

# 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  $\mu$ 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> ( $\mu$ 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-102XJE_	1.0 @ 7.9 MHz	<b>5</b>	60 @ 50 MHz	310	1.2	480
1812CS-122XJE_	1.2 @ 7.9 MHz	<b>5</b>	62 @ 50 MHz	230	1.2	480
1812CS-152X_E_	1.5 @ 7.9 MHz	<b>5,2</b>	65 @ 50 MHz	210	1.6	430
1812CS-182XJE_	1.8 @ 7.9 MHz	<b>5</b>	68 @ 50 MHz	190	2.0	380
1812CS-222X_E_	2.2 @ 7.9 MHz	<b>5,2</b>	63 @ 50 MHz	170	2.2	340
1812CS-272X_E_	2.7 @ 7.9 MHz	<b>5,2</b>	63 @ 50 MHz	160	3.2	300
1812CS-332X_E_	3.3 @ 7.9 MHz	<b>5,2</b>	65 @ 50 MHz	145	3.8	270
1812CS-392X_E_	3.9 @ 7.9 MHz	<b>5,2</b>	69 @ 50 MHz	130	5.0	240
1812CS-472XJE_	4.7 @ 7.9 MHz	<b>5</b>	63 @ 50 MHz	115	5.4	230
1812CS-562XJE_	5.6 @ 7.9 MHz	<b>5</b>	59 @ 50 MHz	100	5.7	220
1812CS-682XJE_	6.8 @ 7.9 MHz	<b>5</b>	60 @ 50 MHz	90	6.6	210
1812CS-822X_E_	8.2 @ 7.9 MHz	<b>5,2</b>	47 @ 50 MHz	80	7.0	200
1812CS-103XJE_	10 @ 7.9 MHz	<b>5</b>	36 @ 50 MHz	70	7.7	190
1812CS-123XJE_	12 @ 2.5 MHz	<b>5</b>	35 @ 10 MHz	60	8.7	180
1812CS-153X_E_	15 @ 2.5 MHz	<b>5,2</b>	34 @ 10 MHz	50	9.6	170
1812CS-183XJE_	18 @ 2.5 MHz	<b>5</b>	30 @ 10 MHz	45	10.5	160
1812CS-223X_E_	22 @ 2.5 MHz	<b>5,2</b>	32 @ 10 MHz	40	11.5	155
1812CS-273XJE_	27 @ 2.5 MHz	<b>5</b>	29 @ 10 MHz	30	12.5	150
1812CS-333X_E_	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-333XGEC**

- Tolerance:** G = 2% J = 5%  
(Table shows stock tolerances in bold.)
- 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 (600 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).  
D = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (2200 parts per full reel).  
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.

- 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. This information is for reference only and does not represent absolute maximum ratings.
- 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

**Terminations** 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

**Maximum part temperature** +140°C (ambient + temp rise).

**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)**

0.22 per billion hours / 4.545E+09 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 to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).



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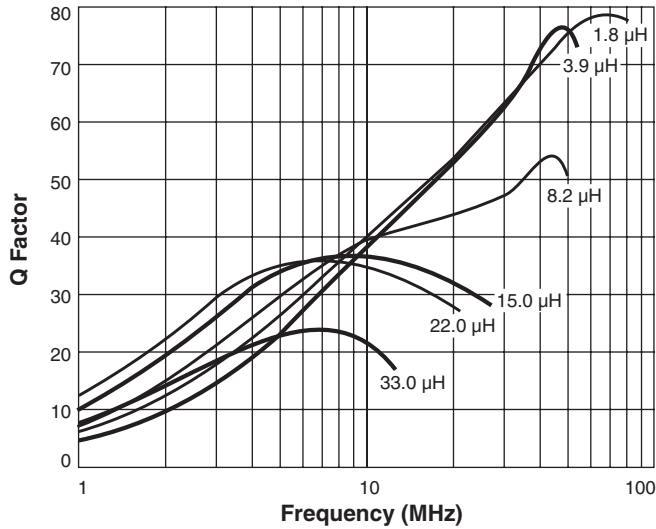
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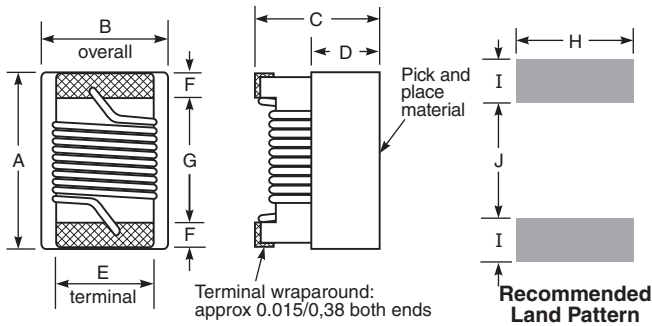
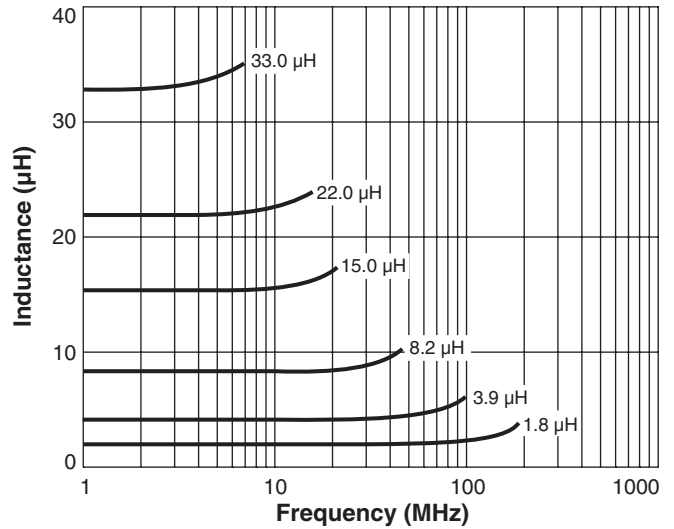
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**SPICE models**  
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# Chip Inductors - 1812CS Series (4532)

## Typical Q vs Frequency



## Typical L vs Frequency



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.

