

**NEW!**

SMT Power Inductors – EPL2014 Series



- Miniature shielded power inductors; 2.0 × 2.0 mm footprint
- Extremely low DCR and very high SRF ratings
- Isat ratings as high as 2.8 A

Designer's Kit C413 contains 5 each of all values

Core material Ferrite

Terminations Since March, 2009: RoHS compliant tin-silver-copper over tin over nickel over silver. Prior to March, 2009: RoHS compliant tin-silver-copper over gold over nickel over silver.

Weight 20 – 25 mg

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

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, 1.65 mm pocket depth

PCB washing Only pure water or alcohol recommended

| Part number ¹ | Inductance ² ±20% (µH) | DCR nom ³ (Ohms) | DCR max ³ (Ohms) | SRF typ ⁴ (MHz) | Isat (A) ⁵ | | | I _{rms} (A) ⁶ | |
|--------------------------|--|--------------------------------|--------------------------------|-------------------------------|-----------------------|----------|----------|-----------------------------------|-----------|
| | | | | | 10% drop | 20% drop | 30% drop | 20°C rise | 40°C rise |
| EPL2014-271ML_ | 0.27 | 0.030 | 0.036 | 570 | 1.50 | 2.30 | 2.80 | 2.04 | 2.73 |
| EPL2014-301ML_ | This part number has been changed to EPL2014-271. The EPL2014-301 is not available | | | | | | | | |
| EPL2014-421ML_ | 0.42 | 0.037 | 0.044 | 438 | 1.40 | 2.00 | 2.40 | 1.93 | 2.57 |
| EPL2014-471ML_ | This part number has been changed to EPL2014-421. The EPL2014-471 is not available | | | | | | | | |
| EPL2014-601ML_ | 0.60 | 0.043 | 0.052 | 290 | 1.20 | 1.80 | 2.25 | 1.83 | 2.43 |
| EPL2014-821ML_ | 0.82 | 0.051 | 0.061 | 163 | 0.950 | 1.40 | 1.75 | 1.49 | 2.03 |
| EPL2014-102ML_ | 1.0 | 0.059 | 0.071 | 153 | 0.900 | 1.30 | 1.68 | 1.43 | 1.94 |
| EPL2014-152ML_ | 1.5 | 0.075 | 0.086 | 109 | 0.720 | 1.20 | 1.60 | 1.34 | 1.86 |
| EPL2014-222ML_ | 2.2 | 0.120 | 0.132 | 80 | 0.600 | 0.980 | 1.30 | 1.07 | 1.42 |
| EPL2014-332ML_ | 3.3 | 0.152 | 0.167 | 62 | 0.540 | 0.800 | 1.10 | 0.923 | 1.23 |
| EPL2014-472ML_ | 4.7 | 0.231 | 0.254 | 46 | 0.380 | 0.650 | 0.880 | 0.788 | 1.06 |
| EPL2014-682ML_ | 6.8 | 0.287 | 0.316 | 44 | 0.350 | 0.590 | 0.800 | 0.676 | 0.915 |
| EPL2014-822ML_ | 8.2 | 0.378 | 0.416 | 39 | 0.290 | 0.500 | 0.680 | 0.640 | 0.849 |
| EPL2014-103ML_ | 10 | 0.440 | 0.459 | 33 | 0.250 | 0.450 | 0.600 | 0.564 | 0.729 |

1. When ordering, please specify **packaging** code:

EPL2014-103MLC

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 V_{rms}, 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 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.

SPICE models

ON OUR WEB SITE OR CD

Coilcraft[®]

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

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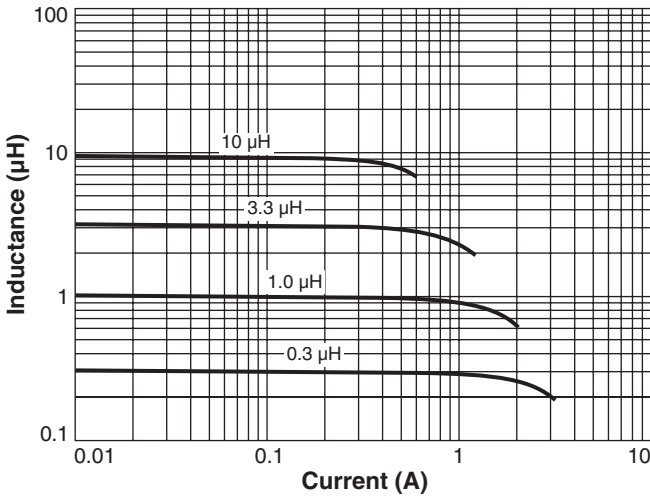
E-mail info@coilcraft.com Web <http://www.coilcraft.com>



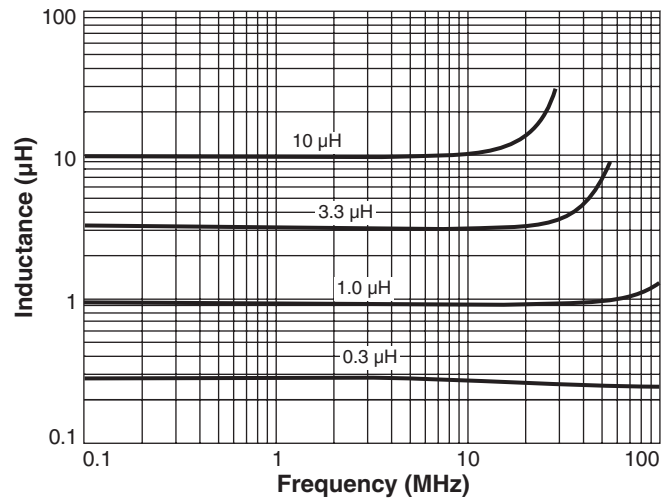
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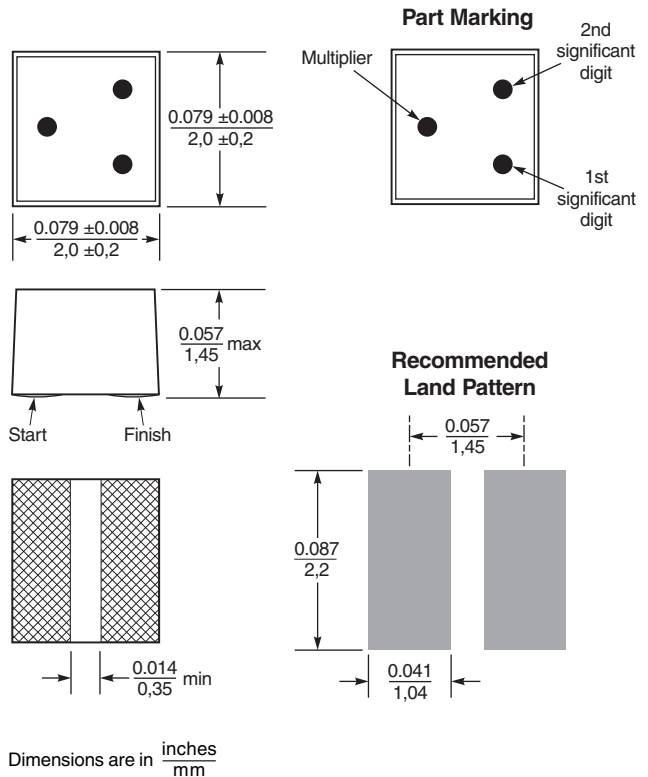
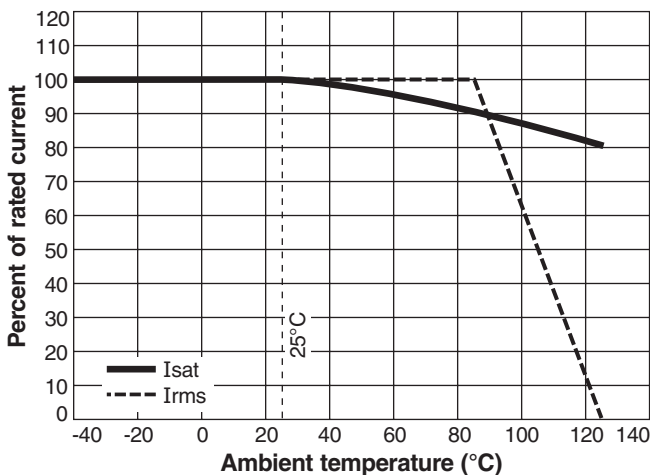
Typical L vs Current



Typical L vs Frequency



Current Derating



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

| Part number | Value | 1st digit | 2nd digit | Multiplier |
|-------------|---------|-----------|-----------|------------|
| EPL2014-271 | 0.27 µH | Red | Violet | Brown |
| EPL2014-421 | 0.42 µH | Yellow | Red | Brown |
| EPL2014-601 | 0.60 µH | Blue | Black | Brown |
| EPL2014-821 | 0.82 µH | Gray | Red | Brown |
| EPL2014-102 | 1.0 µH | Brown | Black | Red |
| EPL2014-152 | 1.5 µH | Brown | Green | Red |
| EPL2014-222 | 2.2 µH | Red | Red | Red |
| EPL2014-332 | 3.3 µH | Orange | Orange | Red |
| EPL2014-472 | 4.7 µH | Yellow | Violet | Red |
| EPL2014-682 | 6.8 µH | Blue | Gray | Red |
| EPL2014-822 | 8.2 µH | Gray | Red | Red |
| EPL2014-103 | 10 µH | Brown | Black | Orange |

Note: All marked parts have three dots. Black dot, used only on -601, -102 and -103 as second significant digit, may be very difficult to see.

Dimensions are in $\frac{\text{inches}}{\text{mm}}$

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



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