



# Filter Inductors – 1812FS Series



- Magnetically shielded chip inductors
- Provides high performance in transmit and receive filters
- 29 inductance values from 1.0 – 1000  $\mu\text{H}$

**Core material** Ceramic/Ferrite

**Terminations** RoHS compliant matte tin over nickel over silver platinum-glass frit. Other terminations available at additional cost.

**Weight** 0.33 – 0.36 g

**Ambient temperature**  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  with Irms current

**Maximum part temperature**  $+125^{\circ}\text{C}$  (ambient + temp rise). [Derating](#).

**Storage temperature** Component:  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .

Tape and reel packaging:  $-40^{\circ}\text{C}$  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)

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

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

1812FS-105JRC

**Tolerance:** J = 5% K = 10%

(Table shows stock tolerances in bold.)

**Termination:** R = RoHS compliant matte tin over nickel over silver-platinum-glass frit.

L = RoHS compliant silver-palladium-platinum-glass frit.

**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.

2. Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc using a Coilcraft SMD-A fixture in an Agilent/HP 4263B impedance analyzer.
  3. Tolerances in bold are stocked for immediate shipment.
  4. Q measured at 1 MHz on an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
  5. DCR measured on a micro-ohmmeter and a Coilcraft CCF840 test fixture.
  6. SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture.
  7. DC current at  $25^{\circ}\text{C}$  that causes an inductance drop of 10% (typ) from its value without current. [Click for temperature derating information](#).
  8. Current that causes a  $40^{\circ}\text{C}$  temperature rise from  $25^{\circ}\text{C}$  ambient. This information is for reference only and does not represent absolute maximum ratings. [Click for temperature derating information](#).
  9. Electrical specifications at  $25^{\circ}\text{C}$ .
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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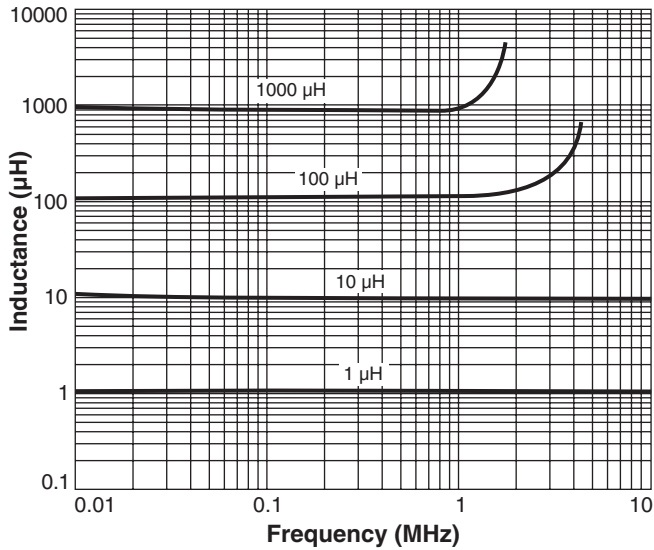
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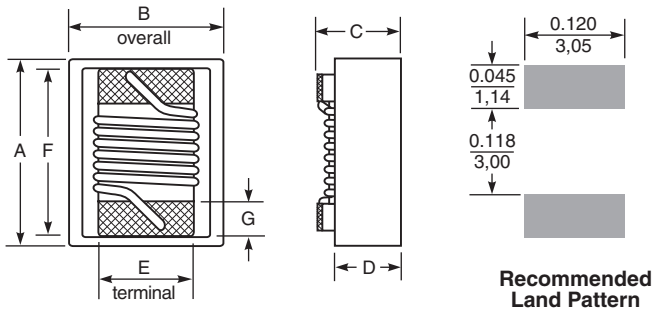
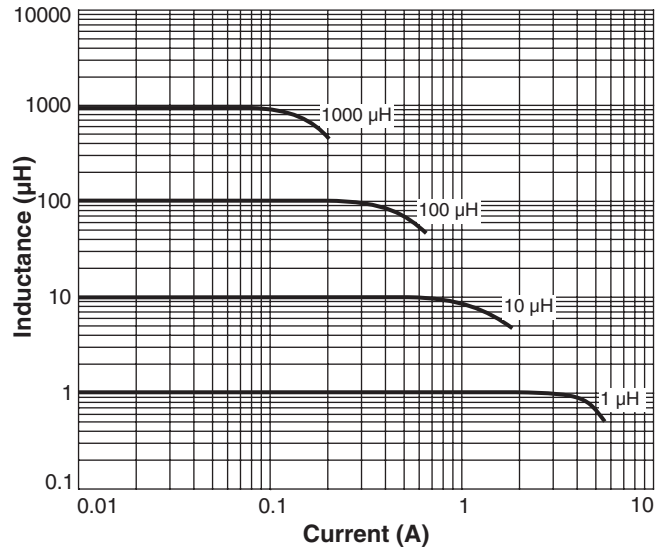


# Filter Inductors – 1812FS Series

## Typical L vs Frequency



## Typical L vs Current



| 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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