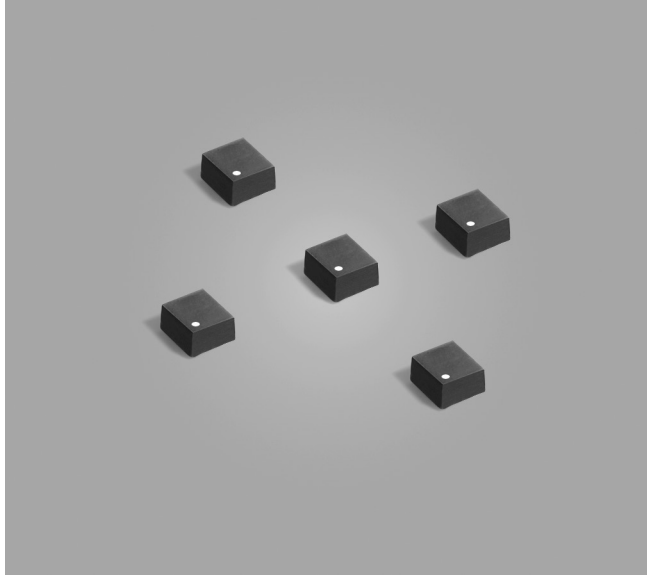




# Shielded Power Inductors XPL2010



- Ultra-miniature, magnetically shielded power inductors
- AEC-200 Grade 1 (–40°C to +125°C)
- Very low DCR, excellent current handling, soft saturation

**Core material** Composite

**Core and winding loss** See [www.coilcraft.com/coreloss](http://www.coilcraft.com/coreloss)

**Weight** 20 mg

**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.

**Ambient temperature** –40°C to +125°C with (40°C rise) Irms current.

**Maximum part temperature** +165°C (ambient + temp rise). [Derating](#).

**Storage temperature** Component: –55°C to +165°C.

Tape and reel packaging: –55°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)

**Packaging** 2000/7" reel; 7500/13" reel Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.19 mm pocket depth

**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
XPL2010-101ML_	0.10	0.014	0.018	660	3.70	4.30	4.60	3.1	4.2
XPL2010-201ML_	0.20	0.024	0.027	408	2.80	3.45	3.75	2.2	2.8
XPL2010-331ML_	0.33	0.031	0.035	309	1.90	2.75	3.05	1.9	2.6
XPL2010-501ML_	0.50	0.040	0.045	218	1.80	2.35	2.64	1.7	2.3
XPL2010-681ML_	0.68	0.057	0.063	152	1.55	1.95	2.19	1.5	2.1
XPL2010-821ML_	0.82	0.068	0.075	132	1.25	1.65	1.90	1.3	1.7
XPL2010-102ML_	1.0	0.081	0.089	117	1.20	1.60	1.80	1.1	1.6
XPL2010-152ML_	1.5	0.105	0.116	80	0.950	1.30	1.50	1.0	1.4
XPL2010-222ML_	2.2	0.156	0.173	75	0.940	1.20	1.35	0.96	1.3
XPL2010-332ML_	3.3	0.207	0.228	55	0.700	0.925	1.05	0.79	1.1
XPL2010-472ML_	4.7	0.336	0.370	40	0.580	0.750	0.845	0.74	1.0
XPL2010-682ML_	6.8	0.421	0.463	33	0.450	0.620	0.725	0.64	0.87
XPL2010-822ML_	8.2	0.457	0.503	30	0.440	0.600	0.670	0.55	0.75
XPL2010-103ML_	10	0.555	0.611	28	0.390	0.525	0.610	0.49	0.66
XPL2010-183ML_	18	1.47	1.60	31	0.500	0.560	0.590	0.32	0.43
XPL2010-223ML_	22	1.89	2.00	25	0.410	0.470	0.510	0.28	0.39
XPL2010-333ML_	33	2.59	2.85	20	0.330	0.380	0.410	0.23	0.31
XPL2010-473ML_	47	3.96	4.25	17	0.270	0.300	0.320	0.18	0.25
XPL2010-563ML_	56	4.48	4.82	15	0.240	0.280	0.300	0.17	0.24
XPL2010-683ML_	68	6.14	6.56	13	0.210	0.250	0.280	0.15	0.20
XPL2010-823ML_	82	6.45	6.90	12	0.200	0.240	0.260	0.15	0.20
XPL2010-104ML_	100	8.48	9.27	11	0.180	0.214	0.232	0.13	0.17
XPL2010-224ML_	220	19.2	21.1	7.1	0.122	0.143	0.161	0.086	0.116

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

**XPL2010-224MLC**

**Termination: L** = RoHS compliant tin-silver-copper (96.5/3/0.5) over tin over nickel over silver.

**Special order: S** = non-RoHS tin-lead (63/37).

**Packaging: C** = 7" machine-ready reel. EIA-481 embossed plastic tape (2000 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

**B** = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to C.

**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 or equivalent.

5. DC current at 25°C that causes an inductance drop of 30% (typ) 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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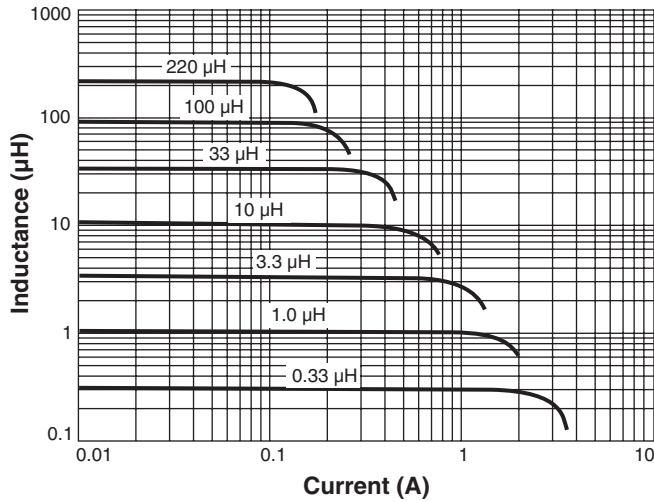
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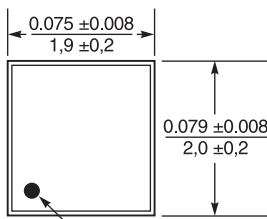
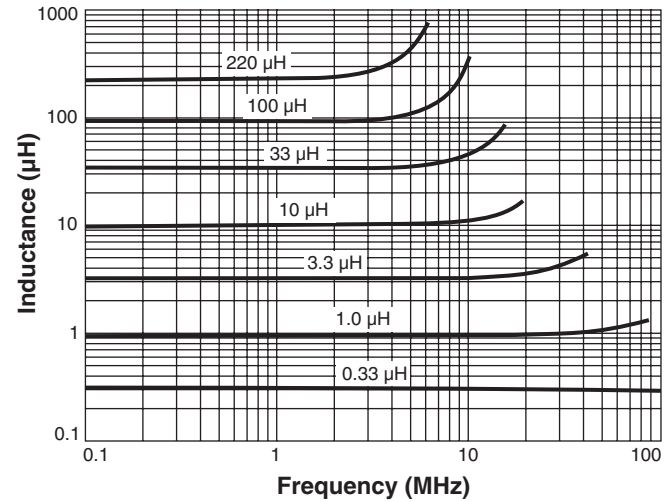


# Shielded Power Inductors – XPL2010 Series

## Typical L vs Current



## Typical L vs Frequency

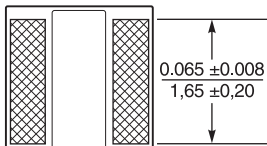
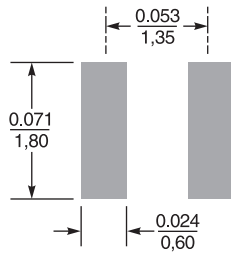


Products manufactured prior to June 2015 may not have a dot.

Indicates start lead. Connect high dv/dt here for lowest EMI.



### Recommended Land Pattern

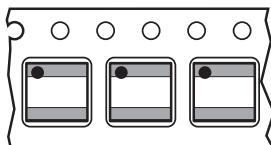


0.035 (0.90) typ

\* For optional tin-lead and tin-silver-copper terminations, dimensions are for the mounted part. Dimensions before mounting can be an additional 0.005 inch / 0.13 mm.

Dimensions are in inches / mm

## Tape and reel orientation



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