

Description

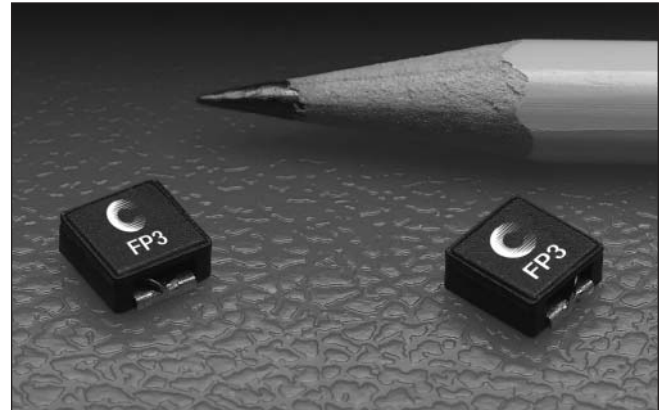
- 155°C maximum total temperature operation
- Low profile high current inductors
- Inductance range 0.1uH to 15uH
- Design utilizes high temperature powder iron material with a non-organic binder to eliminate thermal aging
- Current rating up to 34.7Adc (Higher peak currents may be attained with a greater 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).
- Infrared reflow temperature: +260°C for 10 seconds maximum



Packaging

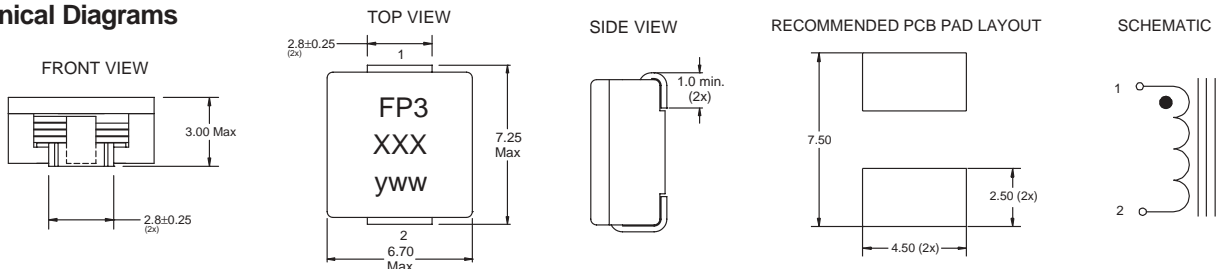
- Units supplied in tape and reel packaging.
Reel quantity = 1,700 parts per reel.

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

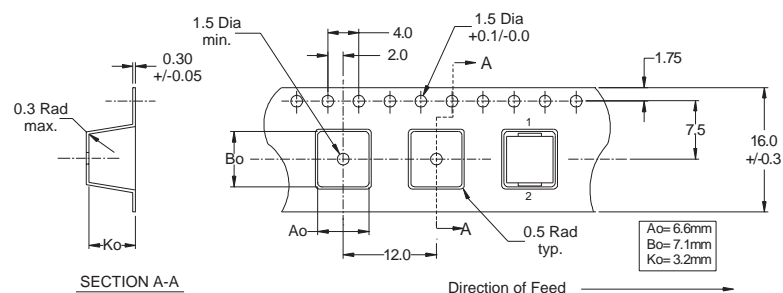
1) OCL (Open Circuit Inductance) Test parameters: 100kHz, 0.1Vrms, 0.0Adc
2) DC current for an approximate ΔT of 40°C without core loss. Derating is necessary for AC currents. PCB layout, trace thickness and width, air-flow, and proximity of other heat generating components will affect the temperature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

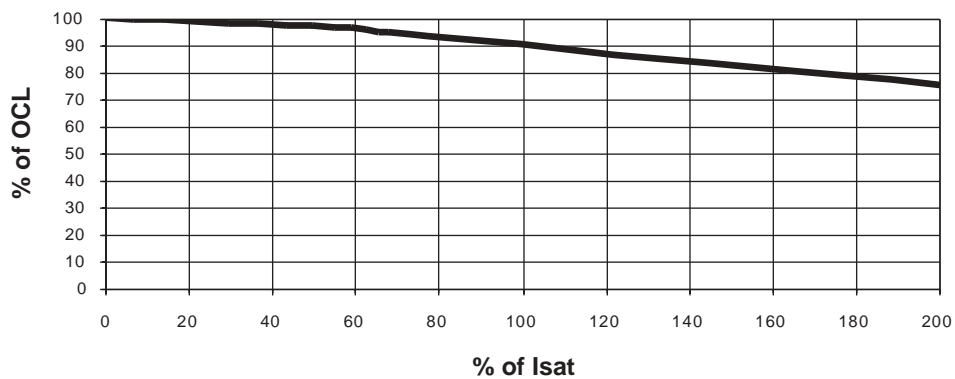
Mechanical Diagrams



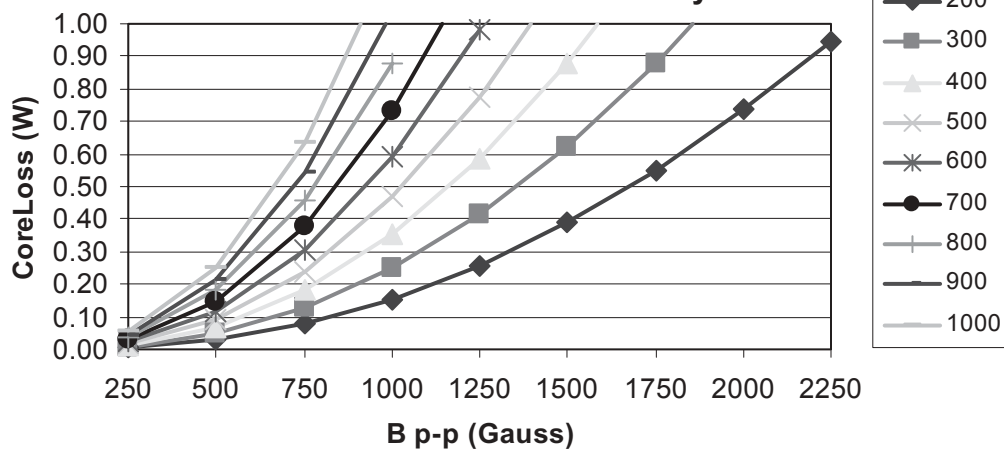
Packaging Information



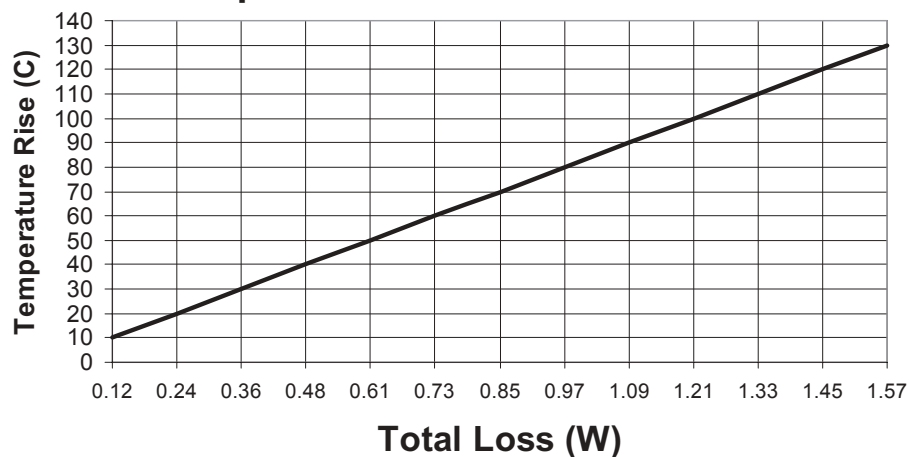
Inductance vs Saturation Current



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



Temperature Rise vs. Watt Loss



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