



# Chip Inductors – 1812LS Series (4532)

- Highest inductance values of all our chip inductors
- Ferrite construction for high current handling
- Inductance values from 12 – 1000  $\mu$ 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><br>( $\mu$ H) | Percent tolerance | Q min <sup>3</sup> | Test freq<br>(MHz) | SRF typ <sup>4</sup><br>(MHz) | DCR max <sup>5</sup><br>(Ohms) | Irms <sup>6</sup><br>(mA) |
|--------------------------|---------------------------------------|-------------------|--------------------|--------------------|-------------------------------|--------------------------------|---------------------------|
| 1812LS-123XJL_           | 12                                    | 5                 | 42                 | 2.5                | 85                            | 2.0                            | 310                       |
| 1812LS-153XJL_           | 15                                    | 5                 | 42                 | 2.5                | 70                            | 2.5                            | 290                       |
| 1812LS-183XJL_           | 18                                    | 5                 | 45                 | 2.5                | 52                            | 2.8                            | 270                       |
| 1812LS-223XJL_           | 22                                    | 5                 | 45                 | 2.5                | 58                            | 3.2                            | 260                       |
| 1812LS-273XJL_           | 27                                    | 5                 | 45                 | 2.5                | 46                            | 3.6                            | 240                       |
| 1812LS-333XJL_           | 33                                    | 5                 | 45                 | 2.5                | 40                            | 4.0                            | 230                       |
| 1812LS-393XJL_           | 39                                    | 5                 | 45                 | 2.5                | 30                            | 4.5                            | 210                       |
| 1812LS-473XJL_           | 47                                    | 5                 | 42                 | 2.5                | 24                            | 5.0                            | 200                       |
| 1812LS-563XJL_           | 56                                    | 5                 | 42                 | 2.5                | 20                            | 5.5                            | 190                       |
| 1812LS-683XJL_           | 68                                    | 5                 | 40                 | 2.5                | 16                            | 6.0                            | 180                       |
| 1812LS-823XJL_           | 82                                    | 5                 | 40                 | 2.5                | 13.5                          | 7.0                            | 170                       |
| 1812LS-104XJL_           | 100                                   | 5                 | 40                 | 2.5                | 12.0                          | 8.0                            | 150                       |
| 1812LS-124XJL_           | 120                                   | 5                 | 33                 | 0.79               | 14.5                          | 11.5                           | 135                       |
| 1812LS-154XJL_           | 150                                   | 5                 | 36                 | 0.79               | 11.5                          | 13.0                           | 125                       |
| 1812LS-184XJL_           | 180                                   | 5                 | 36                 | 0.79               | 9.3                           | 14.2                           | 120                       |
| 1812LS-224XJL_           | 220                                   | 5                 | 38                 | 0.79               | 7.6                           | 16.2                           | 115                       |
| 1812LS-274XJL_           | 270                                   | 5                 | 38                 | 0.79               | 8.3                           | 20.5                           | 105                       |
| 1812LS-334XJL_           | 330                                   | 5                 | 38                 | 0.79               | 7.0                           | 22.5                           | 100                       |
| 1812LS-394XJL_           | 390                                   | 5                 | 38                 | 0.79               | 5.2                           | 24.5                           | 90                        |
| 1812LS-474XJL_           | 470                                   | 5                 | 38                 | 0.79               | 4.4                           | 26.5                           | 85                        |
| 1812LS-564XJL_           | 560                                   | 5                 | 33                 | 0.79               | 2.8                           | 28.5                           | 75                        |
| 1812LS-684XJL_           | 680                                   | 5                 | 33                 | 0.79               | 2.3                           | 38.0                           | 60                        |
| 1812LS-824XJL_           | 820                                   | 5                 | 30                 | 0.79               | 2.1                           | 41.0                           | 55                        |
| 1812LS-105XJL_           | 1000                                  | 5                 | 30                 | 0.79               | 1.9                           | 44.0                           | 50                        |

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

**1812LS-105XJLC**

**Termination:** **L** = RoHS compliant silver-palladium-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 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 per full reel).

2. Inductance at 2.5 MHz measured using an Agilent/HP 4286A and a Coilcraft SMD-A fixture with Coilcraft-provided correlation pieces. Inductance at 0.79 MHz measured using an Agilent/HP 4192A and Coilcraft SMD-B test fixture.

3. Q read at test frequency directly on an Agilent/HP 4192A LF impedance analyzer and a Coilcraft SMD-B test fixture.

4. SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture.

5. DCR measured on a Cambridge Technology micro-ohmmeter.

6. Current that causes a 15°C temperature rise from 25°C ambient. Because of their open construction, these parts will not saturate.

7. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

Visit <http://www.coilcraft.com/colrcode.cfm> for part marking data.

**Designer's Kit C314** contains 10 of each value

**Core material** Ferrite

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

**Weight** 142 – 171 mg

**Ambient temperature** –40°C to +85°C with Irms current, +85°C to +100°C with derated current

**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)** +200 to +700 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** 600/7" reel; 2200/13" 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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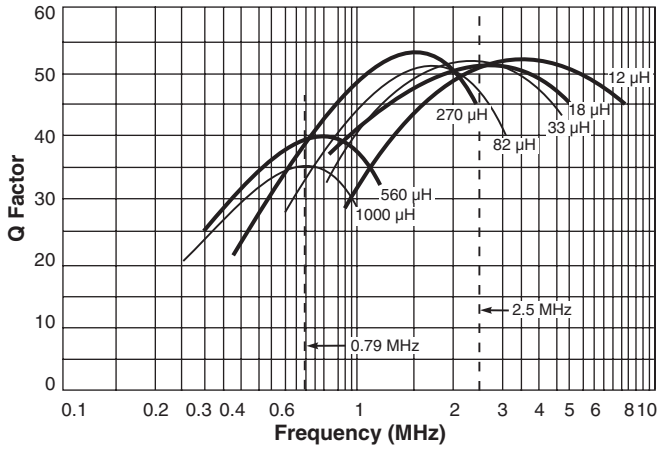
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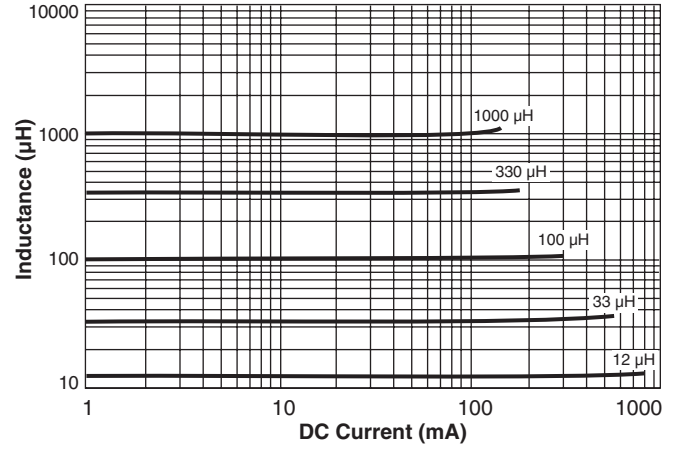


# 1812LS (4532) Chip Inductors

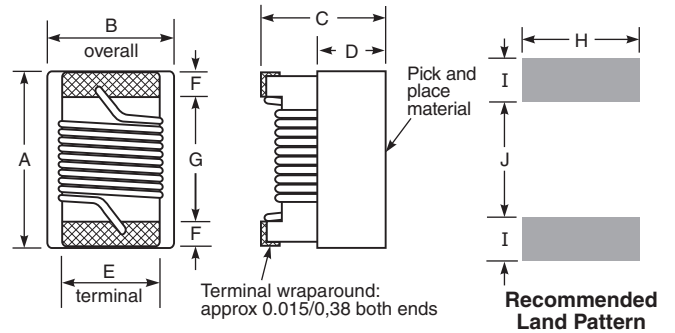
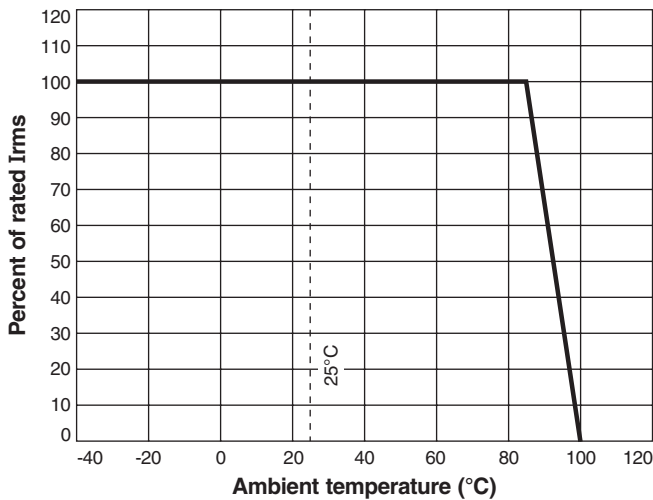
## Typical Q vs Frequency



## Typical L vs Current



## 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.



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