

Filter Inductors – 1812FS Series



- Magnetically shielded chip inductors
- Provides high performance in transmit and receive filters
- 29 inductance values from 1.0 – 1000 μH

Core material Ceramic/Ferrite

Terminations RoHS compliant silver-palladium-platinum-glass frit.

Weight 0.33 – 0.36 g

Ambient temperature -40°C to $+85^{\circ}\text{C}$ with I_{rms} current, $+85^{\circ}\text{C}$ to $+125^{\circ}\text{C}$ with derated current

Storage temperature Component: -40°C to $+125^{\circ}\text{C}$.
Tape and reel packaging: -40°C to $+80^{\circ}\text{C}$

Resistance to soldering heat Max three 40 second reflows at $+260^{\circ}\text{C}$, parts cooled to room temperature between cycles

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at $<30^{\circ}\text{C}$ / 85% relative humidity)

Failures in Time (FIT) / Mean Time Between Failures (MTBF)
38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

Packaging 600/7" reel; 2200/13" reel. Plastic tape: 12 mm wide, 0.25 mm thick, 8 mm pocket spacing, 3.9 mm pocket depth

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

| Part number ¹ | L ² (μH) | % ³ tol | Q ⁴ min | DCR ⁵ max (Ohms) | SRF ⁶ typ (MHz) | Isat ⁷ (mA) | Irms ⁸ (mA) |
|--------------------------|-------------------------------------|-----------------------|-----------------------|-----------------------------------|----------------------------------|---------------------------|---------------------------|
| 1812FS-102_L_ | 1.0 | 10.5 | 30 | 0.070 | 320 | 3100 | 2950 |
| 1812FS-122_L_ | 1.2 | 10.5 | 35 | 0.110 | 280 | 2800 | 2600 |
| 1812FS-152_L_ | 1.5 | 10.5 | 20 | 0.105 | 200 | 2100 | 2850 |
| 1812FS-222_L_ | 2.2 | 10.5 | 30 | 0.120 | 175 | 1800 | 2700 |
| 1812FS-242_L_ | 2.4 | 10.5 | 25 | 0.175 | 160 | 1900 | 2050 |
| 1812FS-272_L_ | 2.7 | 10.5 | 30 | 0.200 | 165 | 1400 | 2100 |
| 1812FS-332_L_ | 3.3 | 10.5 | 33 | 0.185 | 160 | 1400 | 1900 |
| 1812FS-392_L_ | 3.9 | 10.5 | 32 | 0.195 | 145 | 1300 | 1700 |
| 1812FS-472_L_ | 4.7 | 10.5 | 28 | 0.15 | 125 | 1000 | 1800 |
| 1812FS-562_L_ | 5.6 | 10.5 | 35 | 0.40 | 110 | 1000 | 1650 |
| 1812FS-682_L_ | 6.8 | 10.5 | 35 | 0.35 | 110 | 850 | 1450 |
| 1812FS-103_L_ | 10 | 10.5 | 35 | 0.55 | 90 | 710 | 1400 |
| 1812FS-153_L_ | 15 | 10.5 | 40 | 0.75 | 75 | 680 | 1150 |
| 1812FS-223_L_ | 22 | 10.5 | 45 | 0.85 | 15 | 600 | 855 |
| 1812FS-333_L_ | 33 | 10.5 | 45 | 1.1 | 10 | 540 | 820 |
| 1812FS-393_L_ | 39 | 10.5 | 45 | 1.1 | 9.8 | 500 | 710 |
| 1812FS-473_L_ | 47 | 10.5 | 45 | 1.2 | 8.0 | 390 | 645 |
| 1812FS-683_L_ | 68 | 10.5 | 45 | 1.8 | 14.2 | 260 | 650 |
| 1812FS-104_L_ | 100 | 10.5 | 45 | 2.5 | 4.5 | 260 | 520 |
| 1812FS-154_L_ | 150 | 10.5 | 40 | 3.8 | 3.4 | 220 | 475 |
| 1812FS-224_L_ | 220 | 10.5 | 45 | 5.4 | 3.0 | 180 | 390 |
| 1812FS-274_L_ | 270 | 10.5 | 35 | 6.5 | 2.0 | 150 | 350 |
| 1812FS-334_L_ | 330 | 10.5 | 45 | 6.8 | 3.0 | 150 | 310 |
| 1812FS-394_L_ | 390 | 10.5 | 35 | 7.6 | 2.6 | 140 | 310 |
| 1812FS-474_L_ | 470 | 10.5 | 35 | 8.7 | 2.1 | 130 | 280 |
| 1812FS-564_L_ | 560 | 10.5 | 20 | 11.2 | 1.60 | 110 | 280 |
| 1812FS-684_L_ | 680 | 10.5 | 25 | 12.7 | 1.90 | 100 | 250 |
| 1812FS-824_L_ | 820 | 10.5 | 25 | 16.8 | 1.45 | 90 | 210 |
| 1812FS-105_L_ | 1000 | 10.5 | 30 | 19.5 | 1.68 | 90 | 160 |

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

1812FS-105JLC

Tolerance: J = 5% K = 10%

(Table shows stock tolerances in bold.)

Packaging: C = 7" machine-ready reel. EIA-481 embossed plastic tape (600 parts per full reel).

B = Less than full reel. On tape, but not machine ready.
To have a leader and a trailer added (\$25 charge), use code letter C instead.

D = 13" machine-ready reel. EIA-481 embossed plastic tape (2200 parts per full reel).

- Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc using a Coilcraft SMD-A fixture in an Agilent/HP 4263B impedance analyzer.
 - Tolerances in bold are stocked for immediate shipment.
 - Q measured at 1 MHz on an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
 - DCR measured on a micro-ohmmeter and a Coilcraft CCF840 test fixture.
 - SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture.
 - DC current at which the inductance drops 10% (typ) from its value without current.
 - Current that causes a 40°C temperature rise from 25°C ambient.
 - Electrical specifications at 25°C .
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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Filter Inductors – 1812FS Series

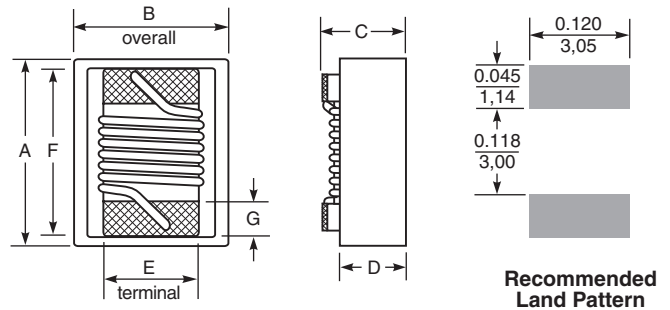
Typical L vs Frequency



Typical L vs Current



Irms Derating



| A max | B max | C max | D ref | E ref | F ref | G |
|-------|-------|-------|-------|-------|-------|--------------|
| 0.231 | 0.196 | 0.150 | 0.107 | 0.100 | 0.178 | 0.025 inches |
| 5,87 | 4,98 | 3,81 | 2,72 | 2,54 | 4,52 | 0,64 mm |



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