

Wirewound Ferrite Beads 0603LS (1608)



Higher performance than other surface mount ferrite beads in the market

High impedance across wide bandwidth; up to GHz band
Extremely low DCR for high current applications

Ferrite construction and heavy gauge wire for high current handling

Eliminates high frequency noise in power supplies or RF signal isolation applications

Designer's Kit C347 contains 10 of each value.

Core material Ceramic/Ferrite

Environmental RoHS compliant, halogen free

Terminations Silver-palladium-platinum-glass frit. Other terminations available at additional cost.

Weight 4.8 – 6.2 mg

Ambient temperature -40°C to +85°C with Irms current

Maximum part temperature +100°C (ambient + temp rise)

Storage temperature Component: -40°C to +100°C.

Tape and reel packaging: -40°C to +80°C

Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

Temperature Coefficient of Inductance (TCL) +50 to +150 ppm/°C

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

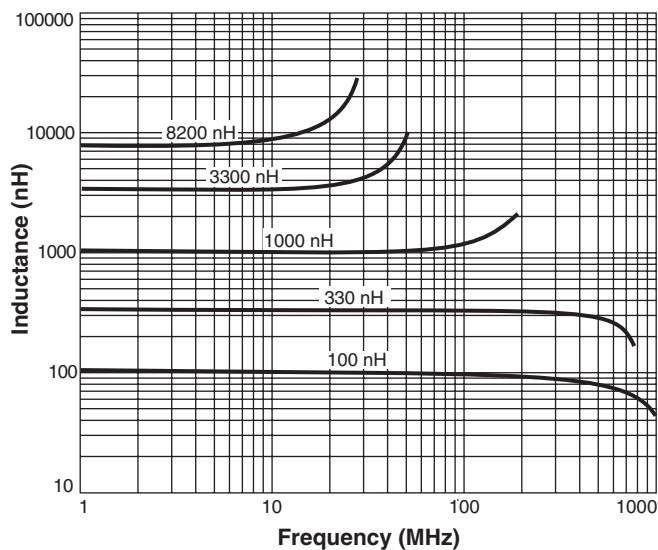
Failures in Time (FIT) / Mean Time Between Failures (MTBF)

One per billion hours / one billion hours, calculated per Telcordia SR-332

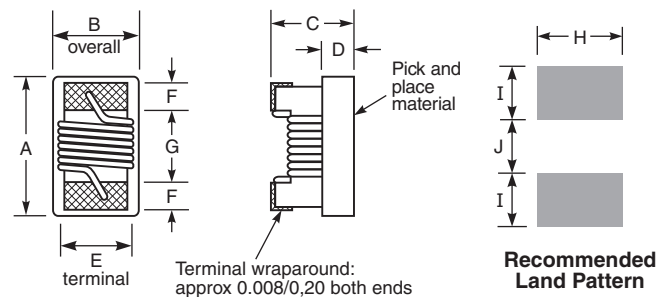
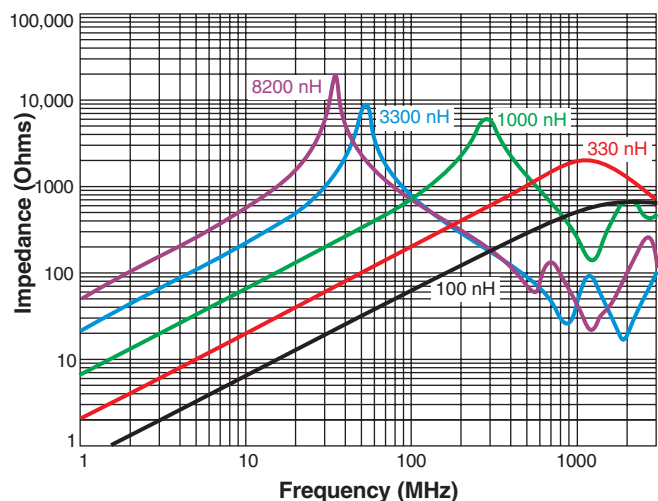
Packaging 2000 per 7" reel. Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.17 mm pocket depth

PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](#).

Typical L vs Frequency



Typical Impedance vs Frequency



A max	B	C max	D ref	E	F	G	H	I	J
0.071	See note	0.044	0.015	0.030	0.013	0.034	0.040	0.025	0.025
1,80		1,12	0,38	0,76	0,33	0,86	1,02	0,64	0,64

Note: B1 = 0.040 ±0.004 in / 1,016 ±0,102 mm

B2 = 0.046 ±0.004 in / 1,169 ±0,102 mm

Height dimension (C) is before optional solder application. For maximum height dimension including solder, add 0.006 in / 0,152 mm.

S-Parameter files

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SPICE models

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Wirewound Ferrite Beads – 0603LS Series

Part number ¹	Inductance ² ±5% (nH)	Impedance typ (Ohms)		SRF min ³ (MHz)	DCR max ⁴ (Ohms)	Irms ⁵ (A)	Color code	Overall width
		100 MHz	900 MHz					
0603LS-47NXJE_	47 @ 7.9 MHz	28.21	212.9	1500	0.075	1.40	Black	B1
0603LS-51NXJE_	51 @ 7.9 MHz	30.80	200.0	1400	0.075	1.00	Violet	B1
0603LS-72NXJE_	72 @ 7.9 MHz	43.31	330.0	1400	0.12	1.40	Brown	B1
0603LS-101XJE_	100 @ 7.9 MHz	62.75	475.7	1150	0.13	1.40	Red	B1
0603LS-121XJE_	120 @ 7.9 MHz	73.71	635.8	1100	0.15	1.40	Orange	B1
0603LS-151XJE_	150 @ 7.9 MHz	90.40	719.7	1050	0.15	1.30	Yellow	B1
0603LS-181XJE_	180 @ 7.9 MHz	112.6	910.2	950	0.15	1.30	Green	B1
0603LS-241XJE_	240 @ 7.9 MHz	148.5	1716	800	0.16	0.95	Violet	B1
0603LS-271XJE_	270 @ 7.9 MHz	169.7	2235	775	0.30	0.71	Gray	B1
0603LS-331XJE_	330 @ 7.9 MHz	205.8	2038	725	0.46	0.56	White	B1
0603LS-391XJE_	390 @ 7.9 MHz	244.0	2813	620	0.51	0.50	Black	B1
0603LS-471XJE_	470 @ 7.9 MHz	289.4	3447	540	0.62	0.42	Brown	B1
0603LS-561XJE_	560 @ 7.9 MHz	343.2	3529	525	0.44	0.55	Red	B1
0603LS-681XJE_	680 @ 7.9 MHz	454.8	458.2	260	0.52	0.47	Orange	B2
0603LS-781XJE_	780 @ 7.9 MHz	494.9	3635	460	0.83	0.39	Yellow	B1
0603LS-821XJE_	820 @ 7.9 MHz	515.9	3815	410	0.69	0.40	Green	B1
0603LS-102XJE_	1000 @ 7.9 MHz	706.2	357.0	190	0.81	0.40	Blue	B2
0603LS-122XJE_	1200 @ 7.9 MHz	858.8	169.8	160	0.87	0.37	Violet	B2
0603LS-152XJE_	1500 @ 7.9 MHz	2222	66.98	100	0.96	0.35	Gray	B2
0603LS-182XJE_	1800 @ 7.9 MHz	5760	94.58	80	1.1	0.35	White	B2
0603LS-222XJE_	2200 @ 7.9 MHz	3063	32.00	68	1.2	0.32	Black	B2
0603LS-272XJE_	2700 @ 7.9 MHz	1808	32.54	60	1.5	0.28	Brown	B2
0603LS-332XJE_	3300 @ 7.9 MHz	742.0	27.89	42	1.5	0.28	Red	B2
0603LS-392XJE_	3900 @ 7.9 MHz	631.0	125.8	40	1.6	0.28	Orange	B2
0603LS-472XJE_	4700 @ 7.9 MHz	573.8	40.75	34	2.1	0.26	Yellow	B2
0603LS-562XJE_	5600 @ 7.9 MHz	516.8	55.83	32	2.6	0.24	Green	B2
0603LS-682XJE_	6800 @ 7.9 MHz	648.3	41.40	31	3.1	0.20	Black	B2
0603LS-782XJE_	7800 @ 7.9 MHz	457.7	28.32	28	3.5	0.20	Blue	B2
0603LS-822XJE_	8200 @ 7.9 MHz	640.7	57.50	26	3.6	0.19	Violet	B2
0603LS-103XJE_	10,000 @ 2.5 MHz	950.8	85.18	25	4.8	0.18	Gray	B2
0603LS-153XJE_	15,000 @ 2.5 MHz	863.7	56.30	23	7.1	0.17	White	B2
0603LS-183XJE_	18,000 @ 2.5 MHz	746.4	83.67	22	7.6	0.16	Brown	B2
0603LS-223XJE_	22,000 @ 2.5 MHz	674.1	95.63	19	8.81	0.13	Black	B2

1. When ordering, please specify **termination** and **packaging** codes:

0603LS-822XJEC

- Termination:** **E** = Halogen free component. RoHS compliant silver-palladium-platinum-glass frit terminations.
L = RoHS compliant, not halogen-free. Silver-palladium-platinum-glass frit terminations.
R = RoHS compliant matte tin over nickel over silver-platinum-glass frit.
 Special order: **T** = RoHS tin-silver-copper (95.5/4/0.5) or **S** = non-RoHS tin-lead (63/37).
- Packaging:** **C** = 7" machine-ready reel. EIA-481 embossed plastic tape (2000 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).
B = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to C.

2. Inductance measured at 0.1 Vrms, using Coilcraft SMD-A fixture in Agilent/HP 4286A impedance analyzer with Coilcraft-provided correlation pieces.
 3. SRF measured using Agilent/HP 8753D network analyzer with Coilcraft SMD-D test fixture.
 4. DCR measured on Cambridge Technology Micro-ohmmeter.
 5. Current that causes a 15°C temperature rise from 25°C ambient. Because of their open construction, these parts will not saturate. This information is for reference only and does not represent absolute maximum ratings
 6. Electrical specifications at 25°C.
 Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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