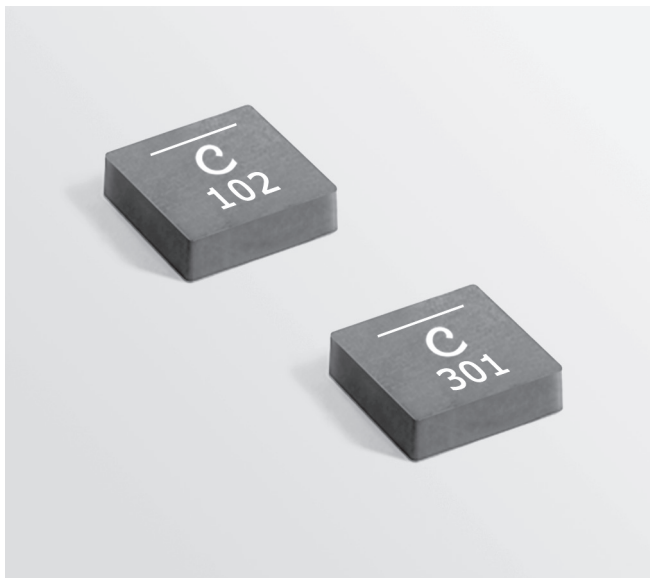



**NEW!**

# Shielded Power Inductors – XAL1030



- Very high current and low DCR
- Low profile, only 3 mm high
- Soft saturation makes them ideal for VRM/VRD applications.

**Core material** Composite

**Environmental** RoHS compliant, halogen free

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

**Weight** 1.6 – 1.8 g

**Ambient temperature** –40°C to +125°C with Irms current, +125°C to +165°C with derated current.

**Storage temperature** Component: –40°C to +130°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)

**Mean Time Between Failures (MTBF)** 26,315,789 hours

**Packaging** 250/7" reel; 1000/13" reel Plastic tape: 24 mm wide, 0.3 mm thick, 16 mm pocket spacing, 3.25 mm pocket depth

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

| Part number <sup>1</sup> | Inductance <sup>2</sup><br>±20% (µH) | DCR (mOhms) <sup>3</sup> |      | SRF typ <sup>4</sup><br>(MHz) | Isat<br>(A) <sup>5</sup> | Irms (A) <sup>6</sup> |           |
|--------------------------|--------------------------------------|--------------------------|------|-------------------------------|--------------------------|-----------------------|-----------|
|                          |                                      | typ                      | max  |                               |                          | 20°C rise             | 40°C rise |
| XAL1030-161ME_           | 0.16                                 | 1.10                     | 1.21 | 120                           | 88.0                     | 28.0                  | 42.0      |
| XAL1030-301ME_           | 0.30                                 | 1.55                     | 1.70 | 78                            | 68.0                     | 25.5                  | 35.0      |
| XAL1030-561ME_           | 0.56                                 | 2.50                     | 2.75 | 53                            | 44.0                     | 23.0                  | 32.0      |
| XAL1030-102ME_           | 1.0                                  | 4.50                     | 4.95 | 41                            | 35.0                     | 16.0                  | 23.0      |

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

**XAL1030-102MEC**

**Packaging:** C = 7" machine-ready reel. EIA-481 embossed plastic tape (250 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 (1000 parts per full reel).  
Factory order only, not stocked.

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 30% (typ) 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

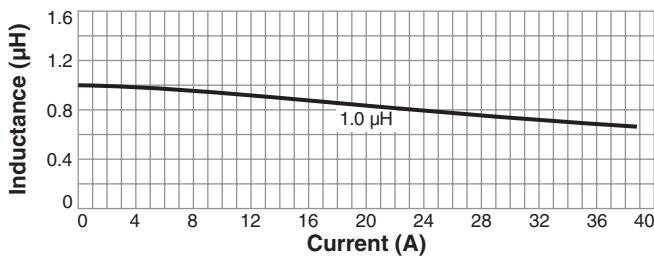
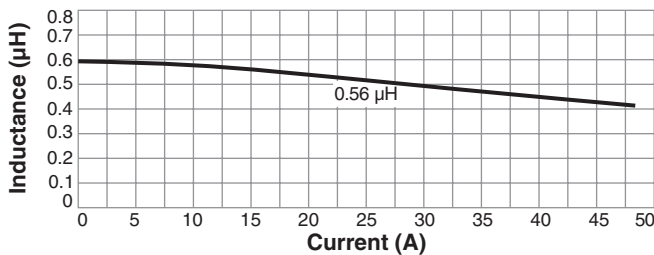
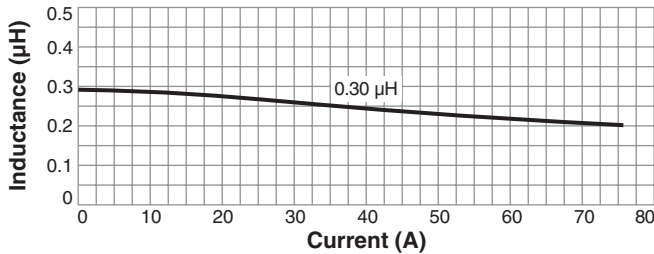
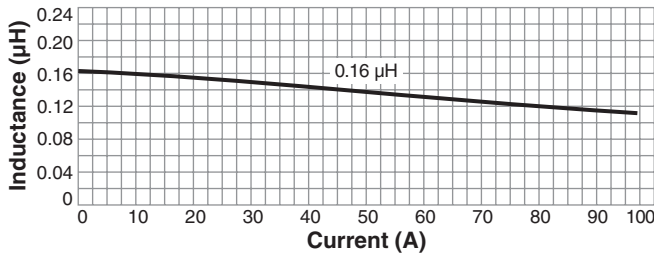
Irms testing was performed on 0.75 inch wide × 0.25 inch thick copper traces in still air.

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.

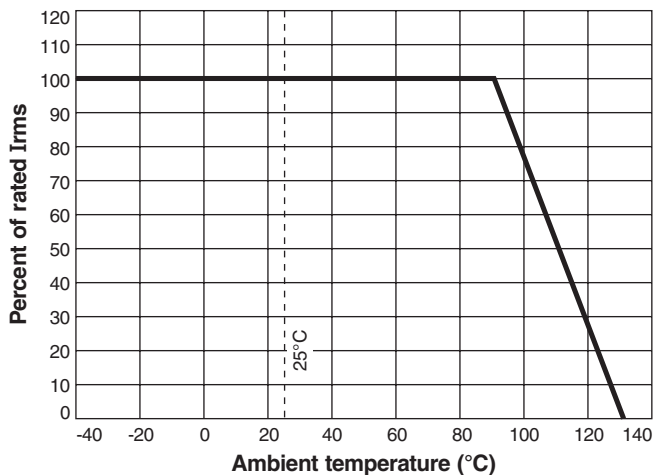

**NEW!**

# Shielded Power Inductors – XAL1030

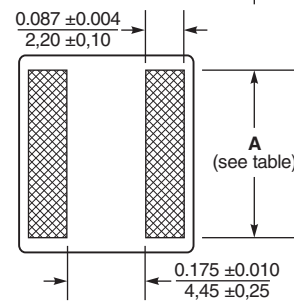
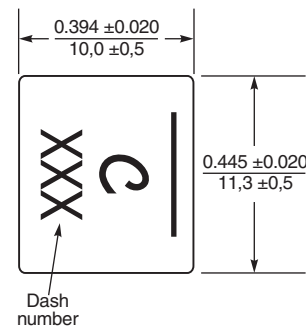
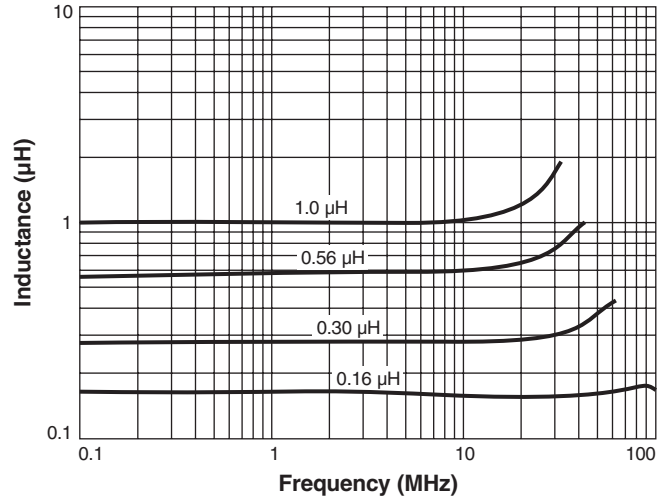
## L vs Current



## Irms Derating

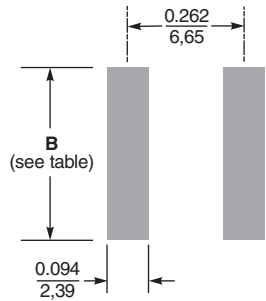


## L vs Frequency



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

| Dash number | A<br>$\pm 0.008$ in<br>$\pm 0,20$ mm<br>(in / mm) | B<br>(in / mm) |
|-------------|---------------------------------------------------|----------------|
| -161        | 0.359 / 9,11                                      | 0.374 / 9,51   |
| -301        | 0.359 / 9,11                                      | 0.374 / 9,51   |
| -561        | 0.351 / 8,91                                      | 0.363 / 9,21   |
| -102        | 0.343 / 8,71                                      | 0.351 / 8,91   |



**Recommended Land Pattern**



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