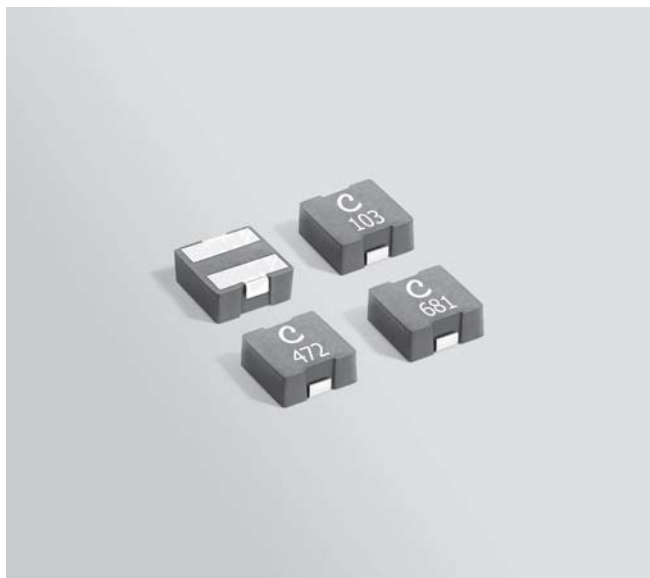




# Shielded Power Inductors – XPL4020



- Excellent current handling, low DCR and soft saturation makes them ideal for VRM/VRD applications
- Large terminations provide low resistance, excellent thermal management and the best possible board adhesion

**Designer's Kit C432** contains 3 each of all values

**Terminations** RoHS compliant matte tin over nickel over copper. Other terminations available at additional cost.

**Weight** 0.16 g – 0.18 g

**Ambient temperature** –40°C to +125°C. The part can be operated without damage as long as the part (ambient temperature plus temperature rise due to self heating) does not exceed +165°C.

**Storage temperature** Component: –40°C to +165°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** 1000/7" reel; 3500/13" reel Plastic tape: 12 mm wide, 0.23 mm thick, 8 mm pocket spacing, 2.3 mm pocket depth

**PCB washing** Only pure water or alcohol recommended

Part number <sup>1</sup>	Inductance ±20% <sup>2</sup> (µH)	DCR <sup>3</sup> (mOhms)		SRF typ <sup>4</sup> (MHz)	Isat (A) <sup>5</sup>		Irms (A) <sup>6</sup>	
		typ	max		10% drop	20% drop	20°C rise	40°C rise
XPL4020-271ML_	0.27	13.1	14.4	205	6.8	11.2	7.3	9.9
XPL4020-471ML_	0.47	18.7	20.6	126	5.8	9.0	5.4	7.2
XPL4020-681ML_	0.68	23.0	25.3	99	4.8	7.8	5.1	6.7
XPL4020-102ML_	1.0	29.1	32.0	66	4.0	6.5	4.5	6.1
XPL4020-152ML_	1.5	36.4	40.0	61	3.6	5.8	4.0	5.4
XPL4020-222ML_	2.2	60.0	66.0	39	2.6	4.1	3.1	4.2
XPL4020-332ML_	3.3	85.7	94.3	34	2.4	3.8	2.6	3.5
XPL4020-472ML_	4.7	130.5	143.6	26	1.9	3.0	2.1	2.9
XPL4020-682ML_	6.8	197.6	217.4	23	1.6	2.5	1.8	2.5
XPL4020-822ML_	8.2	213.9	235.3	19	1.4	2.2	1.7	2.3
XPL4020-103ML_	10	300.0	330.0	17	1.3	2.0	1.4	2.0

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

↓  
**XPL4020-103MLC**

**Packaging:** **C** = 7" machine-ready reel. EIA-481 embossed plastic tape (1000 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 (3500 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 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.

## Irms Testing

Irms testing was performed on 0.75 inch wide × 0.25 inch thick copper traces in still air.

Temperature rise is highly dependent on many factors including pcb land pattern, trace size, and proximity to other components. Therefore temperature rise should be verified in application conditions.

# Coilcraft®

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

Document 683-1 Revised 10/15/09

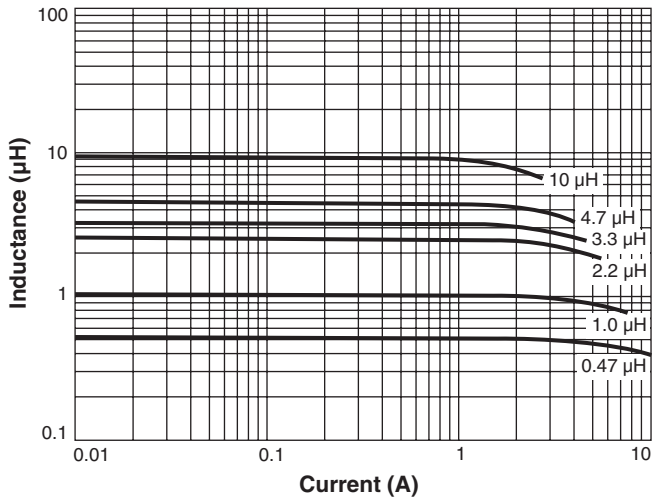
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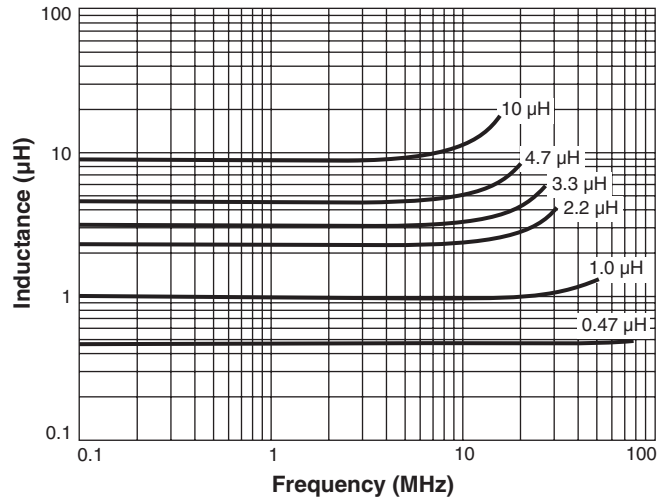


# SMT Power Inductors – XPL4020 Series

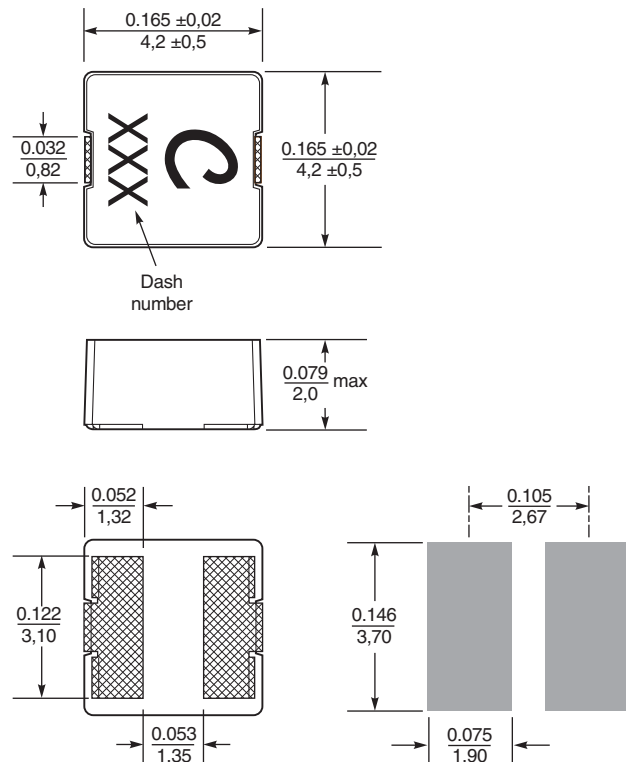
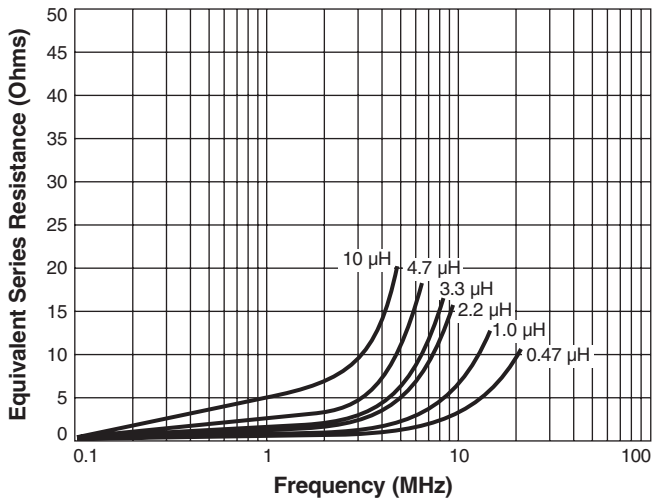
## Typical L vs Current



## Typical L vs Frequency



## Typical ESR vs Frequency



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

**Recommended Land Pattern**



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Please check our website for latest information.

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