SLF0732T-681M-S	680	20	1	3.15	0.16
SLF0732T-102M-S	1000	20	1	4.78	0.13

- IDC current : Value obtained when DC current flows and the initial value of inductance has fallen by 10%
- Test equipment Inductance : HP4192A LF impedance analyzer or equivalent(Test frequency:1KHz/0.5V)
RDC :SC-7401 digital multimeter ,or equivalent.

SMD POWER INDUCTORS / SLF0745、1045 SERIES

Electrical Characteristics

SLF0745 series

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Test Frequency L (kHz)	DC Resistance (Ω) $\pm$ 20%	Rated current (A) Max	Itemp (A) Max.
SLF0745T-3R3M-S	3.3	20	1	0.02	2.5	2.3
SLF0745T-4R7M-S	4.7	20	1	0.03	2	2.1
SLF0745T-6R8M-S	6.8	20	1	0.039	1.7	1.74
SLF0745T-100M-S	10	20	1	0.036	1.3	1.78
SLF0745T-150M-S	15	20	1	0.052	1.1	1.53
SLF0745T-220M-S	22	20	1	0.061	0.9	1.34
SLF0745T-330M-S	33	20	1	0.096	0.82	1.09
SLF0745T-470M-S	47	20	1	0.125	0.75	0.92
SLF0745T-680M-S	68	20	1	0.175	0.6	0.77
SLF0745T-101M-S	100	20	1	0.25	0.5	0.65
SLF0745T-151M-S	150	20	1	0.34	0.4	0.55
SLF0745T-221M-S	220	20	1	0.52	0.33	0.45
SLF0745T-331M-S	330	20	1	0.74	0.25	0.37
SLF0745T-471M-S	470	20	1	1.05	0.22	0.31
SLF0745T-681M-S	680	20	1	1.48	0.2	0.27
SLF0745T-102M-S	1000	20	1	2.28	0.14	0.25

- IDC current : Value obtained when DC current flows and the initial value of inductance has fallen by 10%
- Itemp current :Value obtained when current flows and the temperature has risen to 20°C
- Test equipment Inductance : HP4192A LF impedance analyzer or equivalent(Test frequency:1KHz/0.5V)
RDC :SC-7401 digital multimeter ,or equivalent.

SLF1045 series

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Test Frequency L (kHz)	DC Resistance (Ω) $\pm$ 20%	Rated current Max	Itemp (A) Max.
SLF1045T-100M-S	10	20	1	0.0364	3	2.5
SLF1045T-150M-S	15	20	1	0.0472	2.4	2.2
SLF1045T-220M-S	22	20	1	0.0591	2.1	1.9
SLF1045T-330M-S	33	20	1	0.0815	1.6	1.7
SLF1045T-470M-S	47	20	1	0.1	1.4	1.5
SLF1045T-680M-S	68	20	1	0.14	1.2	1.3
SLF1045T-101M-S	100	20	1	0.2	1	1.1
SLF1045T-151M-S	150	20	1	0.35	0.79	0.81
SLF1045T-221M-S	220	20	1	0.47	0.65	0.7
SLF1045T-331M-S	330	20	1	0.68	0.54	0.58
SLF1045T-471M-S	470	20	1	1.03	0.47	0.47
SLF1045T-681M-S	680	20	1	1.6	0.38	0.38
SLF1045T-102M-S	1000	20	1	2.8	0.32	0.29
SLF1045T-152M-S	1500	20	1	3.4	0.22	0.26

- IDC current : Value obtained when DC current flows and the initial value of inductance has fallen by 10%
- Itemp current :Value obtained when current flows and the temperature has risen to 30°C
- Test equipment Inductance : HP4192A LF impedance analyzer or equivalent(Test frequency:1KHz/0.5V)
RDC :SC-7401 digital multimeter ,or equivalent.

SMD POWER INDUCTORS / SLF1255、1265 SERIES

Electrical Characteristics

SLF1255 series

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Test Frequency L (kHz)	DC Resistance (Ω) $\pm$ 20%	Rated current (A)Max.	Itemp (A) Max.
SLF1255T-6R0M-S	6	20	1	0.0164	3.6	4.9
SLF1255T-100M-S	10	20	1	0.0215	3.4	4.3
SLF1255T-150M-S	15	20	1	0.0259	2.8	3.9
SLF1255T-220M-S	22	20	1	0.0338	2.3	3.4
SLF1255T-330M-S	33	20	1	0.0415	1.9	3.1
SLF1255T-470M-S	47	20	1	0.0618	1.6	2.5
SLF1255T-680M-S	68	20	1	0.0832	1.3	2.2
SLF1255T-101M-S	100	20	1	0.117	1.1	1.8
SLF1255T-151M-S	150	20	1	0.19	0.88	1.4
SLF1255T-221M-S	220	20	1	0.27	0.72	1.2
SLF1255T-331M-S	330	20	1	0.41	0.59	1
SLF1255T-471M-S	470	20	1	0.52	0.49	0.88
SLF1255T-681M-S	680	20	1	0.76	0.43	0.73
SLF1255T-102M-S	1000	20	1	1.12	0.34	0.6
SLF1255T-152M-S	1500	20	1	1.73	0.29	0.48

- IDC current : Value obtained when DC current flows and the initial value of inductance has fallen by 10%
- Itemp current :Value obtained when current flows and the temperature has risen to 30°C
- Test equipment Inductance : HP4192A LF impedance analyzer or equivalent(Test frequency:1KHz/0.5V)
RDC :SC-7401 digital multimeter ,or equivalent.

SLF1265 series

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Test Frequency L (kHz)	DC Resistance (Ω) $\pm$ 20%	Rated current (A)Max.	Itemp (A) Max.
SLF1265T-2R0M-S	2	30	1	0.0117	10	6.2
SLF1265T-4R2M-S	4.2	30	1	0.015	7.3	5.5
SLF1265T-7R0M-S	7	30	1	0.0177	5.7	5
SLF1265T-100M-S	10	20	1	0.0202	5	4.8
SLF1265T-150M-S	15	20	1	0.0237	4.2	4.4
SLF1265T-220M-S	22	20	1	0.0316	3.5	3.8
SLF1265T-330M-S	33	20	1	0.0406	2.8	3.4
SLF1265T-470M-S	47	20	1	0.0578	2.4	2.8
SLF1265T-680M-S	68	20	1	0.0787	2	2.4
SLF1265T-101M-S	100	20	1	0.123	1.6	1.9
SLF1265T-221M-S	220	20	1	0.273	1	1.2

- IDC current : Value obtained when DC current flows and the initial value of inductance has fallen by 10%
- Itemp current :Value obtained when current flows and the temperature has risen to 40°C
- Test equipment Inductance : HP4192A LF impedance analyzer or equivalent(Test frequency:1KHz/0.5V)
RDC :SC-7401 digital multimeter ,or equivalent.

SMD POWER INDUCTORS / SLF1275 SERIES

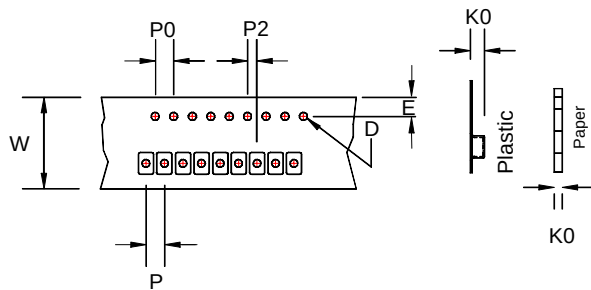
Electrical Characteristics

Part Number	Inductance (μ H)	Tolerance ($\pm$ %)	Test Frequency L (kHz)	DC Resistance (Ω) $\pm$ 20%	Rated current (A)Max.	Itemp (A) Max.
SLF1275T-1R2M-S	1.2	30	1	0.0069	13	8.2
SLF1275T-2R7M-S	2.7	30	1	0.0094	10	7
SLF1275T-3R9M-S	3.9	30	1	0.0104	9	6.7
SLF1275T-5R6M-S	5.6	30	1	0.0116	7.8	6.3
SLF1275T-6R8M-S	6.8	30	1	0.0131	7.2	5.9
SLF1275T-100M-S	10	20	1	0.0156	5.5	5.4
SLF1275T-150M-S	15	20	1	0.0184	4.7	5
SLF1275T-220M-S	22	20	1	0.0263	4	4
SLF1275T-330M-S	33	20	1	0.0395	3.2	3.4
SLF1275T-470M-S	47	20	1	0.0528	2.7	3
SLF1275T-680M-S	68	20	1	0.0778	2	2.4
SLF1275T-101M-S	100	20	1	0.125	1.9	1.9
SLF1275T-151M-S	150	20	1	0.175	1.5	1.6
SLF1275T-221M-S	220	20	1	0.258	1.3	1.3

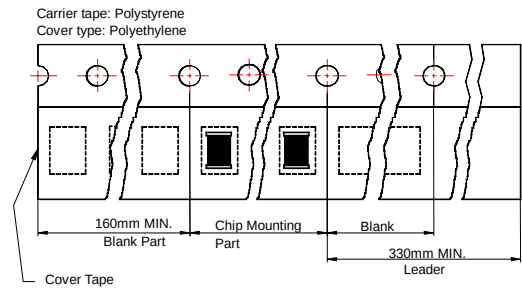
- IDC current : Value obtained when DC current flows and the initial value of inductance has fallen by 10%
- Itemp current :Value obtained when current flows and the temperature has risen to 40°C
- Test equipment Inductance : HP4192A LF impedance analyzer or equivalent(Test frequency:1KHz/0.5V)
RDC :SC-7401 digital multimeter ,or equivalent.

SMD POWER INDCUTORS / SLF SERIES

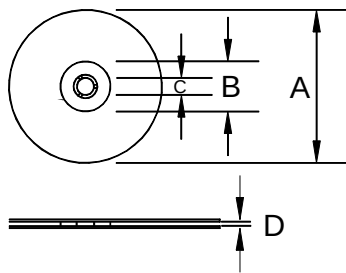
Tape Dimensions



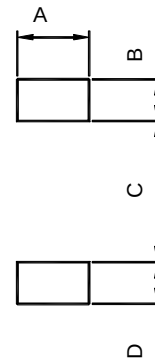
Tape Material



Reel Dimensions



Recommended Pattern



Dimensions in mm

TYPE	Tape Dimensions							Recommended Pattern				Reel Dimensions				Quantity PCS / REEL
	K0	D	E	W	P	P0	P2	A	B	C	D	A	B	C	D	
SLF0628	3.5	1.55	1.75	16	12	4	2	2.2	1.5	4	1.5	330	100	13	17.4	1000
SLF0728	3.5	1.55	1.75	16	12	4	2	2.2	1.5	4.9	1.5	330	100	13	17.4	1000
SLF0730	3.7	1.55	1.75	16	12	4	2	2.2	1.5	4.9	1.5	330	100	13	17.4	1000
SLF0732	4	1.55	1.75	16	12	4	2	2.2	1.5	4.9	1.5	330	100	13	17.4	1000
SLF0745	5.5	1.55	1.75	16	12	4	2	2.2	1.5	4.9	1.5	330	100	13	17.4	1000
SLF1045	5.5	1.55	1.75	24	24	4	2	3.2	2.5	5.6	2.5	330	100	13	24.4	500
SLF1255	6.5	1.55	1.75	24	24	4	2	3.2	2.5	8.6	2.5	330	100	13	24.4	500
SLF1265	7.5	1.55	1.75	24	24	4	2	3.2	2.5	8.6	2.5	330	100	13	24.4	500
SLF1275	8.5	1.55	1.75	24	24	4	2	3.2	2.5	8.6	2.5	330	100	13	24.4	500

SMD POWER INDUCTORS RELIABILITY TEST

1-1 Mechanical Performance

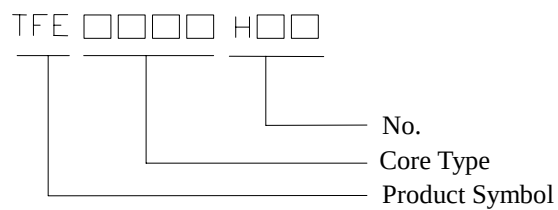
No	Item	Specification	Test Method
1-1-1	Vibration	Appearance: No damage L change: within $\pm 10\%$ Q change: within $\pm 30\%$ RDC: within specification	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
1-1-2	Resistance to Soldering Heat	Appearance: No damage	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 260 ± 5 °C Immersion Time: 10 ± 1 sec
1-1-3	Solderability	The electrodes shall be at least 90% covered with new solder coating	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 230 ± 5 °C Immersion Time: 4 ± 1 sec

1-2 Environmental Performance

No	Item	Specification	Test Method															
1-2-1	Temperature Shock	Appearance: No damage L change: within±10% Q change: within±30% RDC: within specification	10 cycles (Air to Air) 1 cycles shall consist of: 30 minutes exposure to −55 °C 30 minutes exposure to 125 °C 15 seconds maximum transition between temperatures Measured after exposure in the room condition for 24hrs															
1-2-2	Temperature Cycle		One cycle: <table><tr><th>Step</th><th>Temperature (°C)</th><th>Time (min)</th></tr><tr><td>1</td><td>-25±3</td><td>30</td></tr><tr><td>2</td><td>25±2</td><td>3</td></tr><tr><td>3</td><td>85±3</td><td>30</td></tr><tr><td>4</td><td>25±2</td><td>3</td></tr></table> Total: 100cycles Measured after exposure in the room condition for 24hrs	Step	Temperature (°C)	Time (min)	1	-25±3	30	2	25±2	3	3	85±3	30	4	25±2	3
Step	Temperature (°C)		Time (min)															
1	-25±3		30															
2	25±2		3															
3	85±3	30																
4	25±2	3																
1-2-3	Humidity Resistance	Temperature: 40±2°C Relative Humidity: 90 ~ 95% Time: 1000hrs Measured after exposure in the room condition for 24hrs																
1-2-4	High Temperature Resistance	Temperature: 85±3°C Relative Humidity: 20% Applied Current: Rated Current Time: 1000hrs Measured after exposure in the room condition for 24hrs																
1-2-5	Low Temperature Resistance	Temperature: -25±3°C Relative Humidity: 0% Time: 1000hrs Measured after exposure in the room condition for 24hrs																

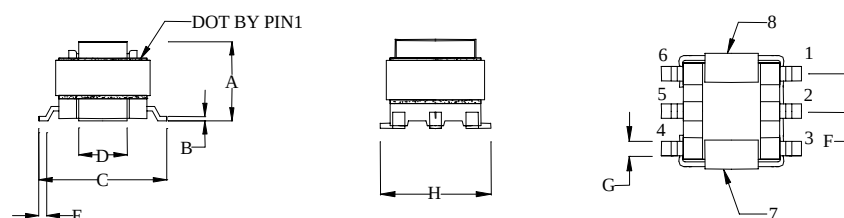
SMD TRANSFORMERS

Product Identification

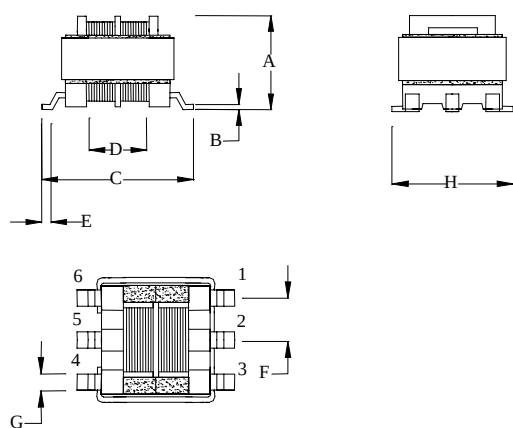


Shapes and Dimensions

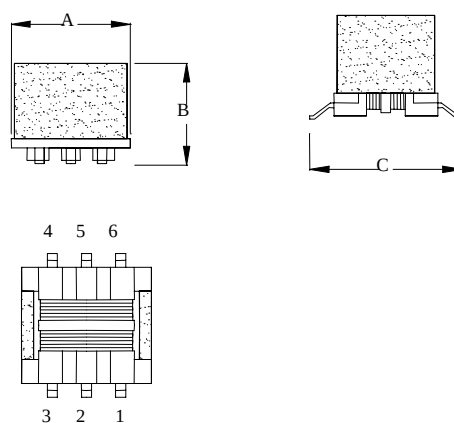
TFE0501H SERIES



TFE0502H SERIES



TFEP0701H SERIES



Dimensions in mm

TYPE	A	B	C	D	E	F	G	H
TFE0501H	6 ⁺⁰	0.25	8.0 ⁺⁰	2.0	0.6	1.85±0.1	0.6	7.2 ⁺⁰
TFE0502H	6 ⁺⁰	0.25	8.0 ⁺⁰	2.0	0.6	1.85±0.1	0.6	7.2 ⁺⁰
TFEP0701	9.5 ⁺⁰	9.0 ⁺⁰	13.5 ⁺⁰	-	-	-	-	-

SMD TRANSFORMERS

Electrical Characteristics

Part Number	Inductance (μ H) Min.	DC Resistance (Ω) Max.	Rated Current (A) Aac	Turns Ratio PRI:SEC
TFE0501H01	180	0.8	6.0	1:30
TFE0501H02	320	1.1	6.0	1:40
TFE0501H03	500	1.5	6.0	1:50
TFE0501H04	730	1.7	6.0	1:60
TFE0501H05	990	2.1	6.0	1:70

- Test Instruments : CHEN HWA1061
- Test Frequency : 10KHZ 1V

Part Number	Inductance (mH) Min.	DC Resistance (Ω) Max.	Rated Current mA	Remark
TFE0502H01	0.18	0.8	90	
TFE0502H02	0.32	1.4	70	
TFE0502H03	0.50	2.2	50	
TFE0502H04	0.99	3.8	40	
TFE0502H05	3.40	18.2	16	
TFE0502H06	4.00	27.0	12	
TFE0502H07	0.60	0.8	90	
TFE0502H08	1.10	1.4	70	
TFE0502H09	1.80	2.2	50	
TFE0502H10	3.60	3.8	40	
TFE0502H11	12.40	18.2	16	
TFE0502H12	14.40	27.0	12	

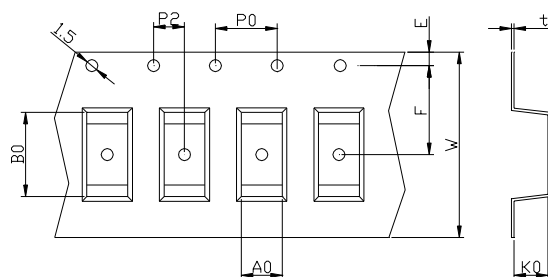
- Test Instruments : CHEN HWA1061
- Test Frequency : 10KHZ 1V

Part Number	Inductance (mH) Min.	DC Resistance (Ω) Max.	Rated Current mA	Remark
TFEP0701H01	1.2	0.65	200	
TFEP0701H02	1.8	1.0	160	
TFEP0701H03	2.7	1.5	125	
TFEP0701H04	3.6	2.3	90	
TFEP0701H05	4.8	3.6	65	
TFEP0701H06	7.5	5.8	50	
TFEP0701H07	3.3	0.65	200	
TFEP0701H08	5.2	1.0	160	
TFEP0701H09	7.5	1.5	125	
TFEP0701H10	10.2	2.3	90	
TFEP0701H11	13.4	3.6	65	
TFEP0701H12	21.0	5.8	50	

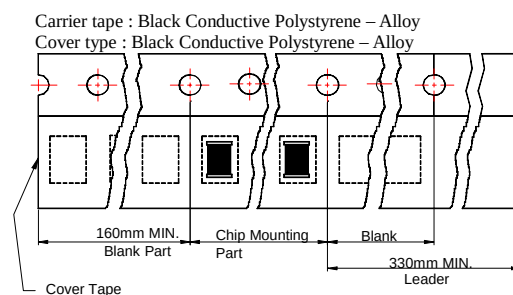
- Test Instruments : CHEN HWA1061
- Test Frequency : 10KHZ 1V

SMD TRANSFORMERS

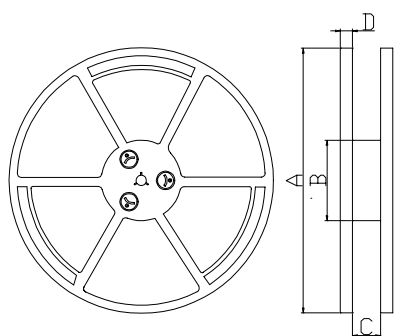
Tape Dimensions



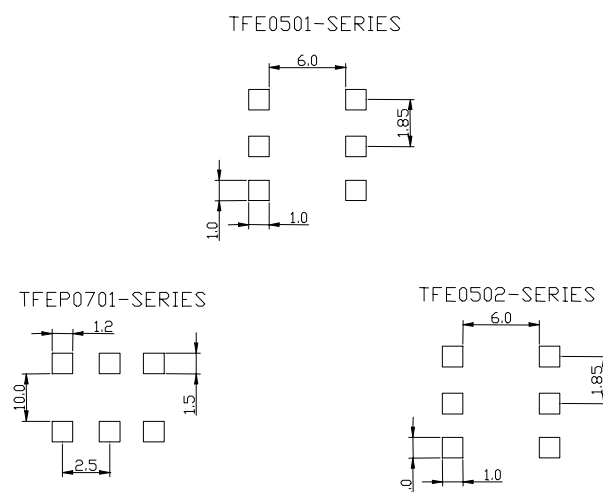
Tape Material



Reel Dimensions



Recommended Pattern



Dimensions in mm

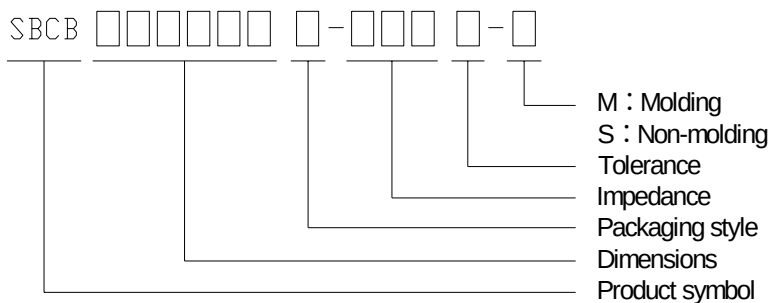
TYPE	Tape Dimensions									Reel Dimensions			Quantity	
	W	E	F	P0	P2	A0	B0	K0	t	A	B	C	Reel	Bulk
TFE0501	16	1.75	7.5	4	2	6.4	8.1	6.4	0.4	330	100	17.4	600	-
TFE0502	16	1.75	7.5	4	2	6.4	8.1	6.4	0.4	330	100	17.4	600	-
TFEP0701	-	-	-	-	-	-	-	-	-	-	-	-	-	170

EMC DATA LINE FILTER

Features

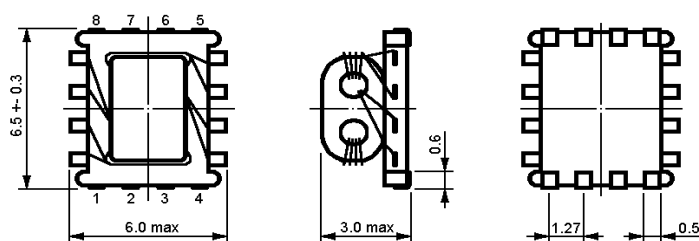
- Dual common mode.
- For high speed digital data,
Ex: IEEE1394 (Fire Wire), USB
- Low Profile

Product Identification

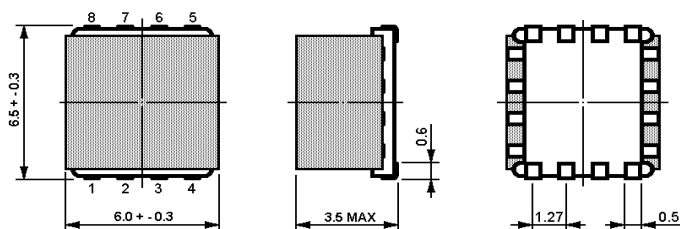


Shapes and Dimensions

SBCB656030-S

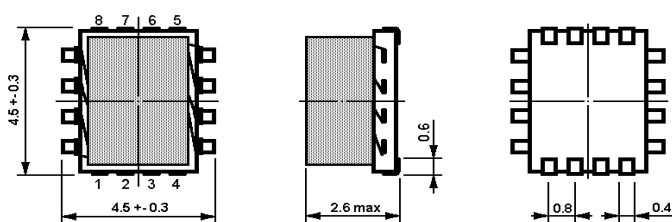


SBCB656030-M

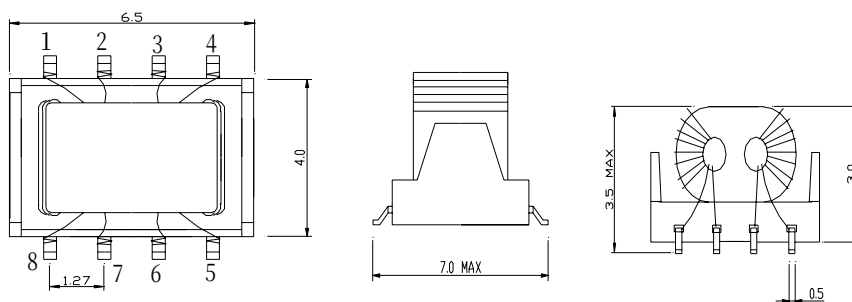


SBCB454525-S

SBCB454525-M



SBCB657030-S



EMC DATA LINE FILTER / SBCB SERIES

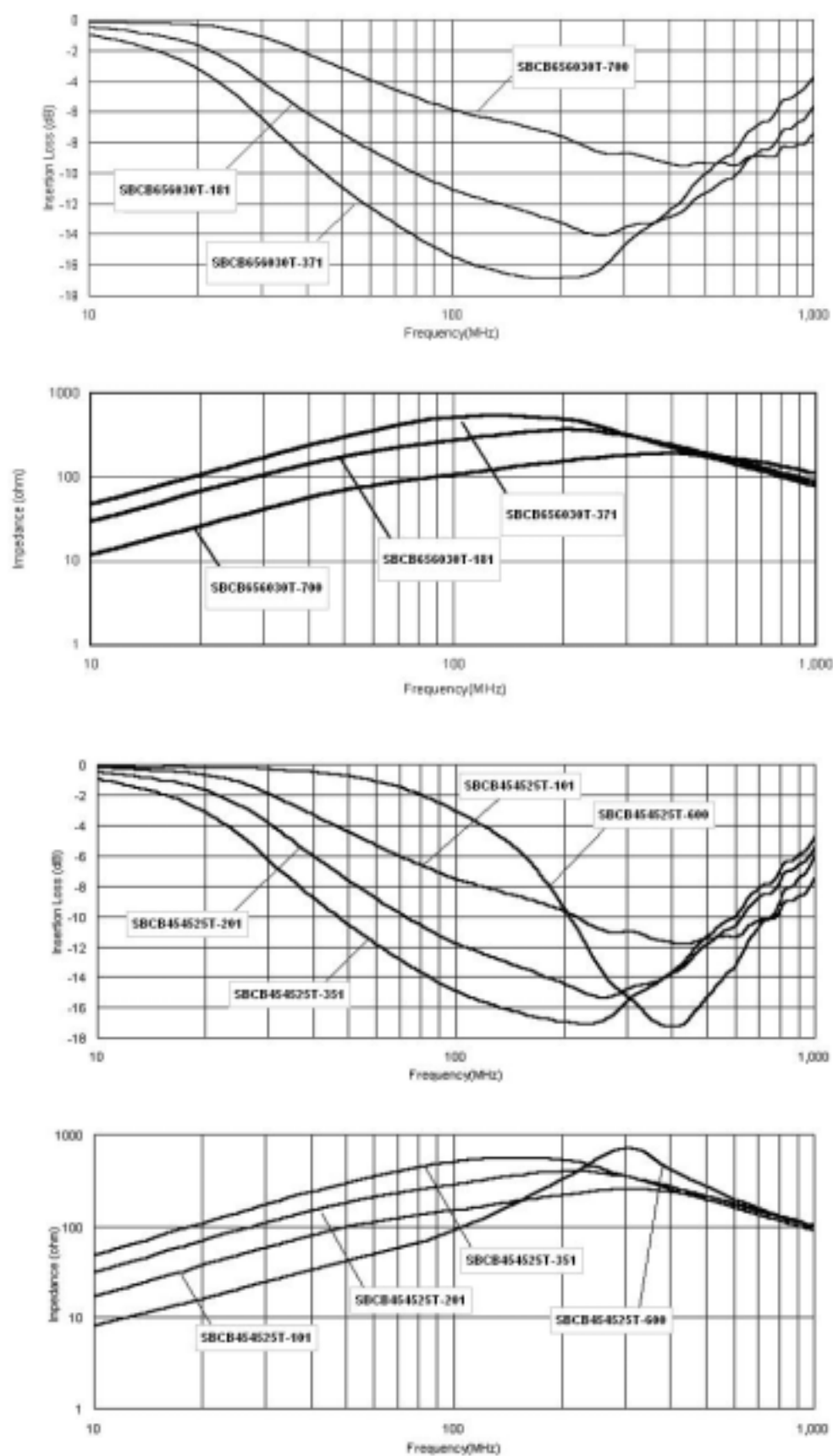
Electrical Characteristics :

ITEM	Impedance (ohm)				Insertion Loss (dB)				DC Resistance (ohm max)	Rated Current (A max)
	1MHZ	10MHZ	100MHZ	200MHZ	50MHZ	100MHZ	300MHZ	500MHZ		
SBCB656030T-700-S SBCB656030T-700-M	-	-	70min	105min	3.1±1.5	5.8±2.5	8.7±2.5	9.3±3	0.1	0.65
SBCB656030T-181-S SBCB656030T-181-M	-	-	180min	250min	6.8±2.5	10.5±3	13.5±3	11.5±3	0.1	0.65
SBCB656030T-371-S SBCB656030T-371-M	-	-	365min	335min	10.8±3	15.3±3	14.5±3	9.8±3	0.1	0.65
SBCB454525T-101-S SBCB454525T-101-M	-	-	105min	160min	4.5±2	7.5±3	11.0±3	11.5±3	0.3	0.50
SBCB454525T-201-S SBCB454525T-201-M	-	-	200min	280min	7.5±2.5	11.5±3	14.8±3	12.3±3	0.3	0.50
SBCB454525T-351-M	-	-	345min	360min	10.5±3	15.0±3	15.5±3	11.0±3	0.3	0.50
SBCB454525T-600-M	-	-	60min	215min	2.0 max	3.0±1.5	15±3	15.5±3	0.3	0.50
SBCB657030T-151-S	2.8TYP	29TYP	150min	-	5±2	8±3	12±3	14±3	0.12	0.5

NOTES :

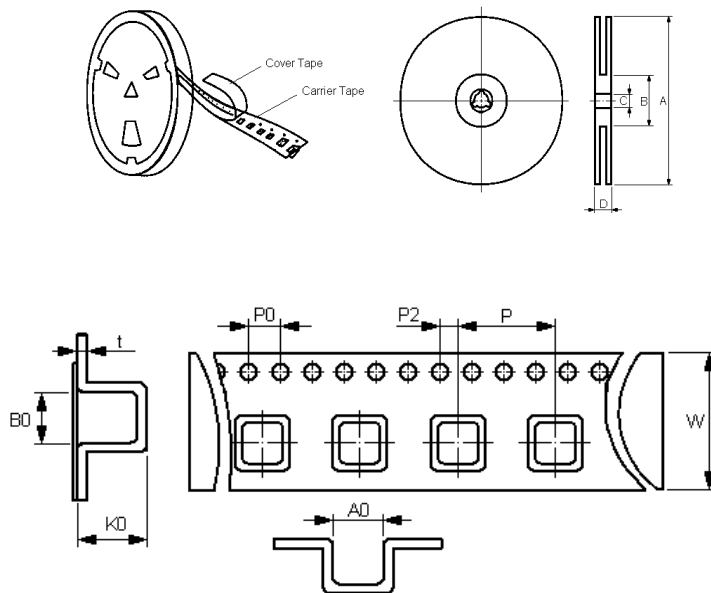
- RATED VOLTAGE : DC 50V
- WITHSANDING VOLTAGE : DC 200V 60SEC OR DC 240V 1~2SEC.(COIL-COIL)I=1mA
- INSULATION RESISTANCE : DC 100V 10MOHMmin (COIL-COIL)
- OPERATING TEMP. RANGE : -25 TO +80°C
- STRAGE TEMP. RANGE : -40 TO +120°C

Attenuation Response & Impedance :



EMC DATA LINE FILTER / SBCB SERIES

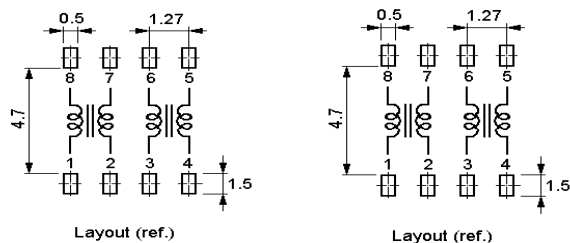
Packaging :



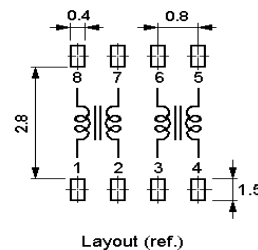
	SBCB656030-S	SBCB656030-M	SBCB454525
pcs/reel	1000	1000	2000
A	330mm	330mm	330mm
B	100mm	100mm	100mm
C	13.0mm	13.0mm	13.0mm
D	21.0mm	21.0mm	17.1mm

	SBCB656030-S	SBCB656030-M	SBCB454525
A0	6.9	6.9	5.0
B0	6.1	6.1	5.0
K0	3.2	3.5	2.9
P	12	12	8
P0	4.0	4.0	4.0
P2	2.0	2.0	2.0
W	16.0	16.0	12.0
t	0.4	0.4	0.3

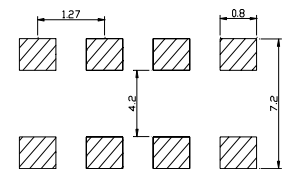
Recommended Pattern :



SBCB656030



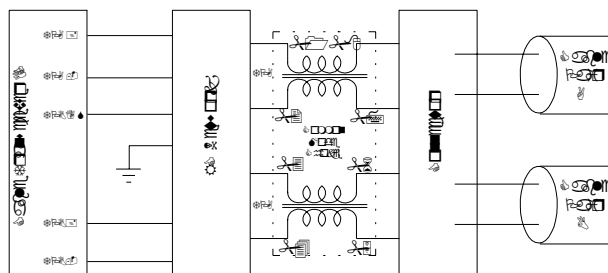
SBCB454525



SBCB657030T-151-S

APPLICATIONS

Twisted Pair Cable Interface



IEEE 1394 Port

