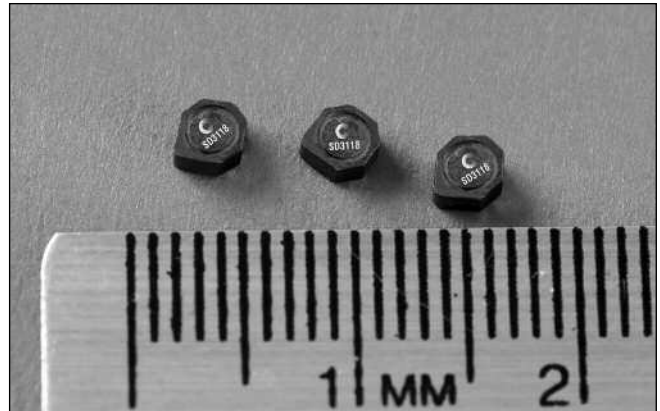


### Description

- 125°C maximum total temperature operation
- 3.1mm x 3.1mm x 1.8mm shielded drum core
- Ferrite core material
- Inductance range from 1.0uH to 1000uH
- Current range from 2.94 Amps to 0.083 Amps
- Frequency range up to 4MHz



### Applications

- Cellular phones, Digital cameras, CD players, PDA's
- Small LCD displays
- LED driver and LED flash circuits
- Hard disk drives
- Backlighting
- EL panel

### Environmental Data

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

### Packaging

- Supplied in tape and reel packaging, 4100 per reel

| Part Number  | Rated Inductance (µH) | OCL (1) (µH) | Part Marking Designator | I <sub>rms</sub> (2) Amperes | I <sub>sat</sub> (3) Amperes | DCR (Ω) typ. @ 20°C | K-factor (4) |
|--------------|-----------------------|--------------|-------------------------|------------------------------|------------------------------|---------------------|--------------|
| SD3118-1R0-R | 1.0                   | 1.04+/-30%   | A                       | 2.01                         | 3.07                         | 0.041               | 84           |
| SD3118-1R5-R | 1.5                   | 1.44+/-30%   | B                       | 1.81                         | 2.42                         | 0.051               | 68           |
| SD3118-2R2-R | 2.2                   | 2.12+/-30%   | C                       | 1.50                         | 2.00                         | 0.074               | 57           |
| SD3118-3R3-R | 3.3                   | 3.36+/-30%   | D                       | 1.22                         | 1.59                         | 0.113               | 56           |
| SD3118-4R7-R | 4.7                   | 4.90+/-30%   | E                       | 1.02                         | 1.31                         | 0.162               | 39           |
| SD3118-6R8-R | 6.8                   | 6.72+/-30%   | F                       | 0.85                         | 1.12                         | 0.232               | 32           |
| SD3118-8R2-R | 8.2                   | 8.10+/-30%   | G                       | 0.81                         | 1.02                         | 0.257               | 29           |
| SD3118-100-R | 10.0                  | 10.4+/-30%   | H                       | 0.75                         | 0.90                         | 0.295               | 26           |
| SD3118-150-R | 15.0                  | 14.9+/-20%   | I                       | 0.62                         | 0.75                         | 0.440               | 21           |
| SD3118-220-R | 22.0                  | 22.5+/-20%   | J                       | 0.50                         | 0.61                         | 0.676               | 18           |
| SD3118-330-R | 33.0                  | 33.1+/-20%   | K                       | 0.41                         | 0.51                         | 0.986               | 14           |
| SD3118-470-R | 47.0                  | 47.5+/-20%   | L                       | 0.370                        | 0.42                         | 1.21                | 12           |
| SD3118-221-R | 220.0                 | 221.9+/-20%  | M                       | 0.182                        | 0.177                        | 4.77                | 6            |
| SD3118-331-R | 330.0                 | 329.9+/-20%  | N                       | 0.146                        | 0.145                        | 7.40                | 5            |
| SD3118-471-R | 470.0                 | 470.1+/-20%  | O                       | 0.131                        | 0.122                        | 9.20                | 4            |
| SD3118-681-R | 680.0                 | 680.3+/-20%  | P                       | 0.107                        | 0.101                        | 13.70               | 3            |
| SD3118-102-R | 1000.0                | 999.4+/-20%  | Q                       | 0.087                        | 0.083                        | 20.90               | 3            |

(1) Open Circuit Inductance Test Parameters: 100kHz, 0.1V, 0.0Adc.

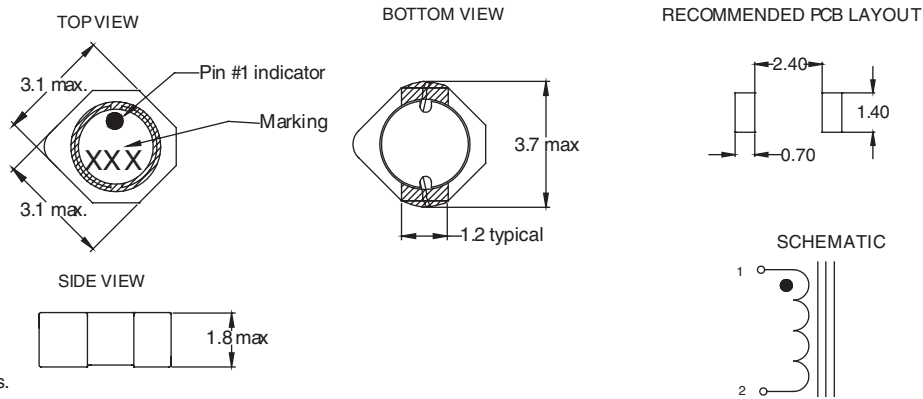
(2) I<sub>rms</sub>: DC current for an approximate DT of 40°C without core loss. Derating is necessary for AC currents. PCB layout, trace thickness and width, air-flow, and proximity of other heat generating components will affect the temperature rise. It is recommended that the temperature of the part not exceed 125°C under worst case operating conditions verified in the end application.

(3) I<sub>sat</sub> Amperes peak for approximately 30% rolloff (@20°C)

(4) K-factor: Used to determine B p-p for core loss (see graph).

B p-p = K\*L\*ΔI, B p-p(mT), K: (K factor from table), L: (Inductance in uH), ΔI (Peak to peak ripple current in Amps).

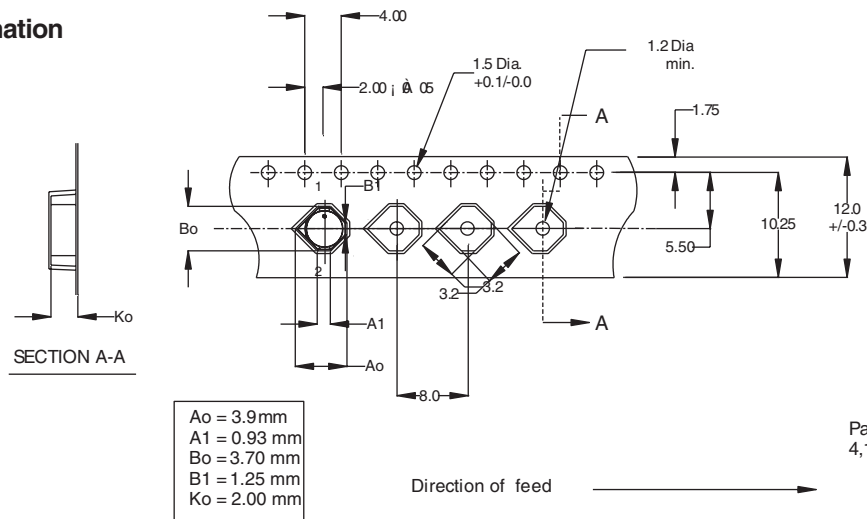
### Mechanical Diagrams



Dimensions are in millimeters.

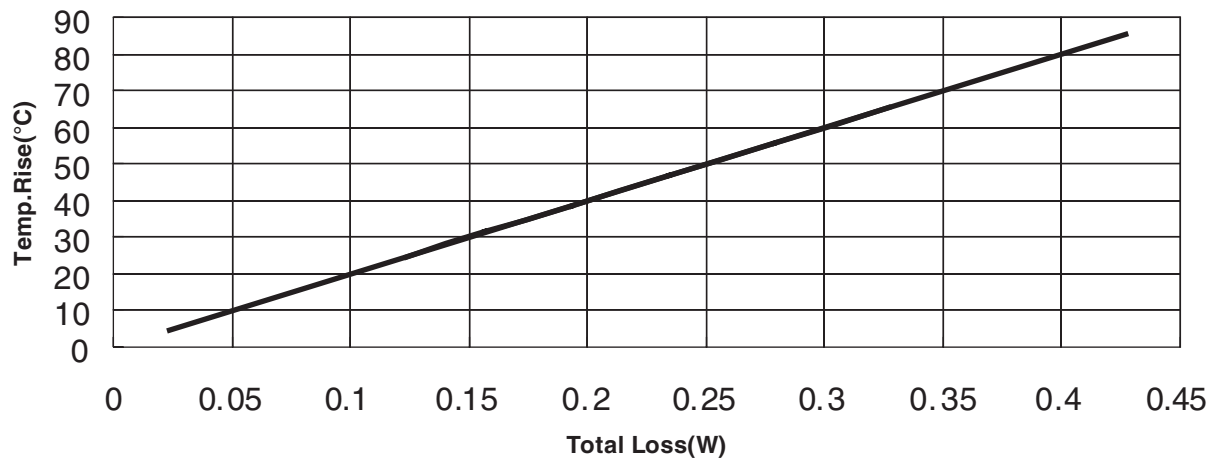
Part Marking:  
3 Digit Marking: (1st digit: Indicates inductance value per letter in Part Marking Designator); (2nd digit: Bi-weekly production date code); (3rd digit: Last digit of the year produced).

### Packaging Information

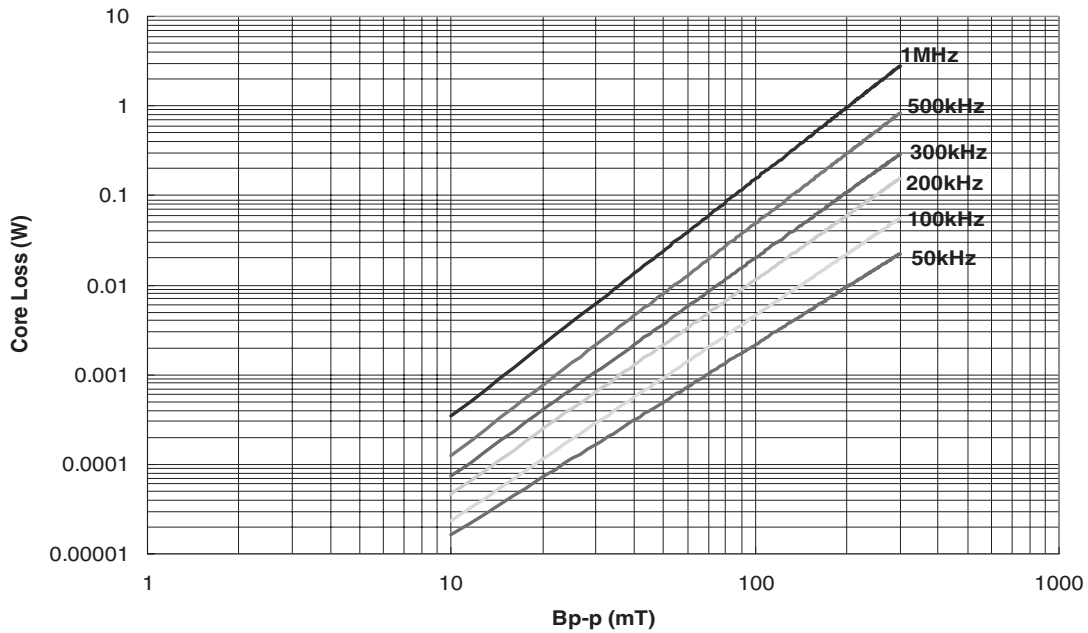


Parts packaged on 13" Diameter reel,  
4,100 parts per reel.

### DC Current vs. Temperature



## Core Loss



## Inductance Characteristics

OCL vs. Isat

