



# 1812DPS Coupled Inductors for xDSL



- Coupled inductor optimized for xDSL filtering applications
- Can be used as a common mode choke, 1:1 transformer or in SEPIC applications

**Core material** Ferrite

**Terminations** RoHS compliant gold over nickel over moly-manganese. Other terminations available at additional cost.

**Weight** 0.30 – 0.36 g

**Ambient temperature** –40°C to +85°C with  $I_{rms}$  current, +85°C to +125°C with derated current

**Storage temperature** Component: –40°C to +125°C.  
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)**

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** Only pure water or alcohol recommended

| Part number <sup>1</sup> | L<br>±20% <sup>2</sup><br>(µH) | Q<br>min <sup>3</sup> | DCR<br>max<br>(Ohms) | SRF<br>min<br>(MHz) | Isat <sup>4</sup><br>(mA) | Irms <sup>5</sup><br>(mA) |
|--------------------------|--------------------------------|-----------------------|----------------------|---------------------|---------------------------|---------------------------|
| 1812DPS-102ML_           | 1.0                            | 38                    | 0.20                 | 285                 | 2400                      | 2100                      |
| 1812DPS-222ML_           | 2.2                            | 29                    | 0.33                 | 175                 | 1500                      | 1200                      |
| 1812DPS-472ML_           | 4.7                            | 43                    | 0.41                 | 102                 | 1500                      | 1000                      |
| 1812DPS-103ML_           | 10                             | 35                    | 0.74                 | 74                  | 800                       | 780                       |
| 1812DPS-153ML_           | 15                             | 37                    | 0.96                 | 65                  | 700                       | 710                       |
| 1812DPS-223ML_           | 22                             | 38                    | 1.84                 | 54                  | 500                       | 530                       |
| 1812DPS-393ML_           | 39                             | 39                    | 2.60                 | 5.7                 | 450                       | 420                       |
| 1812DPS-473ML_           | 47                             | 40                    | 2.66                 | 4.8                 | 400                       | 390                       |

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

1812DPS-473ML  $\begin{matrix} \downarrow \\ \text{L} \\ \downarrow \\ \text{C} \end{matrix}$

**Termination:** L = 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 (2200 parts per full reel).

2. Per winding. Tested at 100 kHz, 0.1 Vrms, 0 Adc.
  3. Q measured at 1 MHz.
  4. DC current at which the inductance drops 10% (typ) from its value without current.
  5. Current that causes a 40°C temperature rise from 25°C ambient.
  6. Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

**Coilcraft**<sup>®</sup>

Specifications subject to change without notice.  
Please check our website for latest information.

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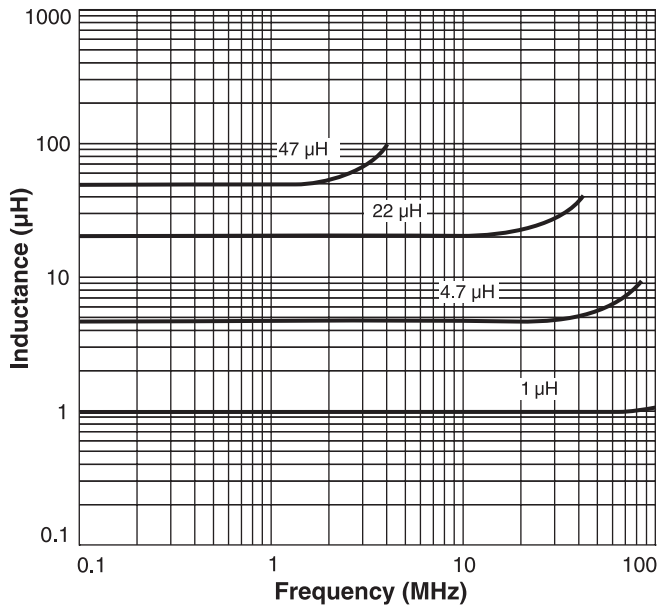
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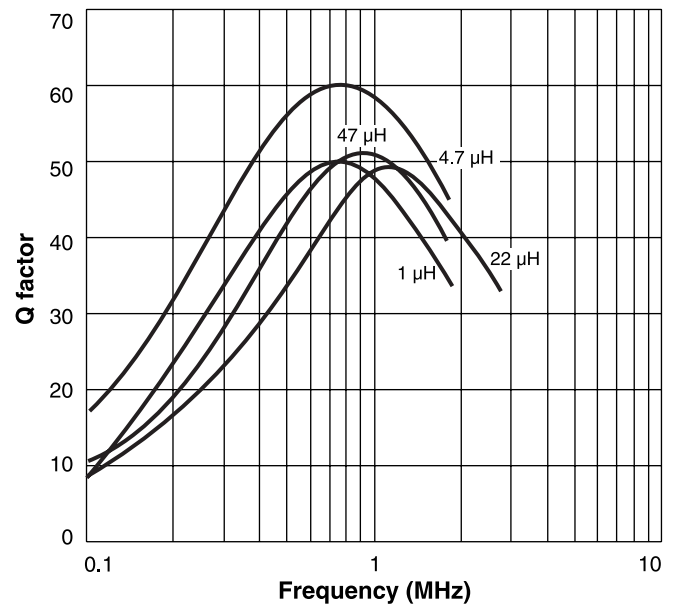


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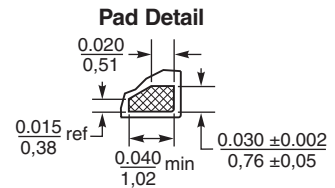
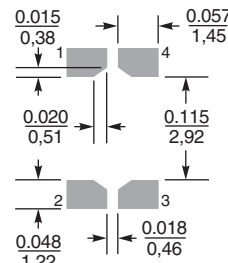
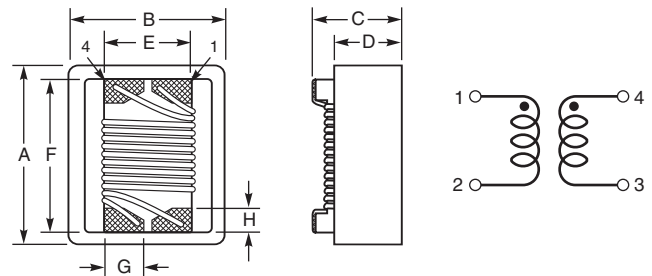
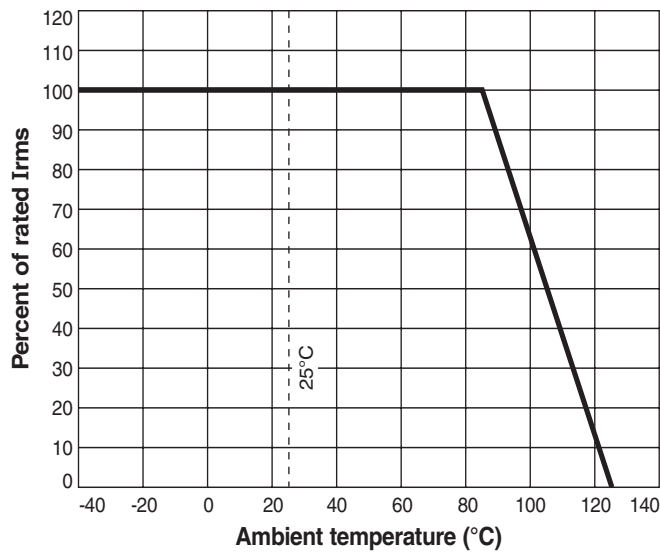
## Typical L vs Frequency



## Typical Q vs Frequency



## Irms Derating



| A     | B     | C     | D     | E     | F     | G    | H           |
|-------|-------|-------|-------|-------|-------|------|-------------|
| max   | max   | max   | ref   | ref   | ref   | min  |             |
| 0.231 | 0.196 | 0.150 | 0.107 | 0.100 | 0.178 | 0.04 | 0.03 inches |
| 5,87  | 4,98  | 3,81  | 2,72  | 2,54  | 4,52  | 1,02 | 0,76 mm     |



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