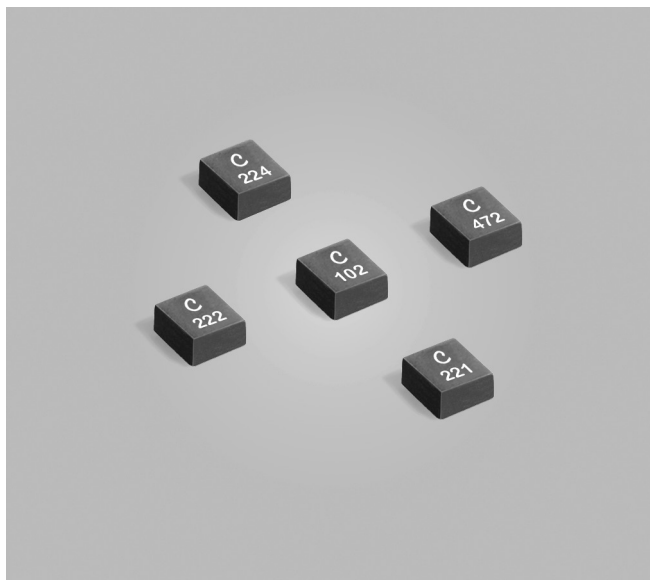




# Shielded Power Inductor – XFL3012



- High current, magnetically shielded power inductors
- 3 mm × 3 mm footprint; 1.2 mm maximum height

**Designer's Kit C440** contains 5 of each XFL3012 and XFL3010 value

**Core material** Composite

**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** 53 mg

**Ambient temperature** –40°C to +85°C with Irms current, +85°C to +125°C with derated current

**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, 0.23 mm thick, 4 mm pocket spacing, 1.25 mm pocket depth

**PCB washing** Tested with pure water or alcohol only. For other solvents, see Doc787\_PCB\_Washing.pdf

| Part number <sup>1</sup> | Inductance <sup>2</sup><br>±20% (µH) | DCR (Ohms) <sup>3</sup> |       | SRF typ <sup>4</sup><br>(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 |
| XFL3012-221ME_           | 0.22                                 | 0.014                   | 0.019 | 340                           | 2.5                   | 3.5      | 4.1      | 2.6                   | 3.5       |
| XFL3012-361ME_           | 0.36                                 | 0.019                   | 0.023 | 210                           | 2.3                   | 3.1      | 3.5      | 2.2                   | 3.0       |
| XFL3012-601ME_           | 0.60                                 | 0.023                   | 0.029 | 167                           | 1.9                   | 2.6      | 3.0      | 2.1                   | 2.8       |
| XFL3012-102ME_           | 1.0                                  | 0.035                   | 0.042 | 115                           | 1.6                   | 2.2      | 2.5      | 1.9                   | 2.6       |
| XFL3012-152ME_           | 1.5                                  | 0.060                   | 0.072 | 94.4                          | 1.3                   | 1.8      | 2.2      | 1.6                   | 2.2       |
| XFL3012-222ME_           | 2.2                                  | 0.081                   | 0.097 | 73.2                          | 1.0                   | 1.3      | 1.6      | 1.4                   | 1.9       |
| XFL3012-332ME_           | 3.3                                  | 0.106                   | 0.127 | 61.6                          | 0.87                  | 1.2      | 1.4      | 1.2                   | 1.6       |
| XFL3012-472ME_           | 4.7                                  | 0.143                   | 0.171 | 52.6                          | 0.72                  | 1.0      | 1.2      | 1.0                   | 1.4       |
| XFL3012-682ME_           | 6.8                                  | 0.166                   | 0.200 | 39.9                          | 0.61                  | 0.84     | 0.97     | 0.94                  | 1.3       |
| XFL3012-103ME_           | 10                                   | 0.255                   | 0.306 | 34.6                          | 0.50                  | 0.65     | 0.74     | 0.90                  | 1.2       |
| XFL3012-153ME_           | 15                                   | 0.394                   | 0.483 | 25.8                          | 0.43                  | 0.58     | 0.65     | 0.74                  | 1.0       |
| XFL3012-223ME_           | 22                                   | 0.608                   | 0.630 | 22.2                          | 0.32                  | 0.45     | 0.52     | 0.58                  | 0.80      |
| XFL3012-333ME_           | 33                                   | 0.855                   | 0.896 | 16.6                          | 0.23                  | 0.32     | 0.38     | 0.42                  | 0.57      |
| XFL3012-393ME_           | 39                                   | 0.919                   | 0.985 | 15.9                          | 0.23                  | 0.32     | 0.37     | 0.39                  | 0.54      |
| XFL3012-473ME_           | 47                                   | 1.220                   | 1.32  | 13.7                          | 0.21                  | 0.28     | 0.32     | 0.33                  | 0.46      |
| XFL3012-563ME_           | 56                                   | 1.430                   | 1.52  | 12.1                          | 0.19                  | 0.26     | 0.30     | 0.32                  | 0.44      |
| XFL3012-683ME_           | 68                                   | 2.16                    | 2.37  | 10.9                          | 0.16                  | 0.21     | 0.25     | 0.31                  | 0.42      |
| XFL3012-823ME_           | 82                                   | 2.30                    | 2.44  | 10.8                          | 0.15                  | 0.21     | 0.24     | 0.26                  | 0.34      |
| XFL3012-104ME_           | 100                                  | 2.63                    | 3.00  | 9.4                           | 0.17                  | 0.24     | 0.28     | 0.29                  | 0.39      |
| XFL3012-224ME_           | 220                                  | 6.83                    | 8.00  | 6.1                           | 0.09                  | 0.14     | 0.16     | 0.17                  | 0.23      |

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

**XFL3012-472MEC**

**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 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.



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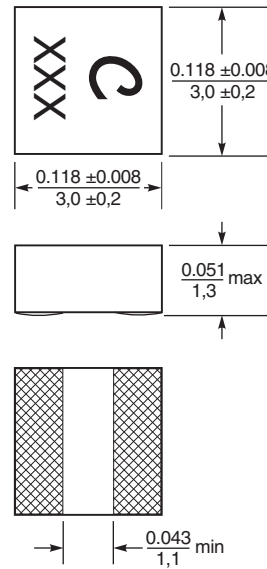
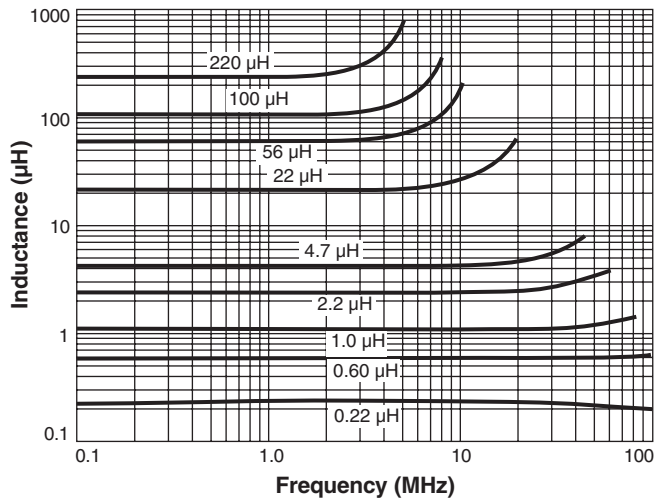
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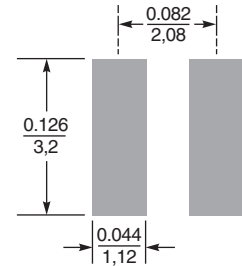
# Shielded Power Inductor – XFL3012

## Typical L vs Frequency



Parts manufactured prior to January 2011 may not have part marking.

## Recommended Land Pattern



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



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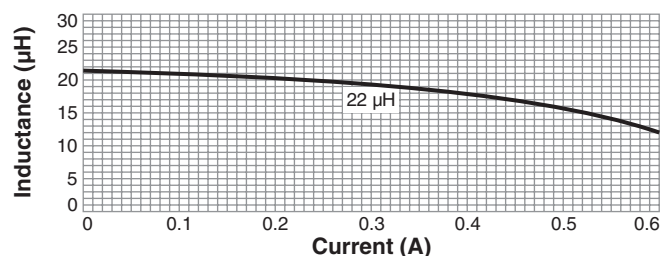
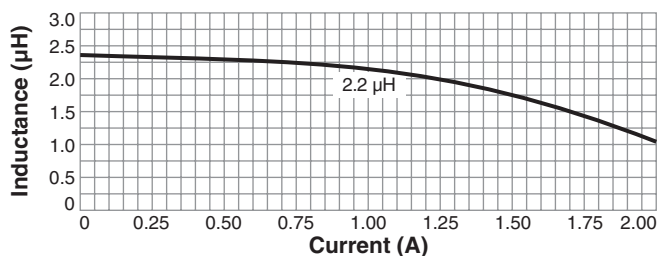
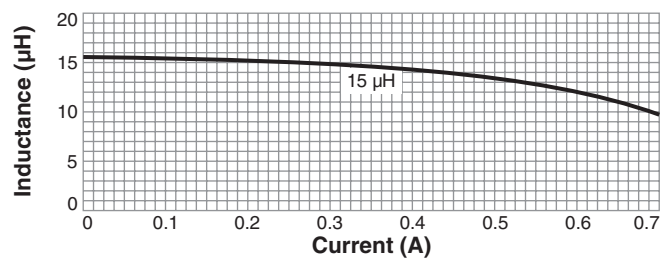
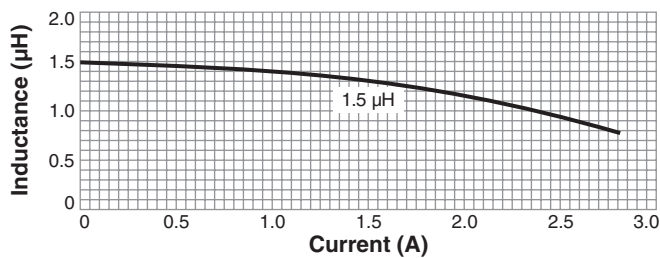
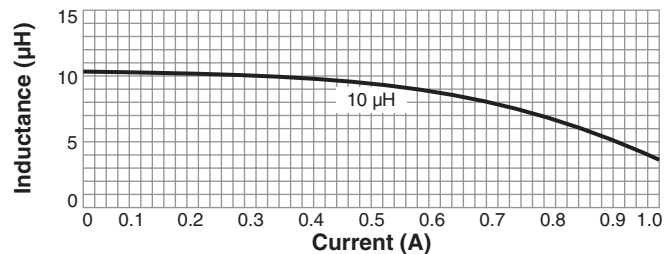
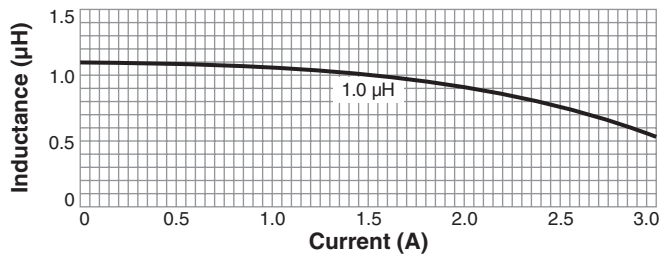
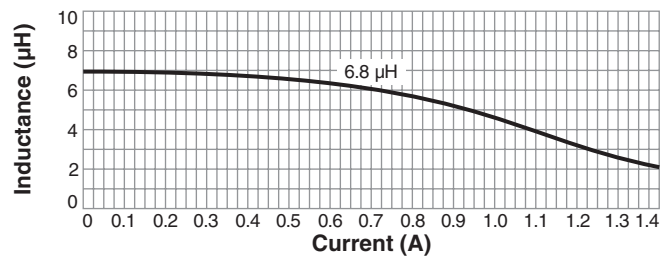
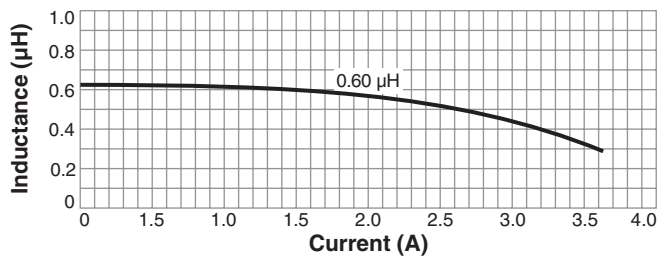
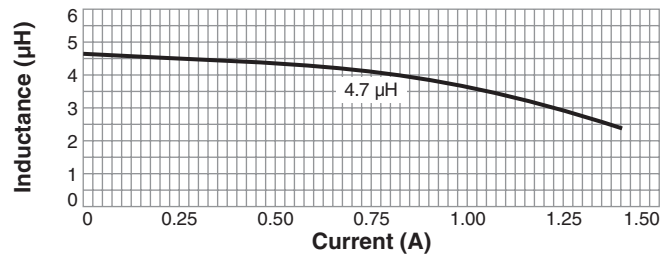
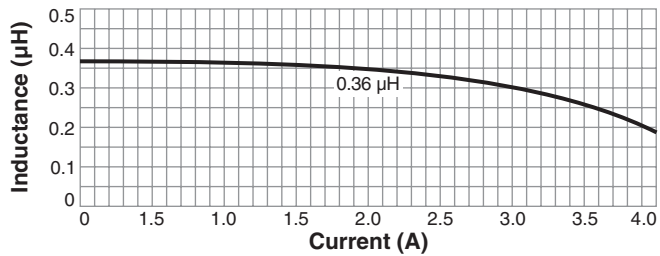
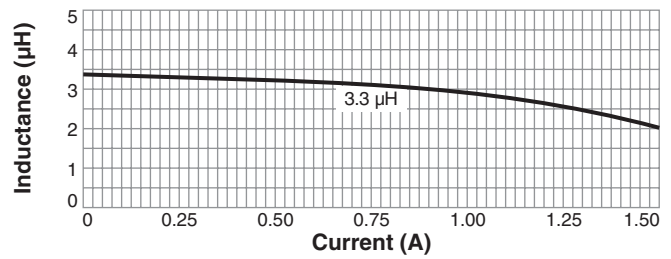
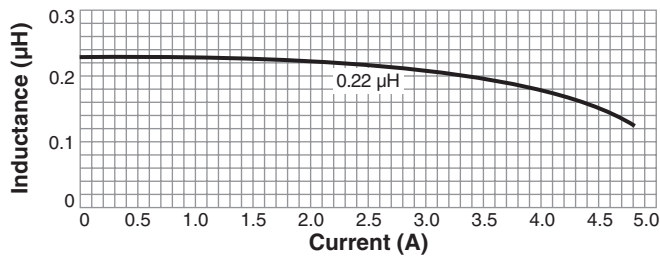
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# Shielded Power Inductor – XFL3012

## L vs Current



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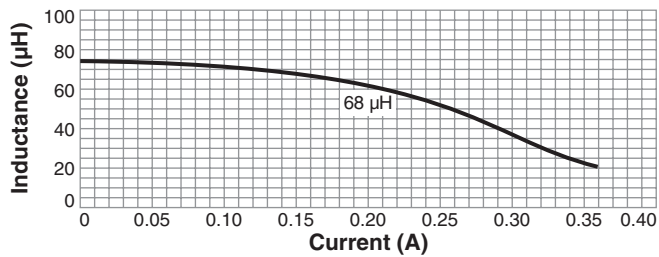
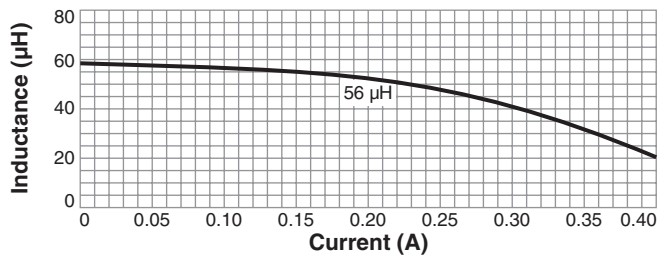
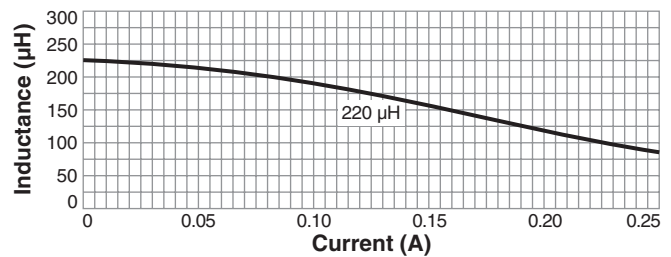
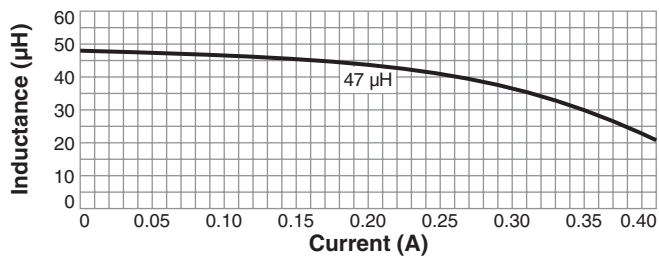
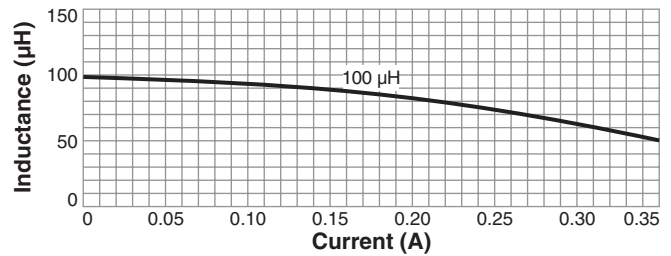
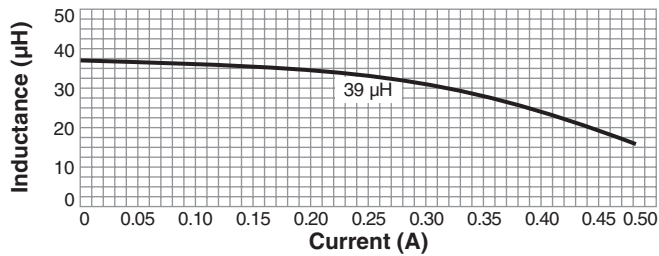
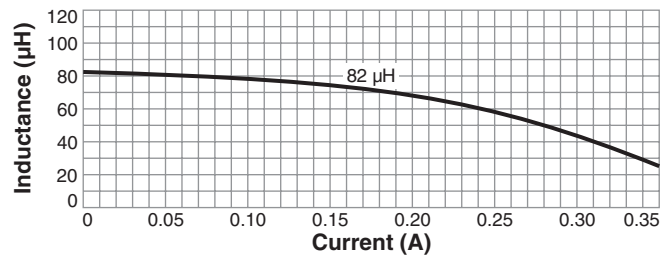
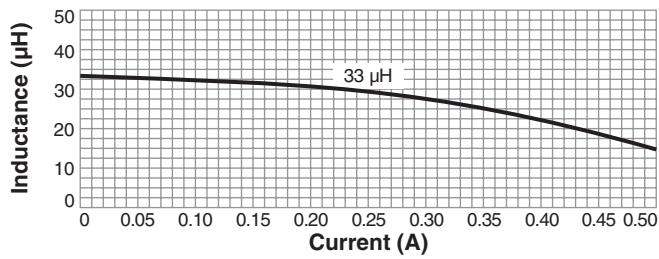
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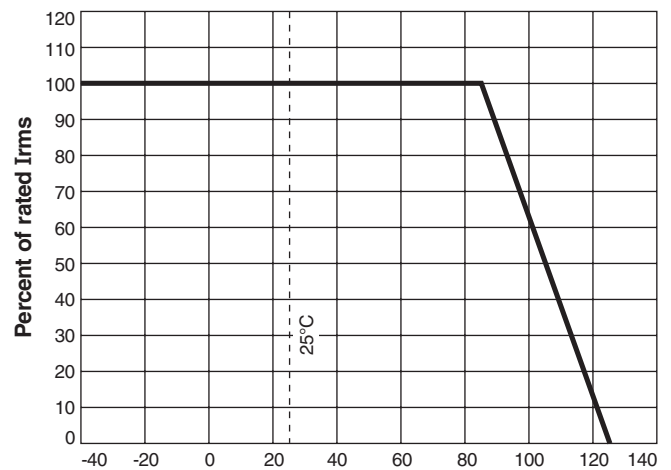


# Shielded Power Inductor – XFL3012

## L vs Current



## Typical Irms Derating



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### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

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