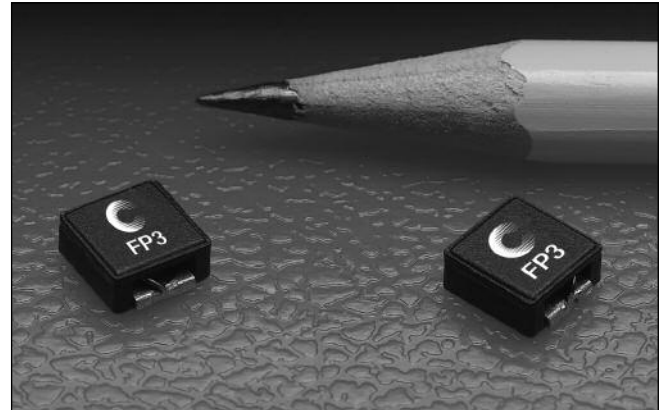


### Description

- 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 filter 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

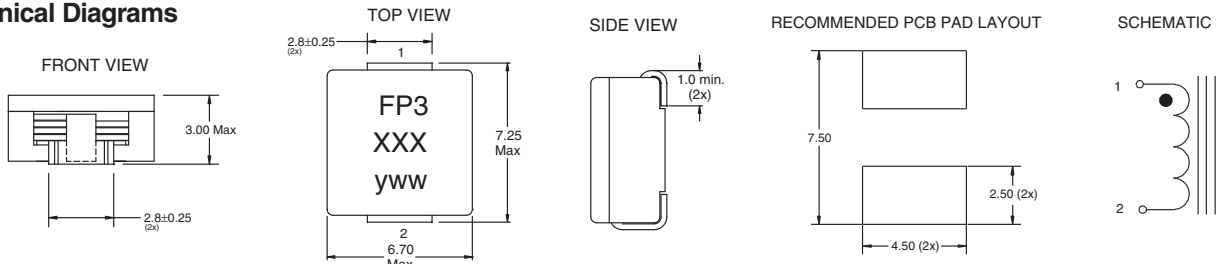
- Units supplied in tape and reel packaging.  
Reel quantity = 1,700 parts per reel.

Part Number	Rated Inductance $\mu\text{H}$	OCL (1) $\mu\text{H} \pm 15\%$	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

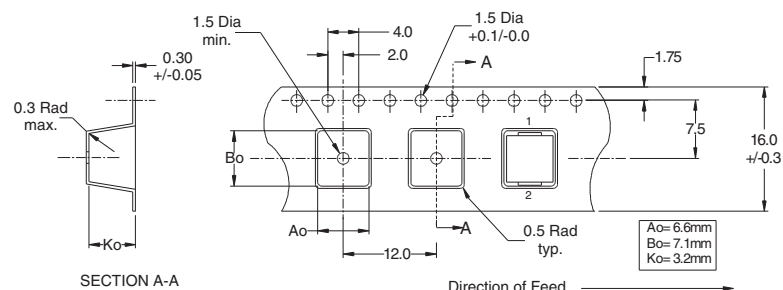
1) OCL (Open Circuit Inductance) Test parameters: 100kHz, 0.1Vrms, 0.0Adc  
 2) DC current for an approximate  $\Delta T$  of 40°C without core loss. Derating is necessary for AC currents. PCB layout, trace thickness and width, air-flow, and proximity of other heat generating components will affect the 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 =  $K^2 \cdot L \cdot \Delta I$   
 B p-p: (Gauss), K: (K factor from table), L: (Inductance in uH),  $\Delta I$  (Peak to peak ripple current in Amps).

### Mechanical Diagrams



### Packaging Information

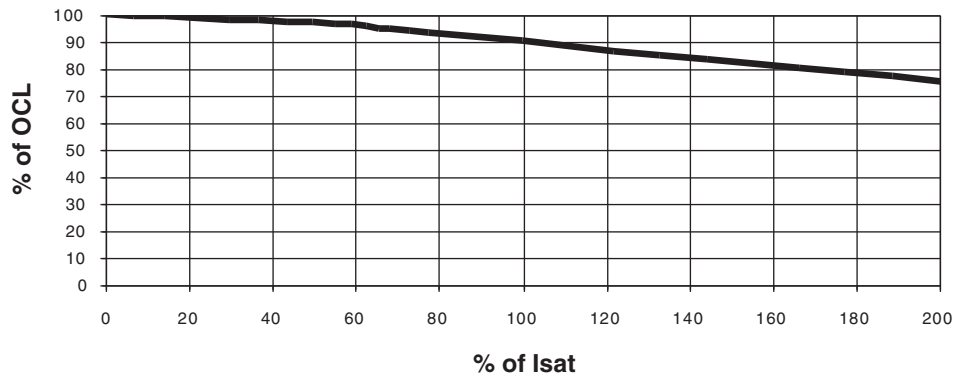


Dimensions in Millimeters

xxx = Inductance value  
yww = Date code

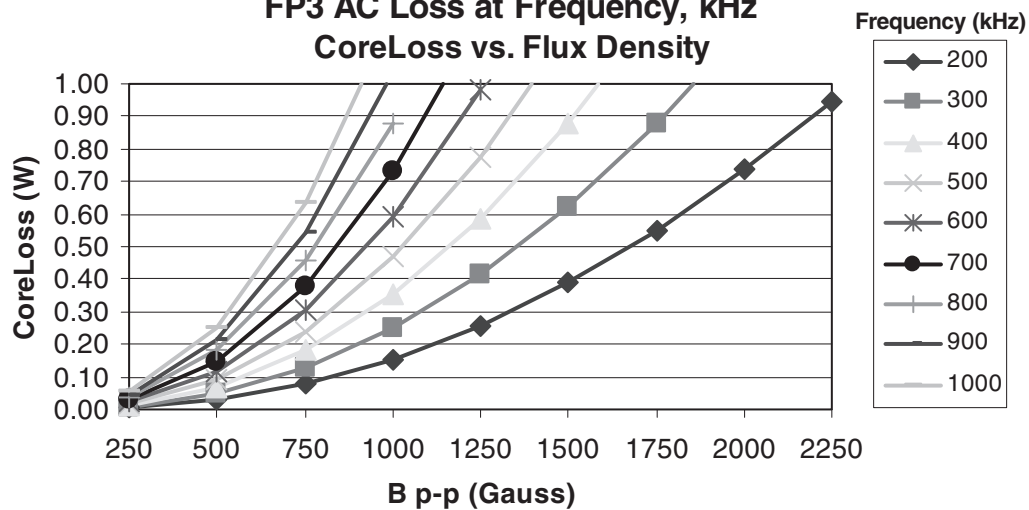
Inductance Characteristics

OCL vs. Isat

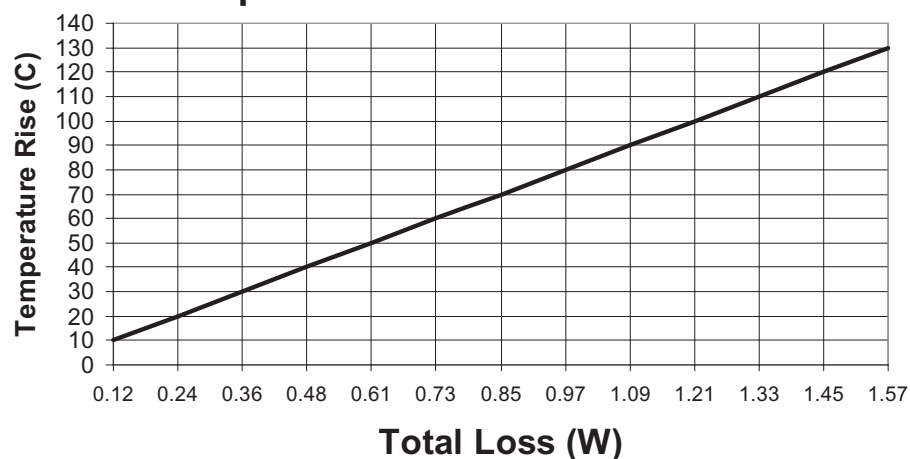


Core Loss

FP3 AC Loss at Frequency, kHz  
CoreLoss vs. Flux Density



Temperature Rise vs. Watt Loss



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