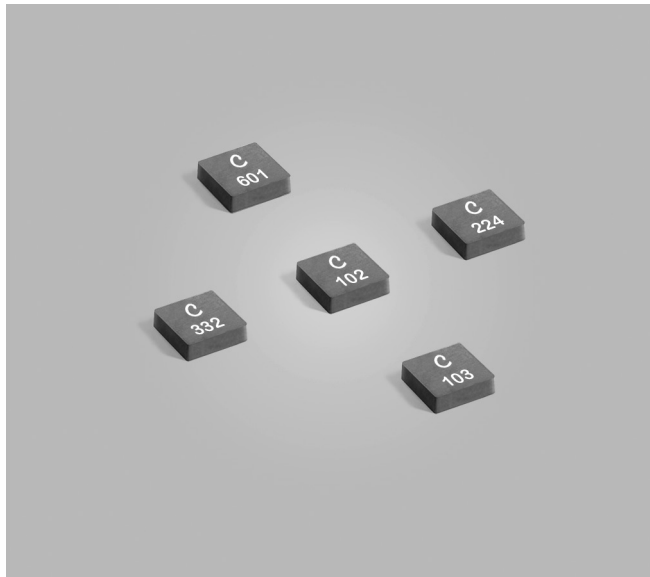




# Shielded Power Inductors – XFL3010



- High current, magnetically shielded power inductors
- Only 1 mm high with a 3 mm × 3 mm footprint

**Designer's Kit C440** contains 5 of each XFL3010 and XFL3012 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** 44 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, 1.14 mm pocket depth

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

| 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>5</sup> |           |
|--------------------------|--------------------------------------|-------------------------|-------|-------------------------------|-----------------------|----------|----------|-----------------------|-----------|
|                          |                                      | nom                     | max   |                               | 10% drop              | 20% drop | 30% drop | 20°C rise             | 40°C rise |
| XFL3010-601ME_           | 0.60                                 | 0.030                   | 0.033 | 180                           | 1.8                   | 2.4      | 2.7      | 1.8                   | 2.5       |
| XFL3010-102ME_           | 1.0                                  | 0.043                   | 0.049 | 128                           | 1.5                   | 2.1      | 2.4      | 1.6                   | 2.3       |
| XFL3010-152ME_           | 1.5                                  | 0.071                   | 0.080 | 97.0                          | 1.2                   | 1.6      | 1.9      | 1.4                   | 1.9       |
| XFL3010-222ME_           | 2.2                                  | 0.111                   | 0.122 | 78.0                          | 0.94                  | 1.2      | 1.5      | 1.0                   | 1.3       |
| XFL3010-332ME_           | 3.3                                  | 0.154                   | 0.166 | 64.0                          | 0.86                  | 1.1      | 1.3      | 0.88                  | 1.2       |
| XFL3010-472ME_           | 4.7                                  | 0.217                   | 0.230 | 57.0                          | 0.71                  | 0.97     | 1.1      | 0.84                  | 1.1       |
| XFL3010-682ME_           | 6.8                                  | 0.315                   | 0.346 | 42.0                          | 0.56                  | 0.78     | 0.92     | 0.72                  | 0.95      |
| XFL3010-103ME_           | 10                                   | 0.472                   | 0.519 | 35.0                          | 0.44                  | 0.61     | 0.71     | 0.62                  | 0.82      |
| XFL3010-153ME_           | 15                                   | 0.521                   | 0.560 | 28.4                          | 0.33                  | 0.45     | 0.53     | 0.56                  | 0.76      |
| XFL3010-223ME_           | 22                                   | 0.770                   | 0.818 | 21.7                          | 0.26                  | 0.35     | 0.40     | 0.48                  | 0.66      |
| XFL3010-333ME_           | 33                                   | 1.12                    | 1.20  | 17.5                          | 0.22                  | 0.30     | 0.35     | 0.41                  | 0.56      |
| XFL3010-393ME_           | 39                                   | 1.23                    | 1.40  | 16.9                          | 0.21                  | 0.29     | 0.33     | 0.37                  | 0.51      |
| XFL3010-473ME_           | 47                                   | 1.71                    | 1.93  | 14.4                          | 0.16                  | 0.23     | 0.27     | 0.33                  | 0.44      |
| XFL3010-563ME_           | 56                                   | 1.95                    | 2.16  | 13.6                          | 0.16                  | 0.22     | 0.25     | 0.3                   | 0.41      |
| XFL3010-683ME_           | 68                                   | 2.32                    | 2.60  | 12.7                          | 0.15                  | 0.21     | 0.24     | 0.27                  | 0.36      |
| XFL3010-823ME_           | 82                                   | 2.77                    | 3.10  | 11.6                          | 0.14                  | 0.20     | 0.23     | 0.26                  | 0.34      |
| XFL3010-104ME_           | 100                                  | 4.64                    | 5.50  | 10.1                          | 0.13                  | 0.19     | 0.22     | 0.20                  | 0.29      |
| XFL3010-224ME_           | 220                                  | 9.91                    | 12.0  | 6.9                           | 0.08                  | 0.12     | 0.14     | 0.14                  | 0.19      |

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

**XFL3010-222MEC**

**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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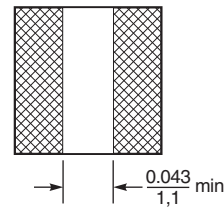
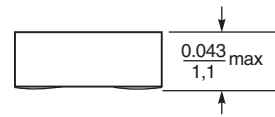
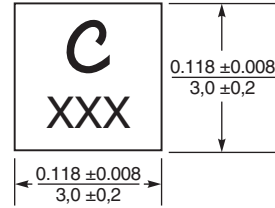
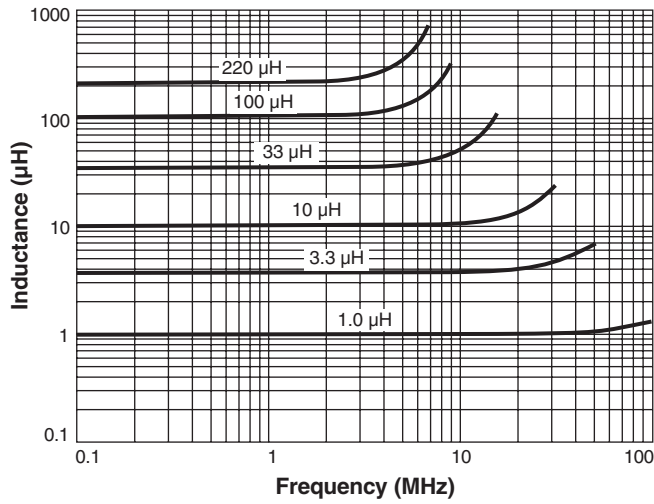
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# Shielded Power Inductors – XFL3010

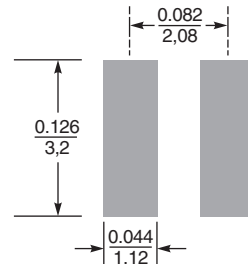
## Typical L vs Frequency



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

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

### Recommended Land Pattern



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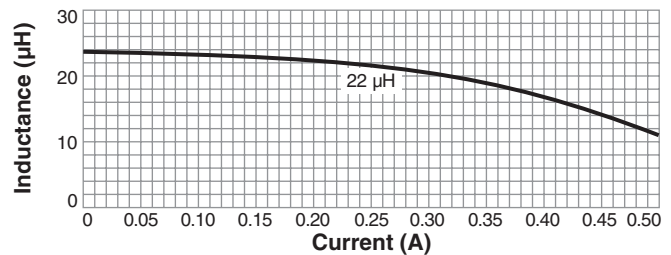
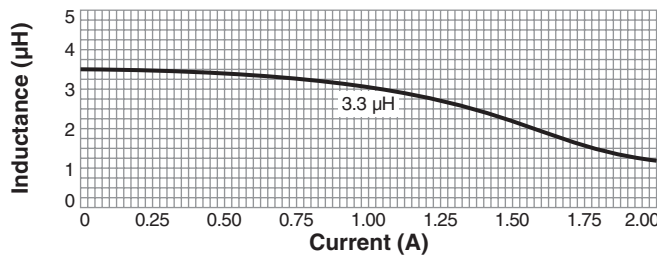
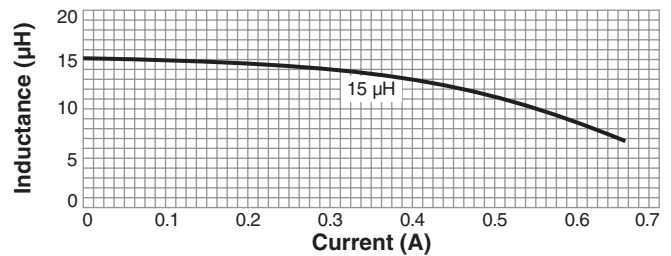
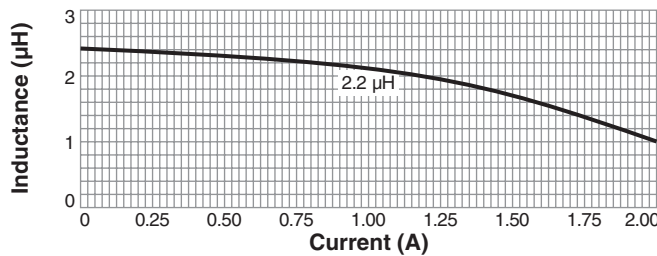
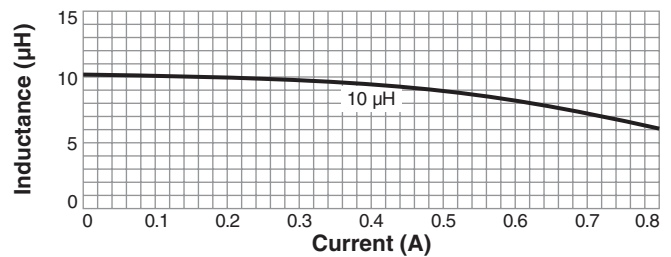
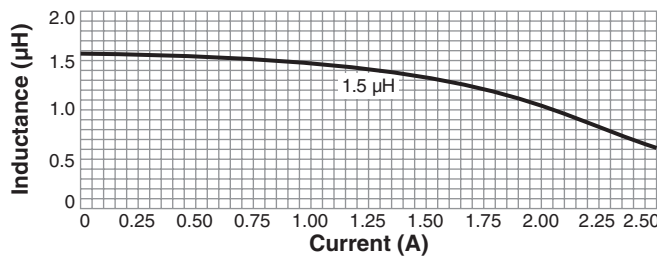
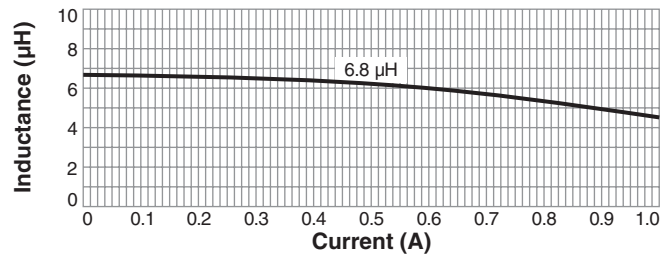
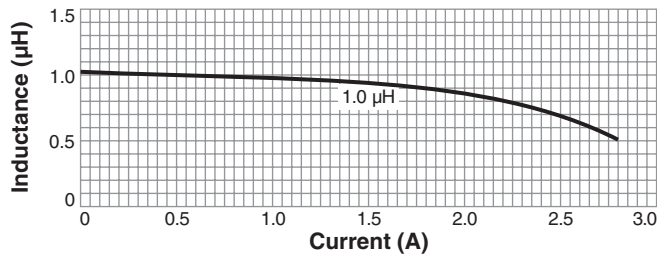
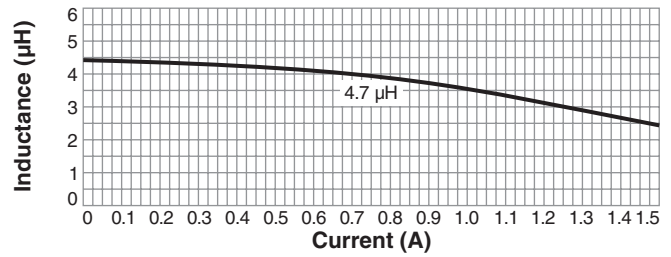
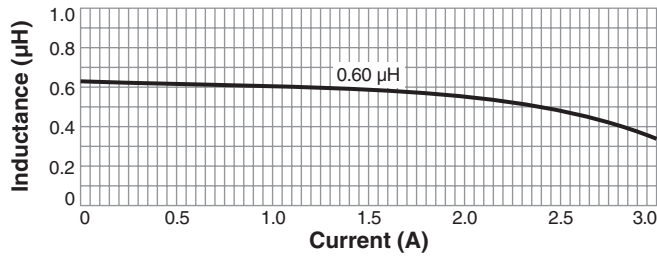
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# Shielded Power Inductors – XFL3010

## Typical L vs Current



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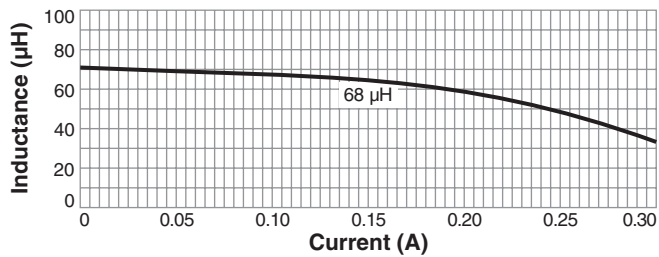
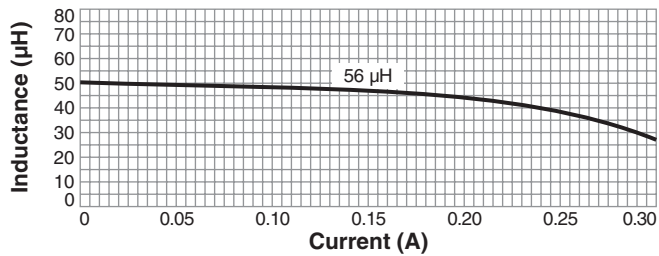
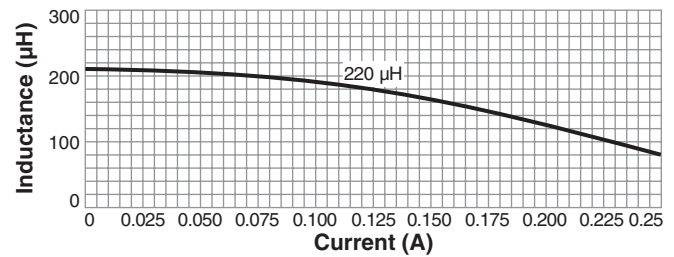
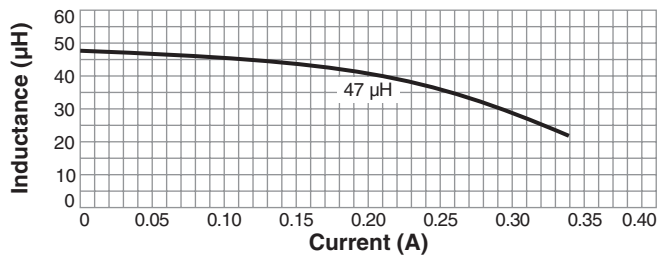
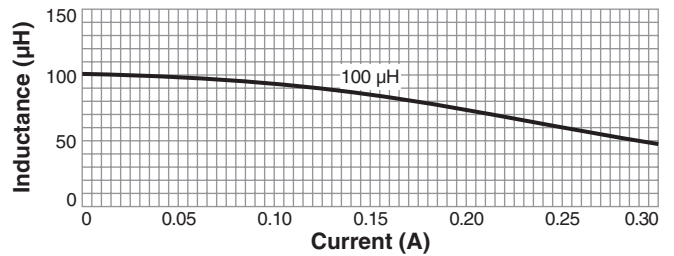
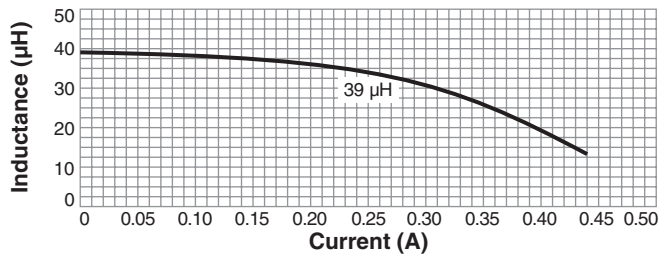
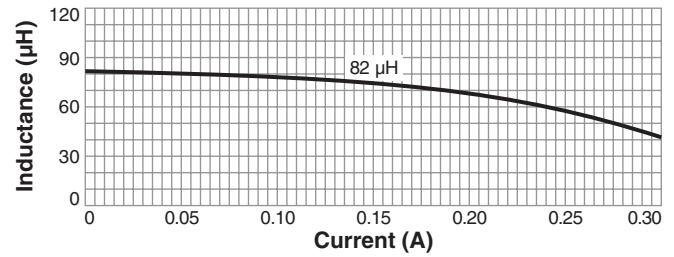
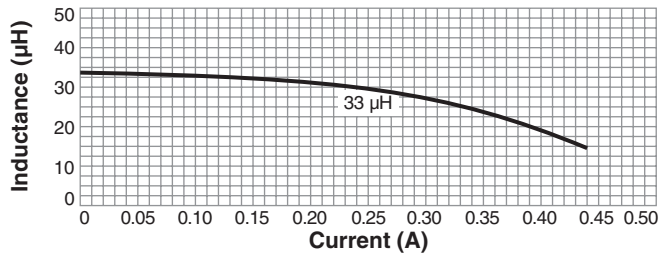
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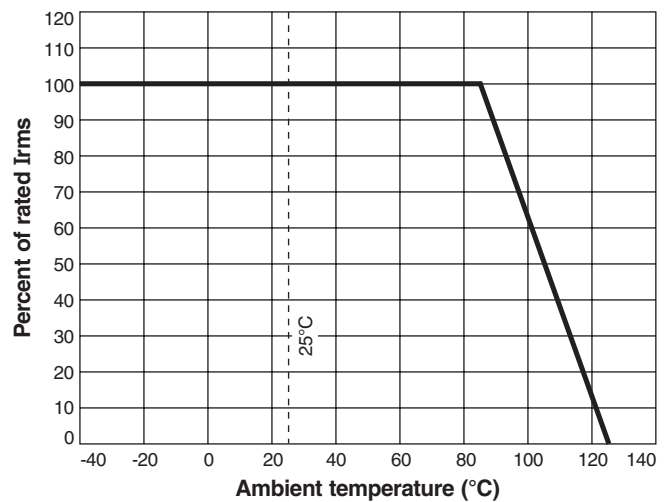


# Shielded Power Inductors – XFL3010

## Typical 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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