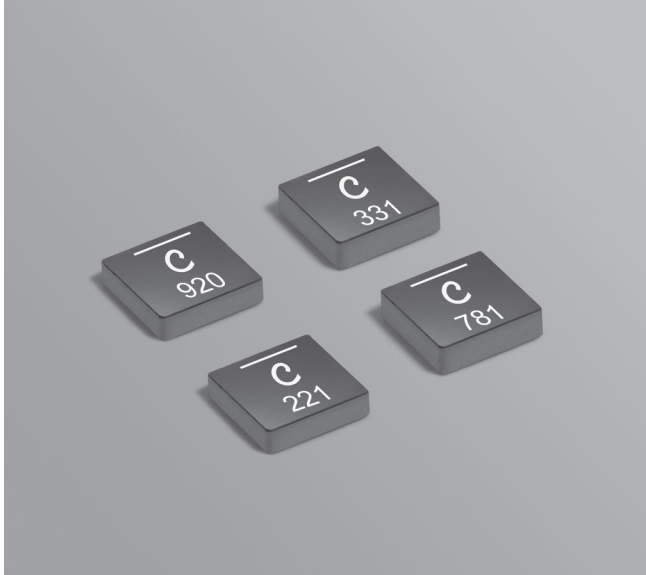


Shielded Power Inductors XEL4012, 4014



- Extremely low DCR and ultra low AC losses for high switching frequencies (2 to 5 MHz)
- Superior current handling with soft saturation characteristics
- Can withstand high current spikes
- AEC-Q200 qualified

Core material Composite

Environment RoHS compliant, halogen free

Terminations RoHS compliant, tin-silver over copper. Other terminations available at additional cost.

Weight 0.11 g

Operating voltage 80 V⁷

Ambient temperature -40°C to +125°C with (40°C) 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)

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

Part number ¹	Inductance ² (nH)	DCR (mOhms) ³		SRF typ ⁴ (MHz)	Isat ⁵ (A)	Irms (A) ⁶	
		typ	max			20°C rise	40°C rise
XEL4012-920NE_	92 ±30%	5.2	5.7	279	24.0	11.5	16.5
XEL4012-221NE_	220 ±30%	9.7	10.6	146	16.0	6.5	9.0
XEL4014-221ME_	220 ±20%	7.5	9.5	150	18.2	9.0	12.0
XEL4014-331ME_	330 ±20%	9.9	12.0	110	14.6	6.5	9.0
XEL4014-561ME_	560 ±20%	16.5	18.4	80	11.6	5.5	7.5
XEL4014-781ME_	780 ±20%	20.3	22.8	70	9.8	5.0	6.5

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

XEL4014-781MEC

Termination: E = RoHS compliant tin-silver over copper.

Special order: T = RoHS tin-silver-copper (95.5/4/0.5) or

S = non-RoHS tin-lead (63/37).

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

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 which the inductance drops 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. Temperature rise is highly dependent on many factors including pcb land pattern, trace size, air flow, and proximity to other components. Therefore temperature rise should be verified in application conditions. [Click for temperature derating information.](#)

7. Voltage capability varies by part number and in many cases may be higher than the listed voltage.

8. Electrical specifications at 25°C.

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



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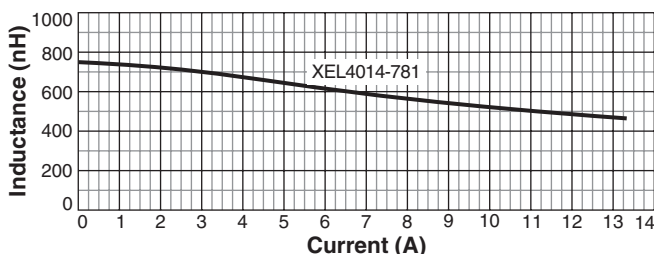
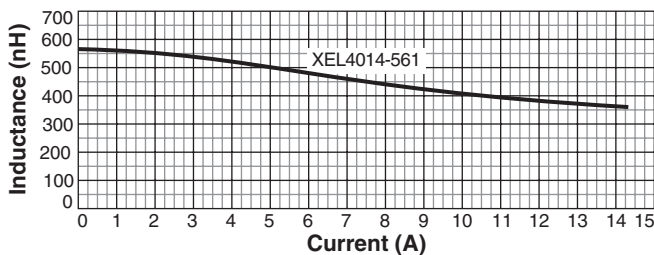
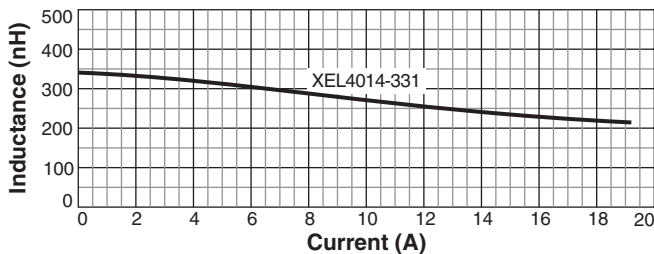
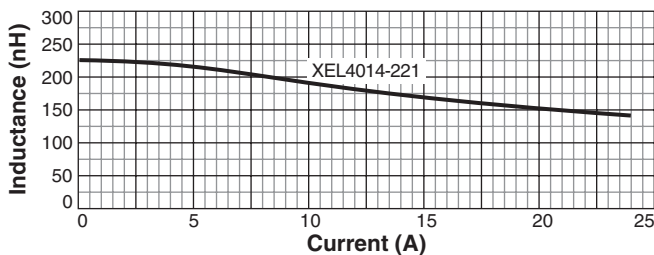
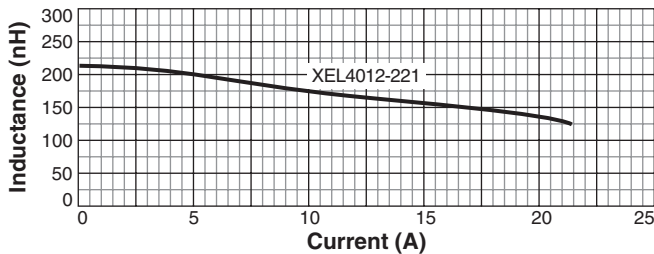
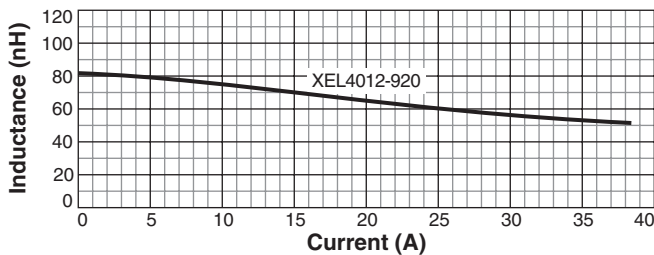
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This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.

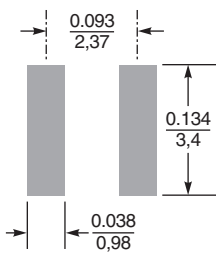
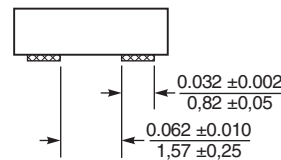
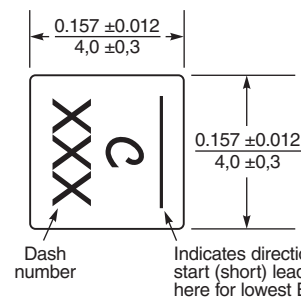
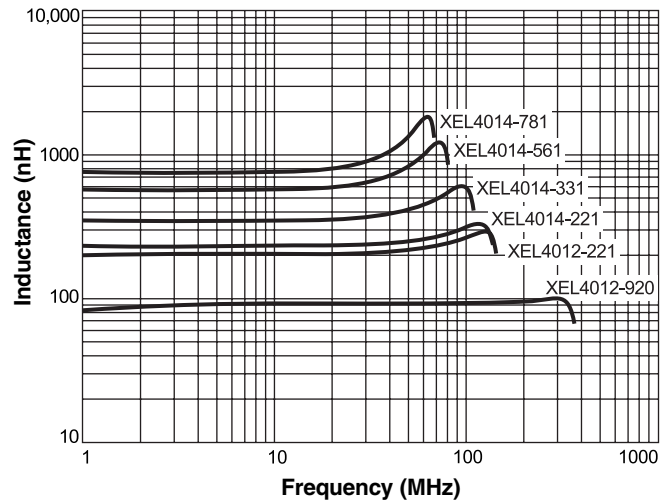
**VERY LOW AC
AND DC LOSSES**

Shielded Power Inductors – XEL4012, XEL4014

L vs Current

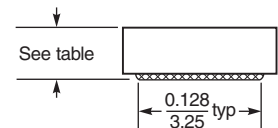


L vs Frequency



Recommended Land Pattern

0.038 / 0.98



Part number	Height* max (in / mm)
XEL4012-920	0.047 / 1.20
XEL4012-221	0.047 / 1.20
XEL4014-221	0.055 / 1.40
XEL4014-331	0.055 / 1.40
XEL4014-561	0.055 / 1.40
XEL4014-781	0.055 / 1.40

* 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

Packaging

XEL4012 1500/7" reel; 5000/13" reel Plastic tape: 12 mm wide, 0.23 mm thick, 8 mm pocket spacing, 1.40 mm pocket depth

XEL4014 1000/7" reel; 4000/13" reel Plastic tape: 12 mm wide, 0.23 mm thick, 8 mm pocket spacing, 1.78 mm pocket depth