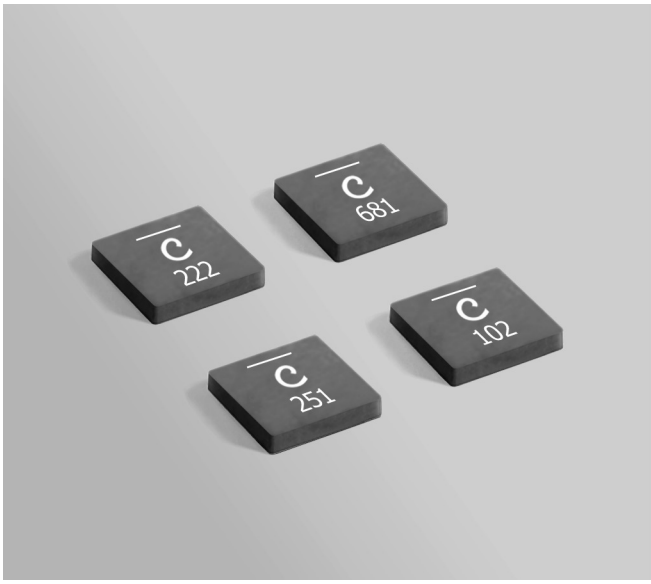
NEW!

# Shielded Power Inductors – XFL7015




- Very low profile, only 1.5 mm tall
- High current and very low DCR

**Environmental** RoHS compliant, halogen free

**Terminations** RoHS compliant tin-silver (96.5/3.5) over copper. Other terminations available at additional cost.

**Core material** Composite

**Weight** 0.37 – 0.38 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 +165°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** 750/7″ reel; 3000/13″ reel Plastic tape: 16 mm wide, 0.3 mm thick, 12 mm pocket spacing, 1.65 mm pocket depth

**PCB washing** Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf.

| Part number[1] | Inductance[2] ±20% (µH) | DCR (mOhms)[3] typ | DCR (mOhms)[3] max | SRF typ[4] (MHz) | Isat (A)[5] 10% drop | Isat (A)[5] 20% drop | Isat (A)[5] 30% drop | Irms (A)[6] 20°C rise | Irms (A)[6] 40°C rise |
|---|---|---|---|---|---|---|---|---|---|
| XFL7015-251ME_ | 0.25 | 3.90 | 4.30 | 80 | 9.0 | 12.5 | 14.5 | 16.0 | 20.0 |
| XFL7015-471ME_ | 0.47 | 5.80 | 6.38 | 56 | 6.5 | 10.0 | 11.5 | 12.5 | 17.0 |
| XFL7015-681ME_ | 0.68 | 7.70 | 8.47 | 49 | 4.7 | 8.5 | 10.0 | 11.5 | 15.0 |
| XFL7015-102ME_ | 1.0 | 12.3 | 13.6 | 39 | 4.0 | 6.3 | 7.4 | 9.00 | 12.0 |
| XFL7015-152ME_ | 1.5 | 14.7 | 16.2 | 33 | 3.0 | 5.5 | 6.6 | 7.25 | 9.10 |
| XFL7015-222ME_ | 2.2 | 22.0 | 24.2 | 29 | 2.7 | 4.8 | 6.3 | 6.25 | 8.25 |

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

**XFL7015-222MEC**

**Packaging:** **C** = 7″ machine-ready reel. EIA-481 embossed plastic tape (750 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 (3000 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.

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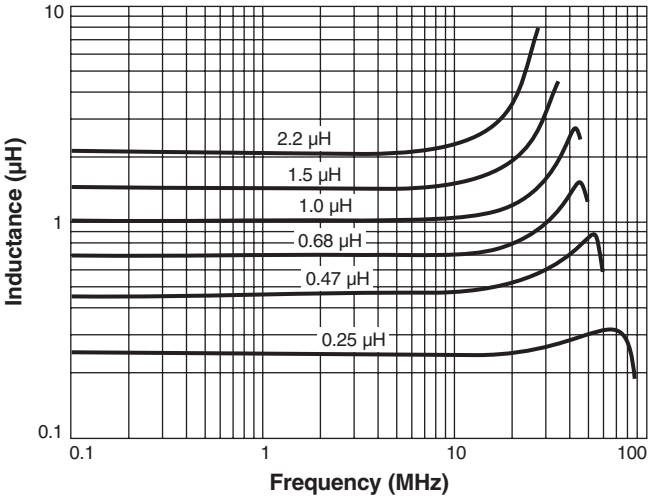
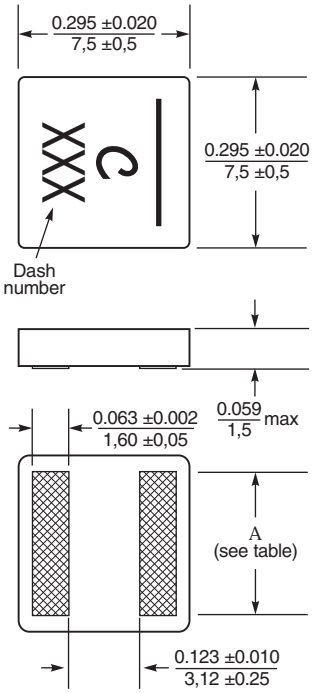
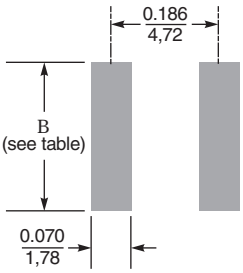
## L vs Frequency




| Dash number | A ±0.008 in ±0,20 mm (in / mm) | B (in / mm) |
|---|---|---|
| -251 | 0.241 / 6.12 | 0.245 / 6.22 |
| -471 | 0.241 / 6.12 | 0.245 / 6.22 |
| -681 | 0.241 / 6.12 | 0.245 / 6.22 |
| -102 | 0.239 / 6.08 | 0.242 / 6.16 |
| -152 | 0.239 / 6.08 | 0.242 / 6.16 |
| -222 | 0.238 / 6.04 | 0.240 / 6.10 |

Recommended Land Pattern




Dimensions are in inches / mm

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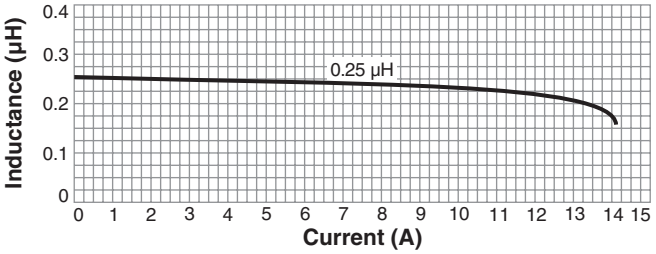
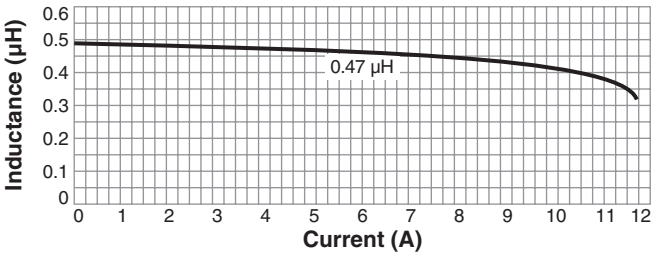
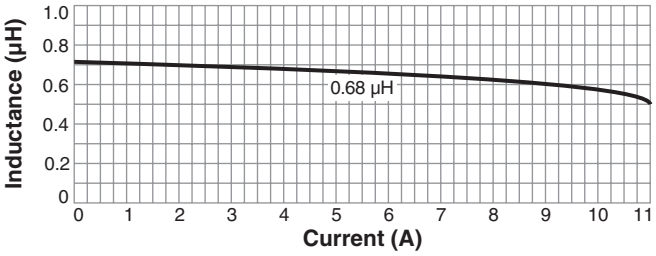
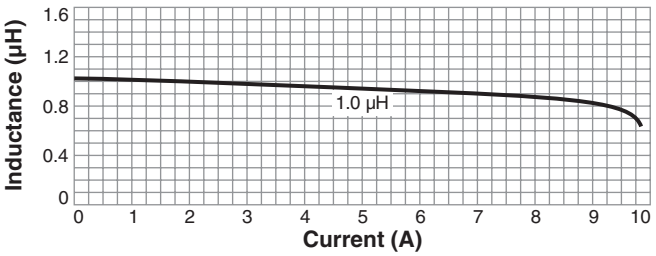
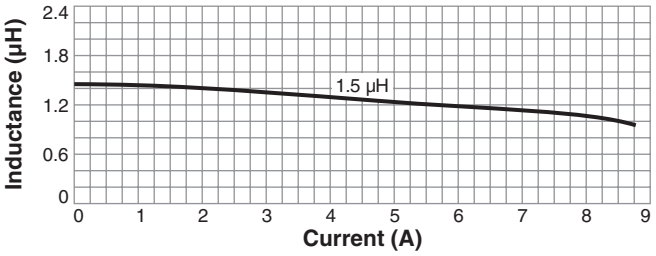
## L vs Current

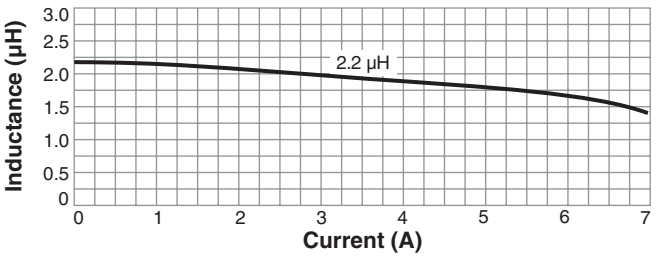


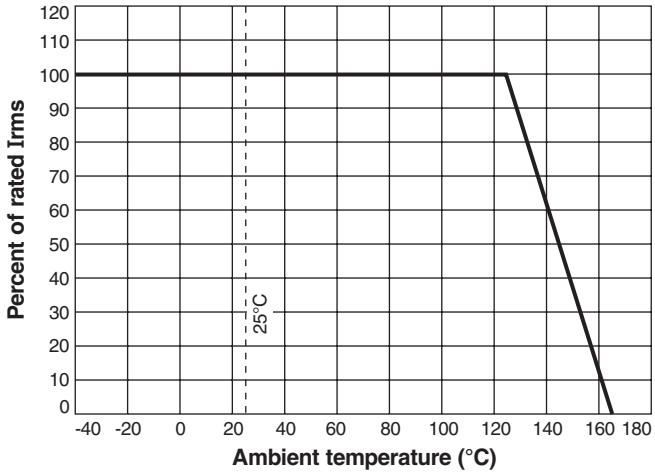




## Irms Derating

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