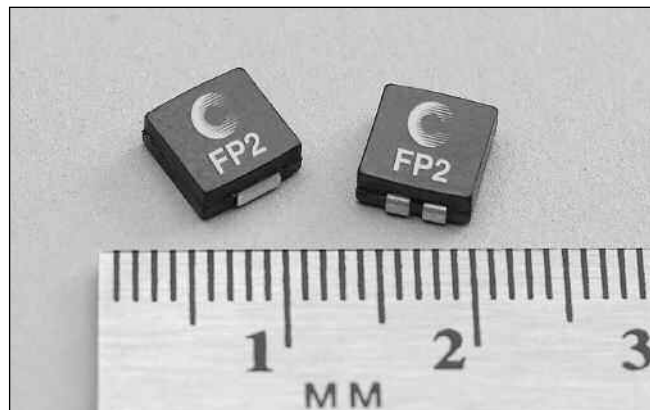


### Description

- 125°C maximum total temperature operation
- Surface mount inductors designed for higher speed switch mode applications requiring lower inductance and high current
- Dual conductors allow for low inductance and high current or high inductance and lower current
- Inductance range from .047uH to 0.480uH
- Current range up to 42 Amps
- Meets UL 94V-0 flammability standard
- Ferrite core material



### Applications

- Next generation microprocessors

### Environmental Data

- Storage temperature range: -40°C to +125°C
- Operating ambient temperature range: -40°C to +125°C (range is application specific).
- Solder reflow temperature: +260°C max. for 10 seconds max.

### Packaging

- Supplied in tape and reel packaging, 1700 (FP2-S and FP2-D) and 950 (FP2-S200 and FP2-VXXX) per reel

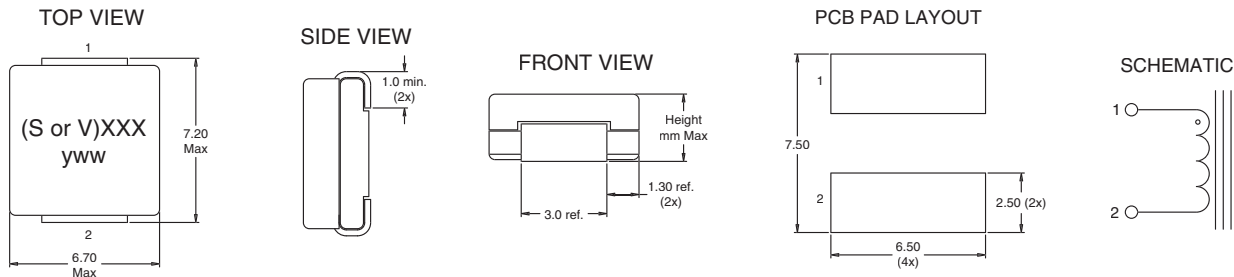
| Parallel Mode           |                                  |                                  |                              |                              |                                 |        |                                            |
|-------------------------|----------------------------------|----------------------------------|------------------------------|------------------------------|---------------------------------|--------|--------------------------------------------|
| Part Number             | Inductance<br>μH<br>(rated)      | OCL <sup>(1)</sup><br>μH±<br>15% | I RMS <sup>(2)</sup><br>Amps | I SAT <sup>(3)</sup><br>Amps | DCR <sup>(4)</sup><br>Ω<br>nom. | Height | Volt-μ<br>Sec (VμS)<br>ref. <sup>(5)</sup> |
| <b>Single Conductor</b> |                                  |                                  |                              |                              |                                 |        |                                            |
| FP2-S047-R              | 0.047                            | 0.047                            | 39.0                         | 42.0                         | 0.00024                         | 3.00   | 0.75                                       |
| FP2-S068-R              | 0.068                            | 0.068                            | 39.0                         | 32.0                         | 0.00024                         | 3.00   | 0.75                                       |
| FP2-S082-R              | 0.082                            | 0.082                            | 39.0                         | 26.0                         | 0.00024                         | 3.00   | 0.75                                       |
| FP2-S100-R              | 0.100                            | 0.100                            | 39.0                         | 22.0                         | 0.00024                         | 3.00   | 0.75                                       |
| FP2-S120-R              | 0.120                            | 0.120                            | 39.0                         | 18.0                         | 0.00024                         | 3.00   | 0.75                                       |
| FP2-S200-R              | 0.200                            | 0.200                            | 37.0                         | 19.0                         | 0.00028                         | 5.00   | 0.99                                       |
| FP2-V050-R              | 0.050                            | 0.050                            | 37.0                         | 70.0                         | 0.00028                         | 5.00   | 0.99                                       |
| FP2-V100-R              | 0.100                            | 0.100                            | 37.0                         | 40.0                         | 0.00028                         | 5.00   | 0.99                                       |
| FP2-V120-R              | 0.120                            | 0.120                            | 37.0                         | 33.0                         | 0.00028                         | 5.00   | 0.99                                       |
| FP2-V150-R              | 0.150                            | 0.150                            | 37.0                         | 25.5                         | 0.00028                         | 5.00   | 0.99                                       |
| <b>Double Conductor</b> |                                  |                                  |                              |                              |                                 |        |                                            |
| FP2-D047-R              | 0.047                            | 0.047                            | 37.0                         | 42.0                         | 0.00026                         | 3.00   | 0.75                                       |
| FP2-D068-R              | 0.068                            | 0.068                            | 37.0                         | 32.0                         | 0.00026                         | 3.00   | 0.75                                       |
| FP2-D082-R              | 0.082                            | 0.082                            | 37.0                         | 26.0                         | 0.00026                         | 3.00   | 0.75                                       |
| FP2-D100-R              | 0.100                            | 0.100                            | 37.0                         | 22.0                         | 0.00026                         | 3.00   | 0.75                                       |
| FP2-D120-R              | 0.120                            | 0.120                            | 37.0                         | 18.0                         | 0.00026                         | 3.00   | 0.75                                       |
| Series Mode             |                                  |                                  |                              |                              |                                 |        |                                            |
| Part Number             | Inductance<br>μH ref.<br>(rated) | OCL <sup>(1)</sup><br>μH<br>ref. | I RMS <sup>(2)</sup><br>Amps | I SAT <sup>(3)</sup><br>Amps | DCR <sup>(4)</sup><br>Ω<br>ref. | Height | Volt-μ <sup>(5)</sup><br>Sec (VμS)<br>ref. |
| <b>Double Conductor</b> |                                  |                                  |                              |                              |                                 |        |                                            |
| FP2-D047-R              | 0.188                            | 0.188                            | 16.0                         | 21.0                         | 0.0013                          | 3.00   | 1.50                                       |
| FP2-D068-R              | 0.272                            | 0.272                            | 16.0                         | 16.0                         | 0.0013                          | 3.00   | 1.50                                       |
| FP2-D082-R              | 0.328                            | 0.328                            | 16.0                         | 13.0                         | 0.0013                          | 3.00   | 1.50                                       |
| FP2-D100-R              | 0.400                            | 0.400                            | 16.0                         | 11.0                         | 0.0013                          | 3.00   | 1.50                                       |
| FP2-D120-R              | 0.480                            | 0.480                            | 16.0                         | 9.0                          | 0.0013                          | 3.00   | 1.50                                       |

**Notes:** (1) Open Circuit Inductance Test Parameters: 1MHz, .100Vrms, 0.0Adc.  
 (2) RMS current for an approximate ΔT of 40°C without core loss. It is recommended that the temperature of the part not exceed 125°C.  
 (3) Peak current for approximately 30% rolloff at 20°C.

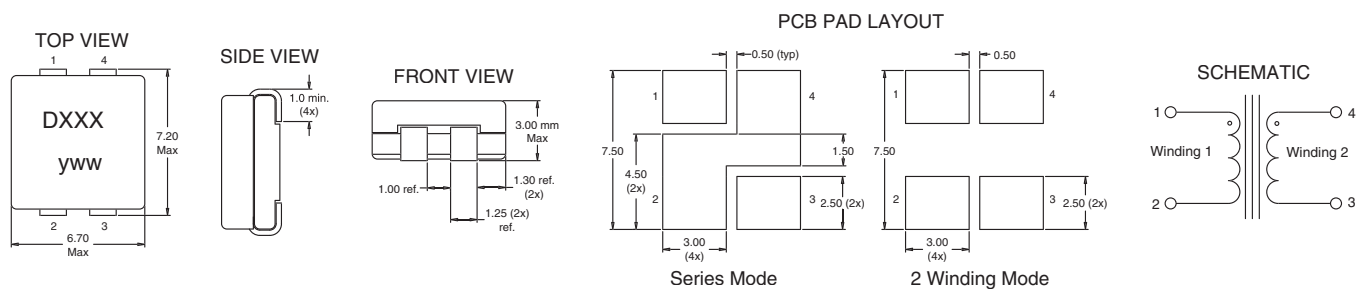
(4) DCR limits 20°C.  
 (5) Applied Volt-Time product (V-μS) across the inductor. This value represents the applied V-μS at 500KHz necessary to generate a core loss equal to 10% of the total losses for 40°C temperature rise.

## Mechanical Diagrams

### Single Conductor



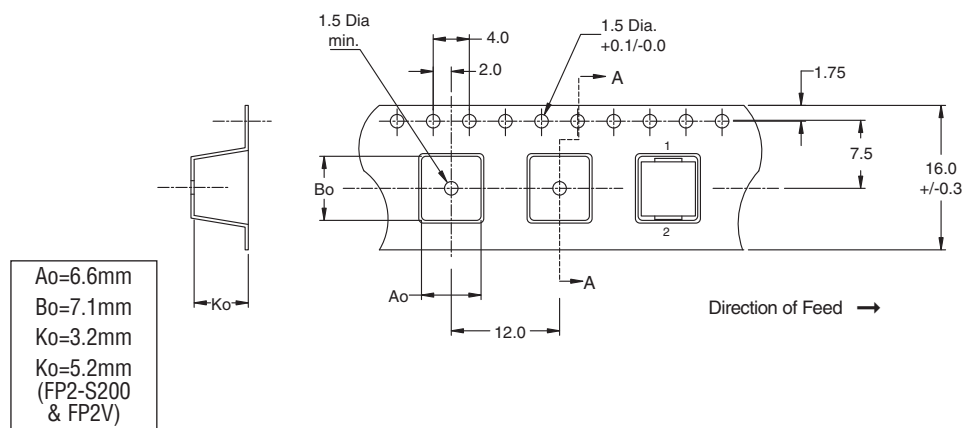
### Dual Conductor



**Notes:** (1) Marking SXXX = S: Single Conductor Style, DXXX = D: Dual Conductor Style, XXX - last three digits of part number. Date Code: yww = y: Last Digit of year, ww: week of year.  
(2) All Dimensions are in millimeters unless otherwise specified.

(3) For parallel mode operation, connect terminals 1 to 4 and 2 to 3 on PCB (use Single Conductor PCB Layout) For series mode operation, connect terminals 2 to 4 on PCB (Dual Conductor Model).

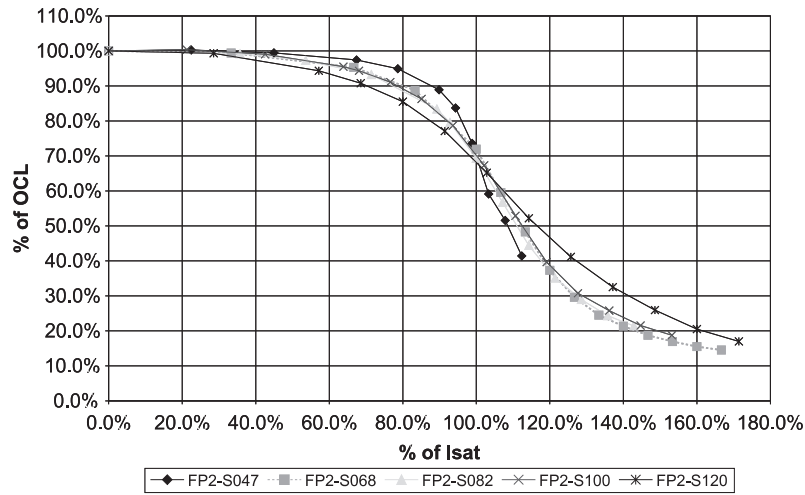
## Packaging Information



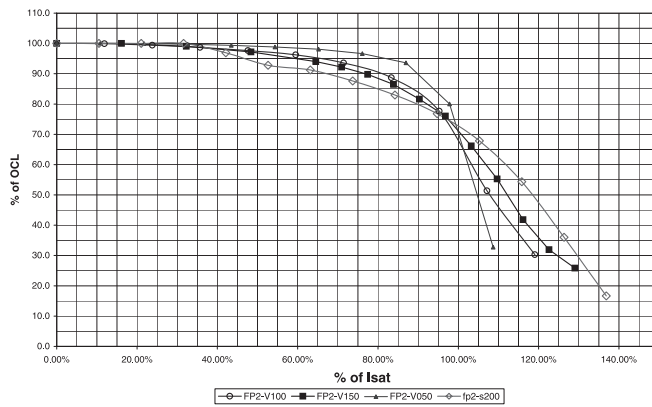
**ACTUAL SIZE  
FLAT-PAC'S**

## Inductance Characteristics

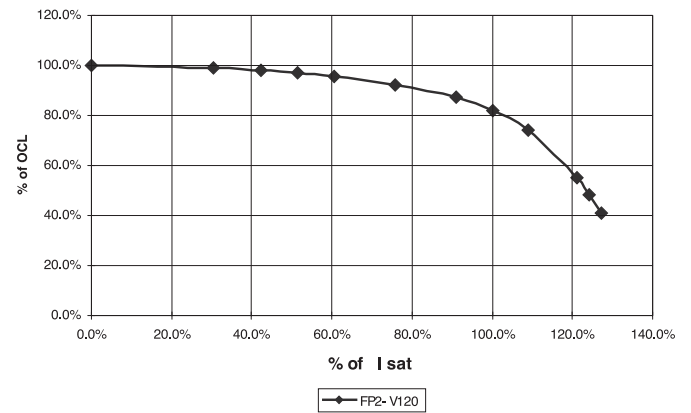
OCL vs. Isat



OCL vs. Isat



OCL vs. Isat



## Core Loss

I<sub>RMS</sub> DERATING WITH CORE LOSS

