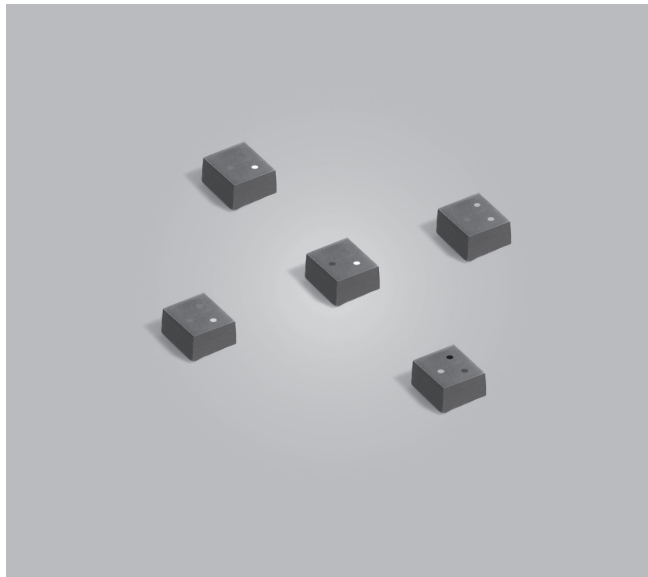




Shielded Power Inductors – EPL2010



- Smallest shielded power inductors; 2.0 × 2.0 × 1 mm high
- Extremely low DCR and very high SRF ratings
- Isat ratings as high as 2.9 A

Designer's Kit C412 contains 5 each of all values

Core material Ferrite

Core and winding loss See www.coilcraft.com/coreloss

Terminations Since August, 2008: RoHS compliant tin-silver-copper over tin over nickel over silver-platinum. Prior to August, 2008: RoHS compliant tin-silver-copper over gold over nickel over silver-platinum.

Weight 13 – 18 mg

Ambient temperature –40°C to +85°C with Irms 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

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 2000/7" reel; 7500/13" reel Plastic tape: 8 mm wide, 0.28 mm thick, 4 mm pocket spacing, 1.3 mm pocket depth

PCB washing Only pure water or alcohol recommended

| Part number ¹ | Inductance ² ±20% (µH) | DCR (Ohms) ³ | | SRF typ ⁴ (MHz) | Isat (A) ⁵ | | | Irms (A) ⁶ | |
|--------------------------|--|-------------------------|-------|-------------------------------|-----------------------|----------|----------|-----------------------|-----------|
| | | nom | max | | 10% drop | 20% drop | 30% drop | 20°C rise | 40°C rise |
| EPL2010-181ML_ | 0.18 | 0.024 | 0.029 | 615 | 1.3 | 2.2 | 2.9 | 2.37 | 3.17 |
| EPL2010-271ML_ | 0.27 | 0.032 | 0.038 | 412 | 1.2 | 2.1 | 2.6 | 1.76 | 2.31 |
| EPL2010-301ML_ | This part number has been changed to EPL2010-271. The EPL2010-301 is not available | | | | | | | | |
| EPL2010-421ML_ | 0.42 | 0.040 | 0.048 | 283 | 1.0 | 1.6 | 2.2 | 1.66 | 2.16 |
| EPL2010-471ML_ | This part number has been changed to EPL2010-421. The EPL2010-471 is not available | | | | | | | | |
| EPL2010-681ML_ | 0.68 | 0.058 | 0.070 | 214 | 0.80 | 1.3 | 2.0 | 1.48 | 1.94 |
| EPL2010-821ML_ | 0.82 | 0.068 | 0.082 | 173 | 0.70 | 1.2 | 1.6 | 1.28 | 1.68 |
| EPL2010-102ML_ | 1.0 | 0.099 | 0.119 | 145 | 0.65 | 1.0 | 1.35 | 1.04 | 1.36 |
| EPL2010-152ML_ | 1.5 | 0.141 | 0.155 | 102 | 0.60 | 0.95 | 1.30 | 0.799 | 1.04 |
| EPL2010-222ML_ | 2.2 | 0.202 | 0.222 | 80 | 0.43 | 0.78 | 1.05 | 0.751 | 0.978 |
| EPL2010-332ML_ | 3.3 | 0.272 | 0.299 | 63 | 0.35 | 0.63 | 0.85 | 0.671 | 0.879 |
| EPL2010-472ML_ | 4.7 | 0.429 | 0.472 | 50 | 0.30 | 0.47 | 0.65 | 0.527 | 0.680 |
| EPL2010-682ML_ | 6.8 | 0.512 | 0.563 | 46 | 0.24 | 0.43 | 0.57 | 0.440 | 0.575 |
| EPL2010-822ML_ | 8.2 | 0.827 | 0.910 | 42 | 0.22 | 0.40 | 0.53 | 0.415 | 0.520 |
| EPL2010-103ML_ | 10 | 0.914 | 1.00 | 33 | 0.20 | 0.35 | 0.47 | 0.392 | 0.495 |
| EPL2010-123ML_ | 12 | 0.939 | 1.12 | 32 | 0.15 | 0.26 | 0.35 | 0.380 | 0.480 |

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

EPL2010-103MLC

Termination: L = RoHS compliant tin-silver-copper over tin over nickel
Special order, added cost: S = non-RoHS tin-lead (63/37).

Packaging: C = 7" machine-ready reel, EIA-481 embossed plastic tape (2000 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. Factory order only, not stocked (7500 parts per full reel).

2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc.

3. DCR measured on a micro-ohmmeter.

4. SRF measured using Agilent/HP 4395A network analyzer or equivalent.

5. DC current at which the inductance drops the specified amount from its value without current.

6. Current that causes the specified temperature rise from 25°C ambient.

7. Electrical specifications at 25°C.

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



www.coilcraft.com

US +1-847-639-6400 sales@coilcraft.com

UK +44-1236-730595 sales@coilcraft-europe.com

Taiwan +886-2-2264 3646 sales@coilcraft.com.tw

China +86-21-6218 8074 sales@coilcraft.com.cn

Singapore +65-6484 8412 sales@coilcraft.com.sg

Document 584-1 Revised 12/28/11

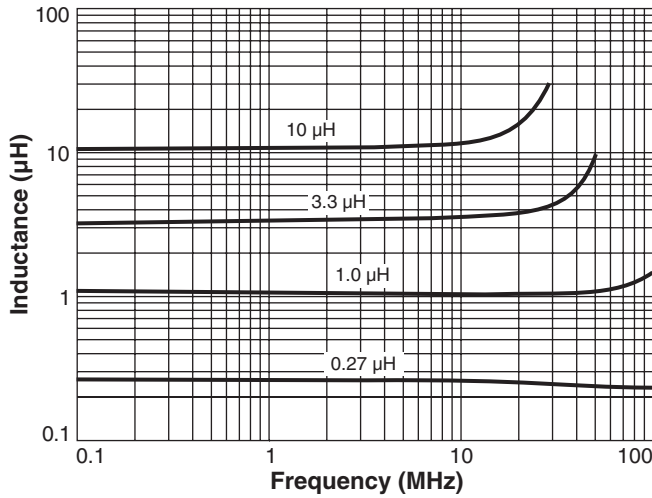
© Coilcraft Inc. 2011

This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

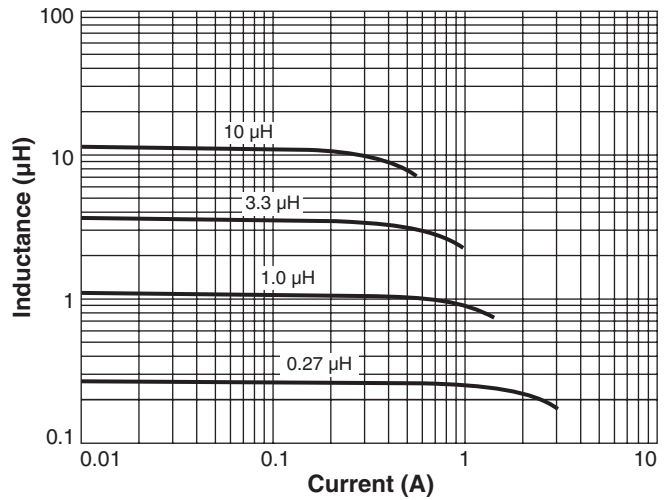


Shielded Power Inductors – EPL2010 Series

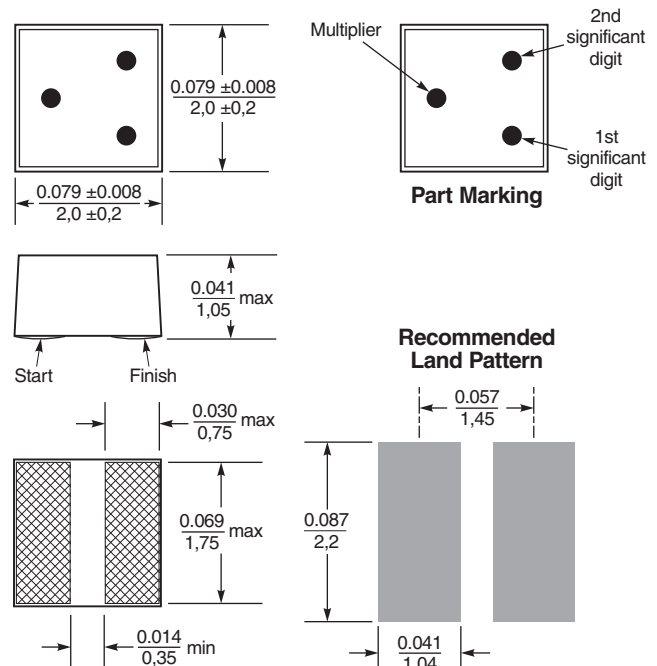
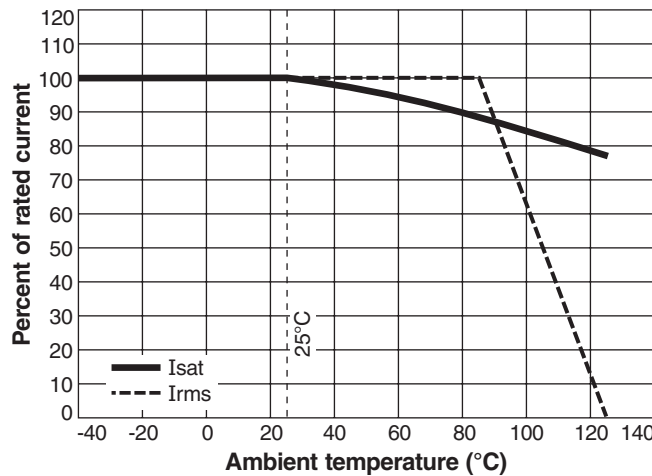
Typical L vs Frequency



Typical L vs Current



Current Derating



Part Marking (Parts manufactured prior to Oct. 20, 2009 may not be marked.)

| Part number | Value | 1st digit | 2nd digit | Multiplier |
|-------------|---------|-----------|-----------|------------|
| EPL2010-181 | 0.18 µH | Brown | Gray | Brown |
| EPL2010-271 | 0.27 µH | Red | Violet | Brown |
| EPL2010-421 | 0.42 µH | Yellow | Red | Brown |
| EPL2010-681 | 0.68 µH | Blue | Gray | Brown |
| EPL2010-821 | 0.82 µH | Gray | Red | Brown |
| EPL2010-102 | 1.0 µH | Brown | Black | Red |
| EPL2010-152 | 1.5 µH | Brown | Green | Red |
| EPL2010-222 | 2.2 µH | Red | Red | Red |
| EPL2010-332 | 3.3 µH | Orange | Orange | Red |
| EPL2010-472 | 4.7 µH | Yellow | Violet | Red |
| EPL2010-682 | 6.8 µH | Blue | Gray | Red |
| EPL2010-822 | 8.2 µH | Gray | Red | Red |
| EPL2010-103 | 10 µH | Brown | Black | Orange |
| EPL2010-123 | 12 µH | Brown | Red | Orange |

Note: All marked parts have three dots. Black dot, used only on -102 and -103 as the second significant digit, may be very difficult to see.

Dimensions are in inches / mm

Small surface blemishes are not unusual and do not adversely affect performance. Wire may be visible inside the voids.

Acceptable void sizes:
 Top: 0.01 in / 0,254 mm × 0.01 in / 0,254 mm
 Sides: 0.02 in / 0,5 mm × 0.047 in / 1,2 mm



US +1-847-639-6400 sales@coilcraft.com
UK +44-1236-730595 sales@coilcraft-europe.com
Taiwan +886-2-2264 3646 sales@coilcraft.com.tw
China +86-21-6218 8074 sales@coilcraft.com.cn
Singapore +65-6484 8412 sales@coilcraft.com.sg

Document 584-2 Revised 12/28/11

© Coilcraft Inc. 2011
 This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.