

# Chip Inductors - 1812CS (4532)



- Higher SRF values than 1812 size parts with ferrite cores
- 5% tolerances for all values
- 19 inductance values from 1.0 to 33  $\mu\text{H}$

Request free evaluation samples by contacting Coilcraft or visiting [www.coilcraft.com](http://www.coilcraft.com).

Part number <sup>1</sup>	Inductance <sup>2</sup> ( $\mu\text{H}$ )	Percent tolerance <sup>3</sup>	Q min <sup>4</sup>	SRF min <sup>5</sup> (MHz)	DCR max <sup>6</sup> (Ohms)	Irms <sup>7</sup> (mA)
1812CS-102XJL_	1.0 @ 7.9 MHz	<b>5</b>	60 @ 50 MHz	310	1.2	480
1812CS-122XJL_	1.2 @ 7.9 MHz	<b>5</b>	62 @ 50 MHz	230	1.2	480
1812CS-152X_L_	1.5 @ 7.9 MHz	<b>5,2</b>	65 @ 50 MHz	210	1.6	430
1812CS-182XJL_	1.8 @ 7.9 MHz	<b>5</b>	68 @ 50 MHz	190	2.0	380
1812CS-222X_L_	2.2 @ 7.9 MHz	<b>5,2</b>	63 @ 50 MHz	170	2.2	340
1812CS-272X_L_	2.7 @ 7.9 MHz	<b>5,2</b>	63 @ 50 MHz	160	3.2	300
1812CS-332X_L_	3.3 @ 7.9 MHz	<b>5,2</b>	65 @ 50 MHz	145	3.8	270
1812CS-392X_L_	3.9 @ 7.9 MHz	<b>5,2</b>	69 @ 50 MHz	130	5.0	240
1812CS-472XJL_	4.7 @ 7.9 MHz	<b>5</b>	63 @ 50 MHz	115	5.4	230
1812CS-562XJL_	5.6 @ 7.9 MHz	<b>5</b>	59 @ 50 MHz	100	5.7	220
1812CS-682XJL_	6.8 @ 7.9 MHz	<b>5</b>	60 @ 50 MHz	90	6.6	210
1812CS-822X_L_	8.2 @ 7.9 MHz	<b>5,2</b>	47 @ 50 MHz	80	7.0	200
1812CS-103XJL_	10 @ 7.9 MHz	<b>5</b>	36 @ 50 MHz	70	7.7	190
1812CS-123XJL_	12 @ 2.5 MHz	<b>5</b>	35 @ 10 MHz	60	8.7	180
1812CS-153X_L_	15 @ 2.5 MHz	<b>5,2</b>	34 @ 10 MHz	50	9.6	170
1812CS-183XJL_	18 @ 2.5 MHz	<b>5</b>	30 @ 10 MHz	45	10.5	160
1812CS-223X_L_	22 @ 2.5 MHz	<b>5,2</b>	32 @ 10 MHz	40	11.5	155
1812CS-273XJL_	27 @ 2.5 MHz	<b>5</b>	29 @ 10 MHz	30	12.5	150
1812CS-333X_L_	33 @ 2.5 MHz	<b>5,2</b>	20 @ 10 MHz	20	13.5	145

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

1812CS-333XGLC

**Tolerance:** G = 2% J = 5% (Table shows stock tolerances in bold.)

**Termination:** L = RoHS compliant silver-palladium-platinum-glass frit.  
E = Halogen free component. RoHS compliant silver-palladium-platinum-glass frit terminations.  
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 (600 parts per full reel).  
B = Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter C instead.  
D = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (2200 parts per full reel).

- Inductance measured using a Coilcraft SMD-A fixture in an Agilent/HP 4286A impedance analyzer with Coilcraft-provided correlation pieces.
- Tolerances in bold are stocked for immediate shipment.
- Q measured using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
- SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture.
- DCR measured on a Cambridge Technology micro-ohmmeter and a Coilcraft CCF859 test fixture.
- Current that causes a 15°C temperature rise from 25°C ambient.
- Electrical specifications at 25°C.

Refer to [Soldering Coilcraft Components](#) before soldering.

Refer to [RF Inductors - Color Coding](#) for the explanation of color dots.

**Designer's Kit C337** contains 10 of each 5% part

**Core material** Ceramic

**Environmental** RoHS compliant, halogen free optional

**Terminations** RoHS compliant silver-palladium-platinum-glass frit. Other terminations available at additional cost.

**Weight** 109 – 128 mg

**Ambient temperature** -40°C to +125°C with Irms current, +125°C to +140°C with derated current

**Storage temperature** Component: -40°C to +140°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)** +25 to +125 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** 600 per 7" reel; 2200 per 13" reel. Plastic tape: 12 mm wide, 0.3 mm thick, 8 mm pocket spacing, 3.7 mm pocket depth

**PCB washing** Tested with pure water or alcohol only. For other solvents, see Doc787\_PCB\_Washing.pdf



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Document 105-1 Revised 01/11/12

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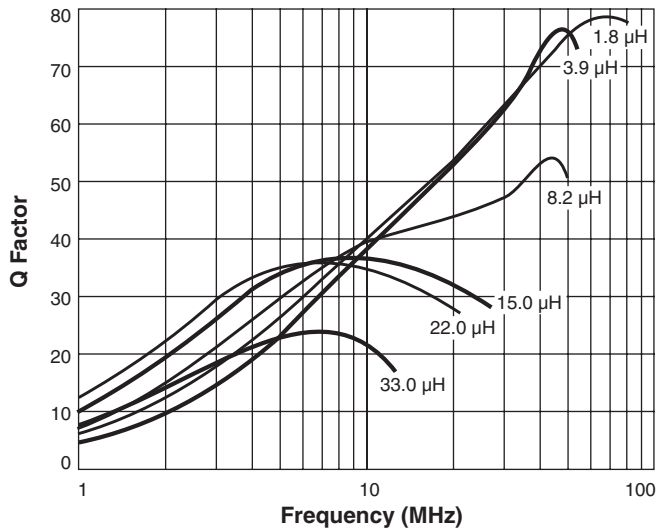
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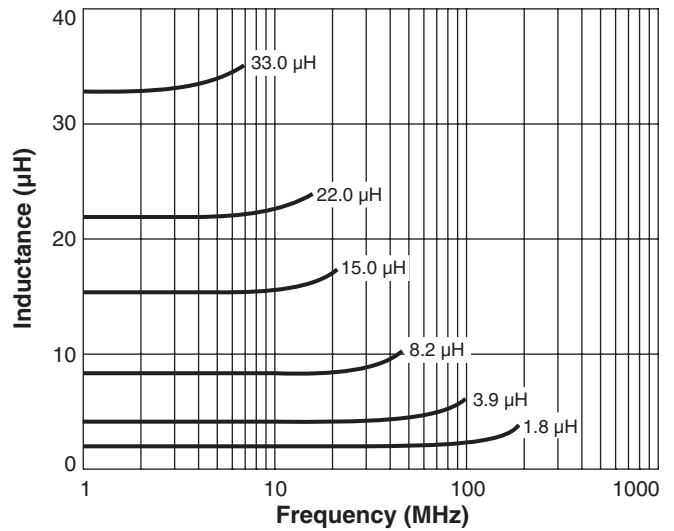
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# Chip Inductors - 1812CS Series (4532)

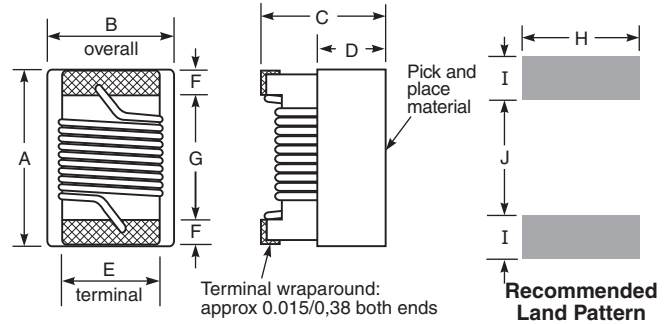
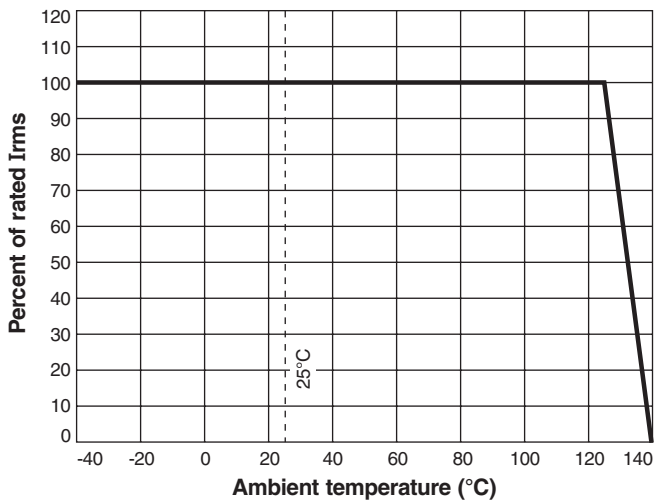
## Typical Q vs Frequency



## Typical L vs Frequency



## Irms Derating



A	B	C	D	E	F	G	H	I	J
max	max	max	ref						
0.195	0.150	0.135	0.070	0.100	0.025	0.128	0.120	0.045	0.118
4,95	3,81	3,43	1,78	2,54	0,64	3,25	3,05	1,14	3,00

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

