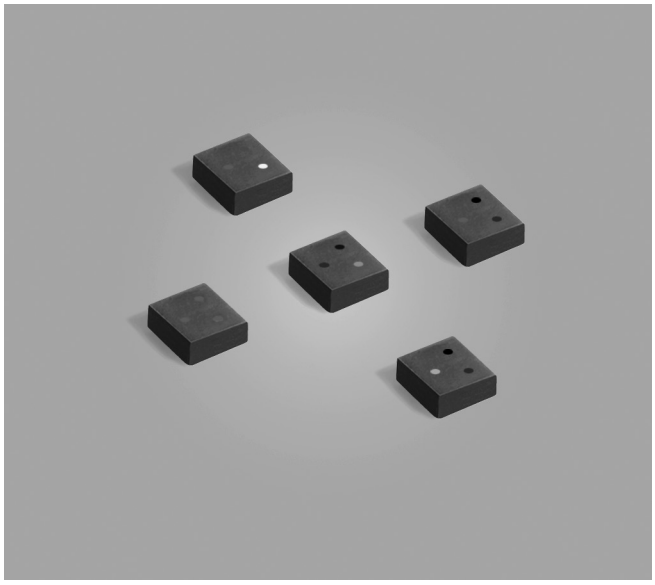
# Shielded Power Inductors – FPL3010



- Low profile shielded power inductors, 3 × 3 × 1 mm
- Extremely low DCR,high SRF ratings, Isat ratings up to 2.2 A

**Designer's Kit C431** contains 5 each of all values
**Core material** Ferrite
**Core and winding loss**
**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** 32 – 38 mg
**Ambient temperature** –40°C to +85°C with (40°C rise) Irms current.
**Maximum part temperature** +125°C (ambient + temp rise).
**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, 0.20 mm thick, 4 mm pocket spacing, 1.14 mm pocket depth
**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash.

| Part number | Inductance ±20% (µH) | DCR nom (Ohms) | DCR max (Ohms) | SRF typ (MHz) | Isat (A) | | | Irms (A) | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 10% drop | 20% drop | 30% drop | 20°C rise | 40°C rise |
| FPL3010-301ML_ | 0.30 | 0.040 | 0.045 | 249 | 1.0 | 1.6 | 2.2 | 1.7 | 2.2 |
| FPL3010-102ML_ | 1.0 | 0.071 | 0.078 | 151 | 0.80 | 1.3 | 1.8 | 1.2 | 1.7 |
| FPL3010-152ML_ | 1.5 | 0.086 | 0.095 | 116 | 0.68 | 1.1 | 1.6 | 1.2 | 1.6 |
| FPL3010-222ML_ | 2.2 | 0.137 | 0.150 | 98 | 0.54 | 0.92 | 1.3 | 0.98 | 1.3 |
| FPL3010-472ML_ | 4.7 | 0.278 | 0.306 | 60 | 0.36 | 0.61 | 0.80 | 0.74 | 0.99 |
| FPL3010-103ML_ | 10 | 0.573 | 0.631 | 38 | 0.20 | 0.34 | 0.48 | 0.52 | 0.70 |
| FPL3010-223ML_ | 22 | 1.25 | 1.38 | 27 | 0.18 | 0.30 | 0.42 | 0.35 | 0.47 |

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

**FPL3010-103MLC**

**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 1 MHz, 0.1 Vrms, 0 Adc.
3. DCR measured on a micro-ohmmeter.
4. SRF measured using Agilent/HP 4395A network analyzer or equivalent.
5. DC current at 25°C that causes the specified inductance drop from its value without current.
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.
7. Electrical specifications at 25°C.

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

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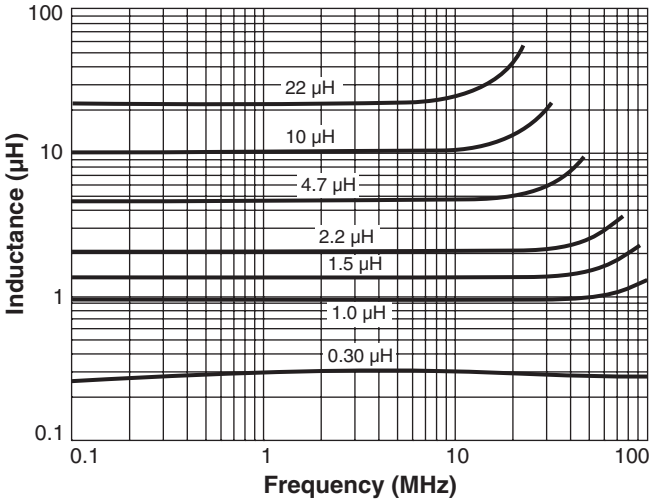
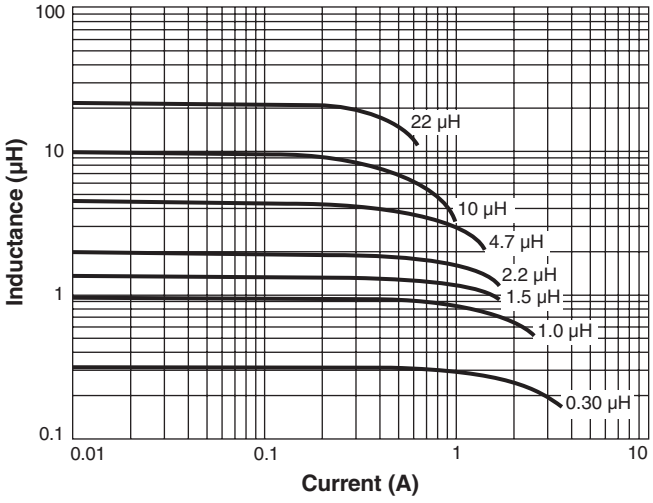
Specification subject to change without notice.
Please check web site for latestinformation.

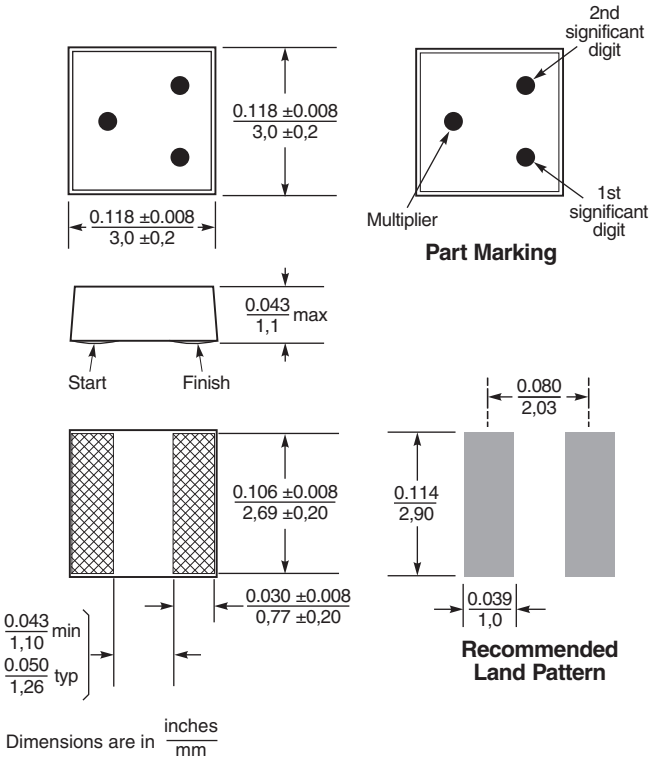
# SMT Power Inductors – FPL3010 Series

## L vs Frequency




## L vs Current




Small surface blemishes are not unusual and do not adversely affect performance. Wire may be visible inside the voids.

Acceptable void sizes:
Top: 0.01 in / 0,254 mm × 0.01 in / 0,254 mm
Sides: 0.02 in / 0,5 mm × 0.047 in / 1,2 mm

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.

## Part Marking (Parts manufactured prior to Oct. 20, 2009 may not be marked.)

| Part number | Value | 1st digit | 2nd digit | Multiplier |
|---|---|---|---|---|
| EPL3010-301 | 0.27 µH | Orange | Black | Brown |
| EPL3010-102 | 1.0 µH | Brown | Black | Red |
| EPL3010-152 | 1.5 µH | Brown | Green | Red |
| EPL3010-222 | 2.2 µH | Red | Red | Red |
| EPL3010-472 | 4.7 µH | Yellow | Violet | Red |
| EPL3010-103 | 10 µH | Brown | Black | Orange |
| EPL3010-223 | 22 µH | Red | Red | Orange |

Note: All marked parts have three dots. Black dot, used only on -301, -102 and -103 as second significant digit, may be very difficult to see.

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Specification subject to change without notice.
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