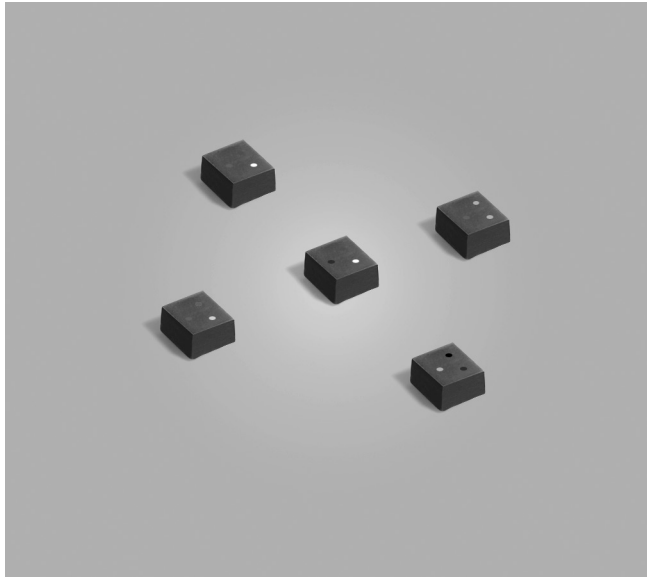


# Shielded Power Inductors – EPL2010



- Smallest shielded power inductors; 2.0 × 2.0 × 1 mm high
- Extremely low DCR and very high SRF ratings
- AEC-Q200 Grade 3 qualified (–40°C to +85°C ambient)
- Isat ratings as high as 2.9 A

**Designer's Kit C412** contains 5 each of all values

**Core material** Ferrite

**Environmental** RoHS compliant, halogen free

**Terminations** Since August, 2008: RoHS compliant tin-silver-copper (96.5/3/0.5) 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 (40°C rise) Irms current.

**Maximum part temperature** +125°C (ambient + temp rise). [Derating](#).

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

Tape and reel 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

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

Part number <sup>1</sup>	Inductance <sup>2</sup> ±20% (µH)	DCR (Ohms) <sup>3</sup>		SRF typ <sup>4</sup> (MHz)	Isat (A) <sup>5</sup>			Irms (A) <sup>6</sup>	
		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 1 MHz, 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 25°C that causes the specified inductance drop from its  
value without current. [Click for temperature derating information](#).

6. Current that causes the specified temperature rise from 25°C ambient.  
This information is for reference only and does not represent absolute  
maximum ratings. [Click for temperature derating information](#).

7. Electrical specifications at 25°C.

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



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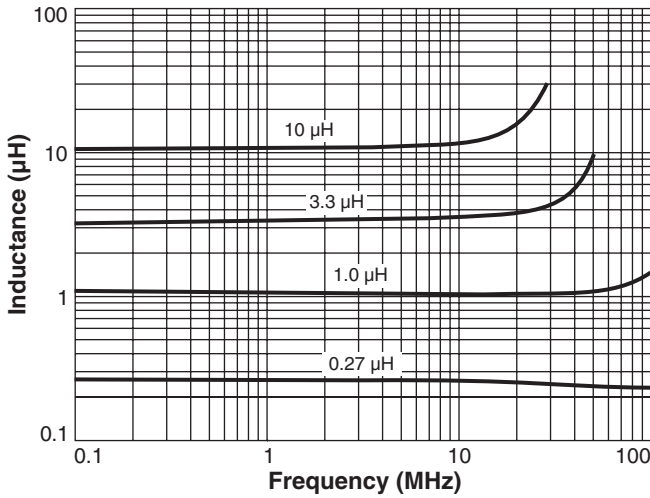
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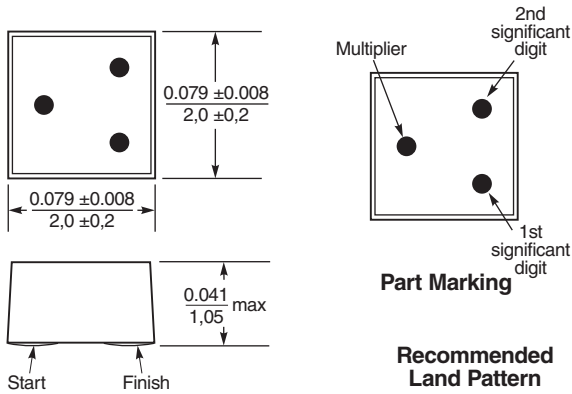
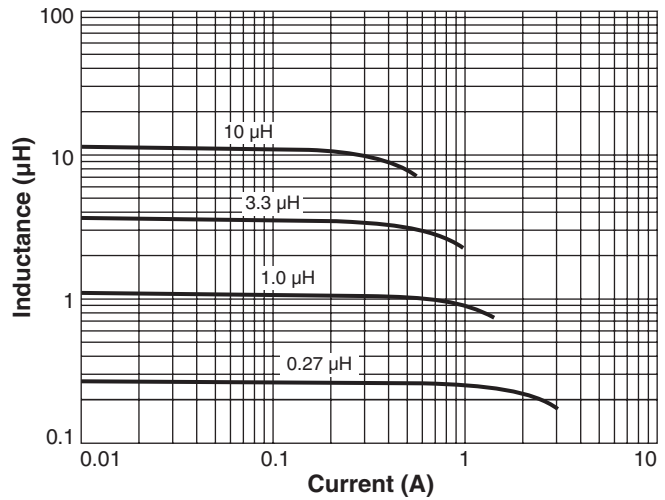


# Shielded Power Inductors – EPL2010 Series

## Typical L vs Frequency

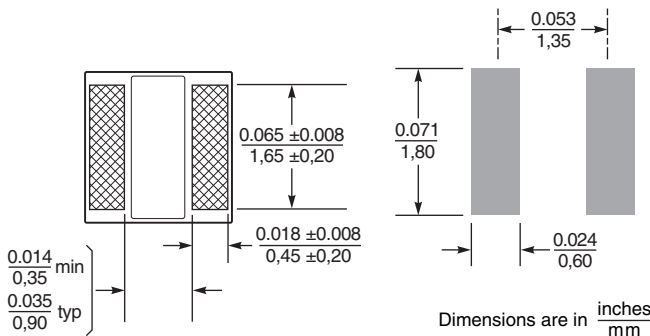


## Typical L vs Current



Part Marking

Recommended Land Pattern



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

**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

## 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.



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[EPL2010-222MLC](#) [EPL2010-332MLB](#) [EPL2010-822MLC](#) [EPL2010-821MLB](#) [EPL2010-682MLC](#) [EPL2010-103MLC](#)  
[EPL2010-123MLC](#) [EPL2010-821MLC](#) [EPL2010-102MLB](#) [EPL2010-271MLB](#) [EPL2010-682MLB](#) [EPL2010-181MLC](#)  
[EPL2010-181MLB](#) [EPL2010-822MLB](#) [EPL2010-332MLC](#) [EPL2010-421MLB](#) [EPL2010-681MLB](#) [EPL2010-222MLB](#)  
[EPL2010-271MLC](#) [EPL2010-152MLB](#) [EPL2010-681MLC](#) [EPL2010-472MLC](#)