COOPER COILTRONICS®

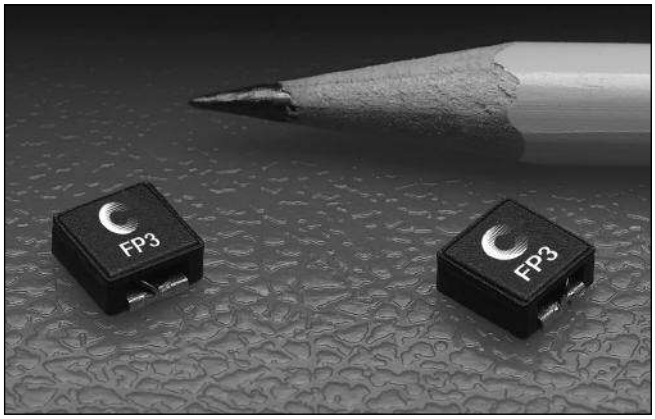
COOPER Bussmann

# FLAT-PAC™ 3
# Low Profile Inductors

RoHS 2002/95/EC

## Description

- 155°C maximum total temperature operation
- Low profile high current inductors
- Inductance range 0.1uh to 15uh
- Design utilizes high temperature powder iron material with a non-organic binder to eliminate thermal aging
- Current rating up to 34.7Adc (Higher peak currents may be attained with a greater rolloff, see rolloff curve)
- Frequency range up to 2MHz




## Applications

- Computers and portable power devices
- Energy storage applications
- DC-DC converters
- Input - Output filer application

## Environmental Data

- Storage temperature range: -40°C to +155°C
- Operating ambient temperature range: -40°C to +155°C (range is application specific).
- Solder reflow temperature: +260°C max. for 10 seconds max.

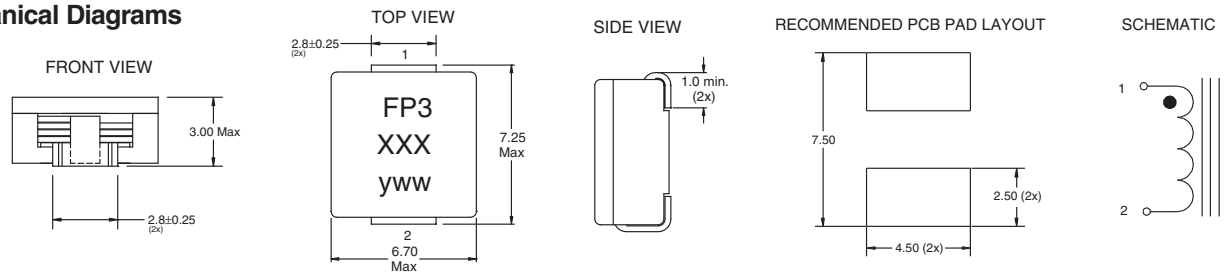
## Packaging

- Units supplied in tape and reel packaging. Reel quantity = 1,700 parts per reel.

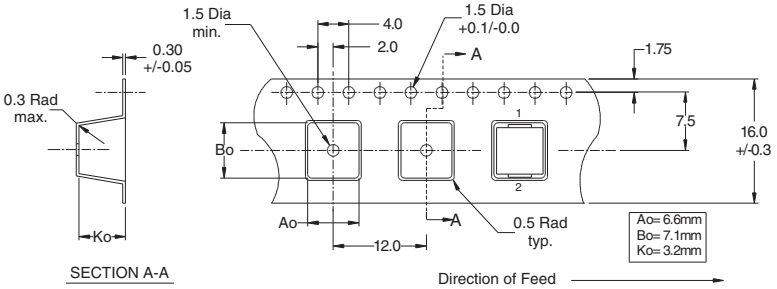
| Part Number | Rated Inductance µH | OCL (1) µH ± 15% | Irms (2) Amperes | Isat (3) Amperes Approx. 10% | Isat (4) Amperes Approx. 15% | DCR mOhms @ 20°C (Max.) | K-factor (5) |
|---|---|---|---|---|---|---|---|
| **FP3-R10-R** | 0.10 | 0.10 | 19.0 | 27 | 34.7 | 1.21 | 803 |
| **FP3-R20-R** | 0.20 | 0.22 | 15.3 | 16 | 20.8 | 1.88 | 482 |
| **FP3-R47-R** | 0.47 | 0.44 | 10.9 | 11.6 | 14.9 | 3.67 | 344 |
| **FP3-R68-R** | 0.68 | 0.72 | 9.72 | 9.0 | 11.6 | 4.63 | 268 |
| **FP3-1R0-R** | 1.00 | 1.10 | 6.26 | 7.4 | 9.5 | 11.2 | 219 |
| **FP3-1R5-R** | 1.50 | 1.50 | 5.78 | 6.2 | 8.0 | 13.1 | 185 |
| **FP3-2R0-R** | 2.00 | 2.00 | 5.40 | 5.4 | 6.9 | 15.0 | 161 |
| **FP3-3R3-R** | 3.30 | 3.20 | 3.63 | 4.3 | 5.5 | 30.0 | 127 |
| **FP3-4R7-R** | 4.70 | 4.70 | 3.23 | 3.5 | 4.2 | 40.0 | 105 |
| **FP3-8R2-R** | 8.20 | 8.5 | 2.91 | 2.6 | 3.4 | 74.0 | 78 |
| **FP3-100-R** | 10.0 | 10.9 | 2.30 | 2.3 | 3.0 | 101 | 69 |
| **FP3-150-R** | 15.0 | 14.9 | 2.22 | 2.0 | 2.5 | 127 | 59 |

1) OCL (Open Circuit Inductance) Test parameters: 100kHz, 0.1Vrms, 0.0Adc
2) DC current for an approximate ΔT of 40°C without core loss. Derating is necessary for AC currents. PCB layout, trace thickness and width, air-flow, and proximity of other heat generating components will affect the temperature rise. It is recommended that the temperature of the part not exceed 155°C under worst case operating conditions verified in the end application.
3) Isat Amperes Peak for approximately 10% rolloff @ 20°C
4) Isat Amperes Peak for approximately 15% rolloff @ 20°C
5) K-factor: Used to determine B p-p for core loss (see graph). B p-p =K*L*ΔI
B p-p:(Gauss), K: (K factor from table), L: (Inductance in uH), ΔI (Peak to peak ripple current in Amps).

## Mechanical Diagrams



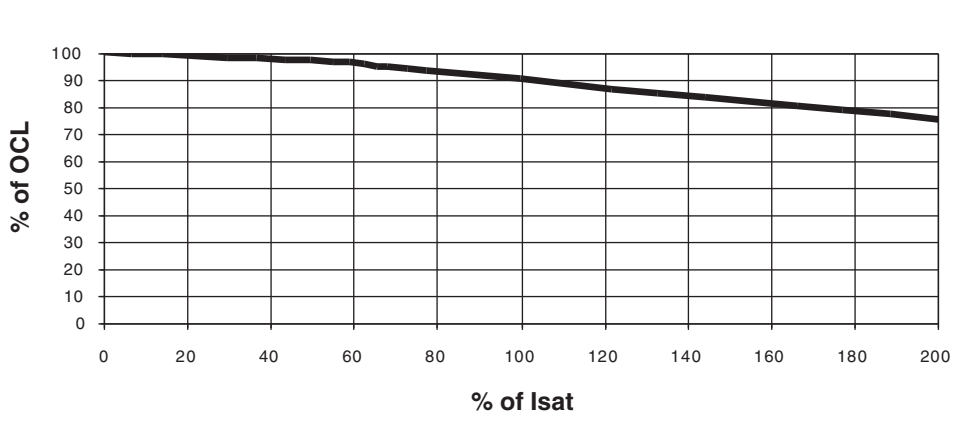

## Packaging Information



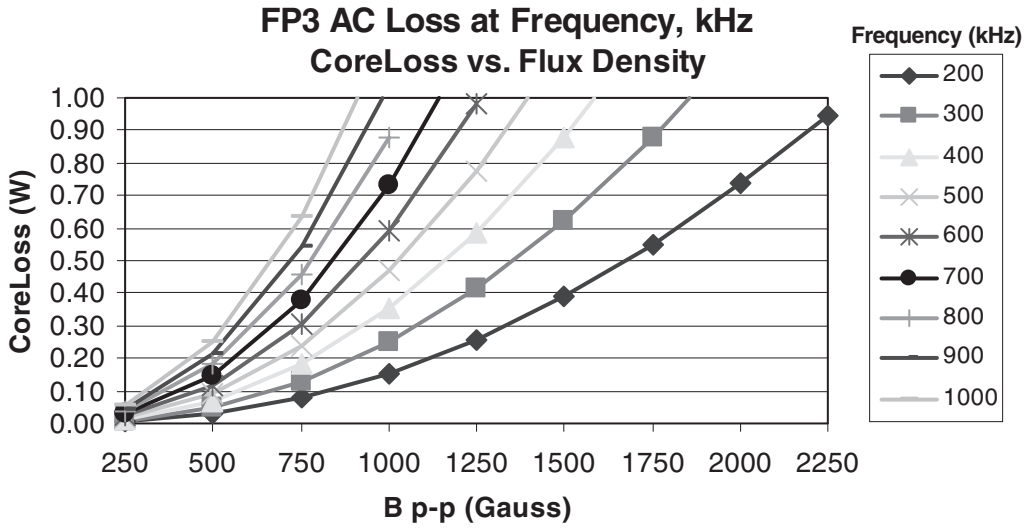

Dimensions in Millimeters

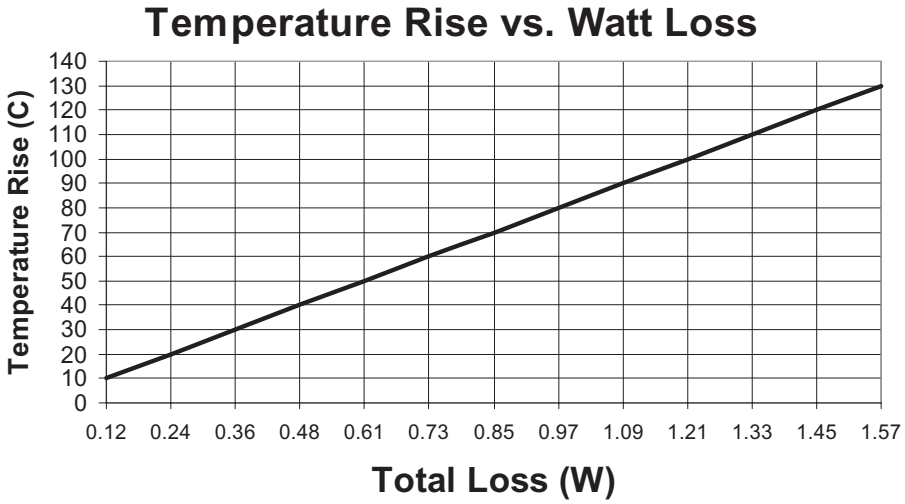
xxx = Inductance value
yww = Date code

## Inductance Characteristics




## Core Loss



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