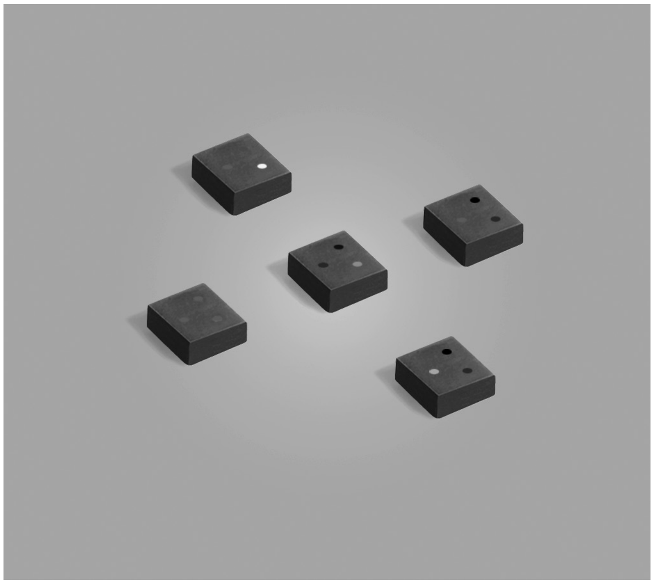
Shielded Power Inductors – EPL3010

RoHS COMPLIANT · Halogen Free



- Low profile shielded power inductors, 3 × 3 × 1 mm
- Extremely low DCR,high SRF ratings, Isat ratings up to 2.2 A

Designer's Kit C431 contains 5 each of all values
Core material Ferrite
Core and winding loss See www.coilcraft.com/coreloss
Environmental RoHS compliant, halogen free
Terminations RoHS compliant tin-silver-copper (96.5/3/0.5) over tin over nickel over silver-platinum. Other terminations available at additional cost.
Weight 32 – 38 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
Packaging 2000/7″ reel; 7500/13″ reel; Plastic tape: 8 mm wide, 0.20 mm thick, 4 mm pocket spacing, 1.14 mm pocket depth
PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

Part number[1]	Inductance[2] ±20% (µH)	DCR nom[3] (Ohms)	DCR max[3] (Ohms)	SRF typ[4] (MHz)	Isat (A)[5] 10% drop	Isat (A)[5] 20% drop	Isat (A)[5] 30% drop	Irms (A)[6] 20°C rise	Irms (A)[6] 40°C rise
EPL3010-301ML_	0.30	0.040	0.045	249	1.0	1.6	2.2	1.7	2.2
EPL3010-102ML_	1.0	0.071	0.078	151	0.80	1.3	1.8	1.2	1.7
EPL3010-152ML_	1.5	0.086	0.095	116	0.68	1.1	1.6	1.2	1.6
EPL3010-222ML_	2.2	0.137	0.150	98	0.54	0.92	1.3	0.98	1.3
EPL3010-472ML_	4.7	0.278	0.306	60	0.36	0.61	0.80	0.74	0.99
EPL3010-103ML_	10	0.573	0.631	38	0.20	0.34	0.48	0.52	0.70
EPL3010-223ML_	22	1.25	1.38	27	0.18	0.30	0.42	0.35	0.47

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

   EPL3010-103MLC

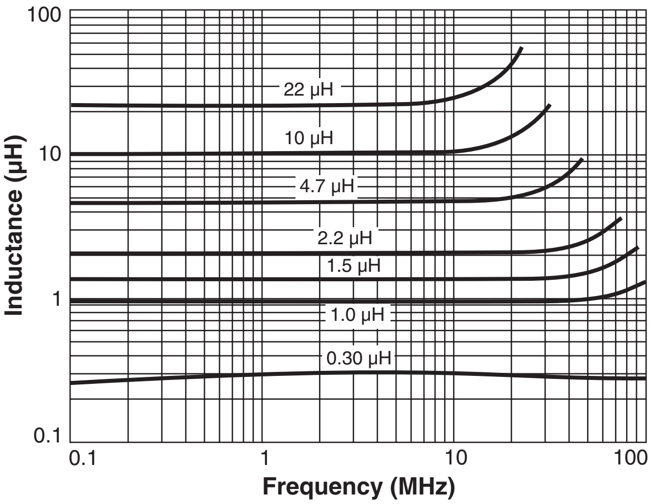
   Packaging: **C** = 7″ machine-ready reel. EIA-481 embossed plastic tape (2000 parts per full reel).
   B = Less than full reel. In tape, but not machine ready. To have a leader and trailer added ($25 charge), use code letter C instead.
   D = 13″ machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (7500 parts per full reel).
2. Inductance tested at 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.

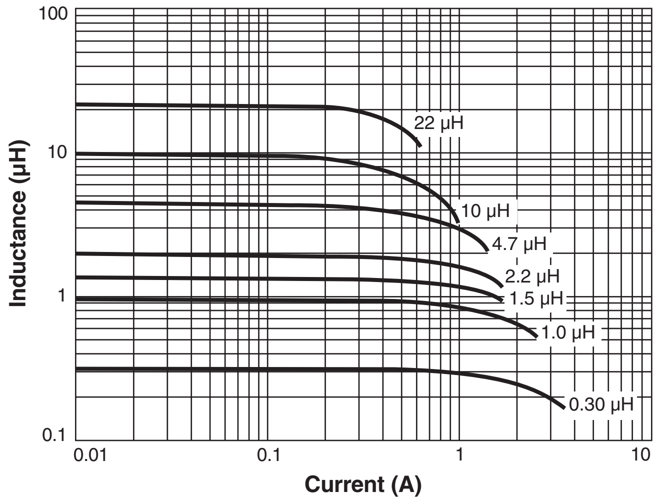
US +1-847-639-6400 sales@coilcraft.com
UK +44-1236-730595 sales@coilcraft-europe.com
Taiwan +886-2-2264 3646 sales@coilcraft.com.tw
China +86-21-6218 8074 sales@coilcraft.com.cn
Singapore + 65-6484 8412 sales@coilcraft.com.sg

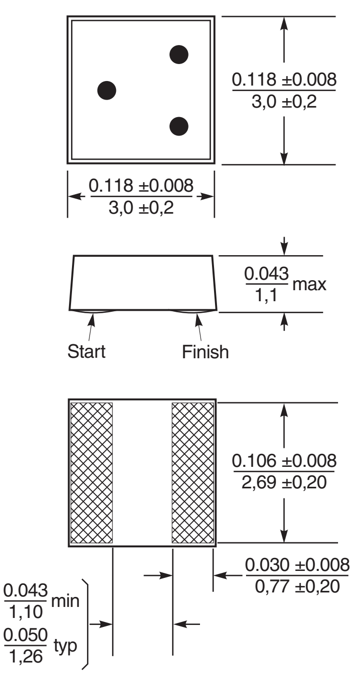
SMT Power Inductors – EPL3010 Series

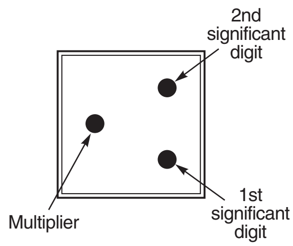
L vs Frequency



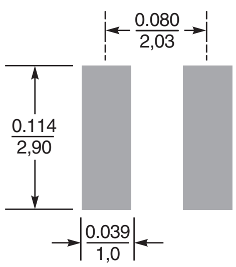
L vs Current







Part Marking



Recommended Land Pattern

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

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

Part number	Value	1st digit	2nd digit	Multiplier
EPL3010-301	0.27 µH	Orange	Black	Brown
EPL3010-102	1.0 µH	Brown	Black	Red
EPL3010-152	1.5 µH	Brown	Green	Red
EPL3010-222	2.2 µH	Red	Red	Red
EPL3010-472	4.7 µH	Yellow	Violet	Red
EPL3010-103	10 µH	Brown	Black	Orange
EPL3010-223	22 µH	Red	Red	Orange

Note: All marked parts have three dots. Black dot, used only on -301, -102 and -103 as second significant digit, may be very difficult to see.

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