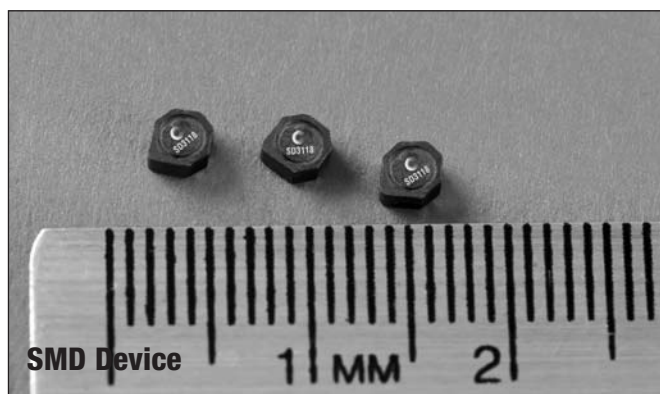


# Low Profile Power Inductors

## SD3118 Series



### Description

- 125°C maximum total temperature operation
- 3.2mm x 3.2mm x 1.8mm maximum shielded drum core
- Ferrite core material
- Inductance range from 1.0μH to 1000μH
- Current range from 2.94 Amps to 0.083 Amps
- Frequency range up to 4MHz
- RoHS compliant

### Applications

- Cellular phones, Digital cameras, CD players, PDAs
- 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 (with derated current)
- Solder reflow temperature: +260°C max. for 10 seconds maximum

### Packaging

- Supplied in tape and reel packaging, 4100 per reel, 13" diameter reel

### Product Specifications

| Part Number <sup>5</sup> | Rated Inductance (μH) | OCL <sup>1</sup> (μH) | Part Marking Designator | I <sub>rms</sub> <sup>2</sup> (Amps) | I <sub>sat</sub> <sup>3</sup> (Amps) | DCR (Ω) @ 20°C (Typical) | K-factor <sup>4</sup> |
|--------------------------|-----------------------|-----------------------|-------------------------|--------------------------------------|--------------------------------------|--------------------------|-----------------------|
| 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 (OCL) Test Parameters: 100kHz, 0.10V<sub>rms</sub>, 0.0Adc

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

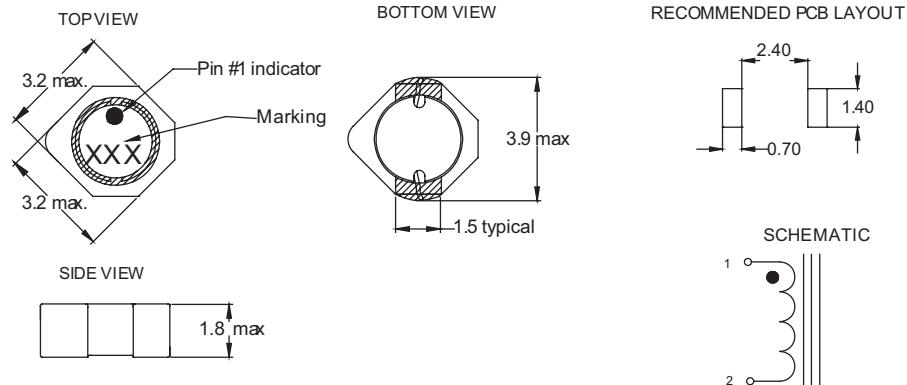
3 I<sub>sat</sub>: Peak current for approximately 30% rolloff at +20°C.

4 K-factor: Used to determine B<sub>p-p</sub> for core loss (see graph). B<sub>p-p</sub> = K \* L \* ΔI. B<sub>p-p</sub> (mT), K: (K-factor from table), L: (inductance in μH), ΔI (peak-to-peak ripple current in amps).

5 Part Number Definition: HCF1007-xxx-R

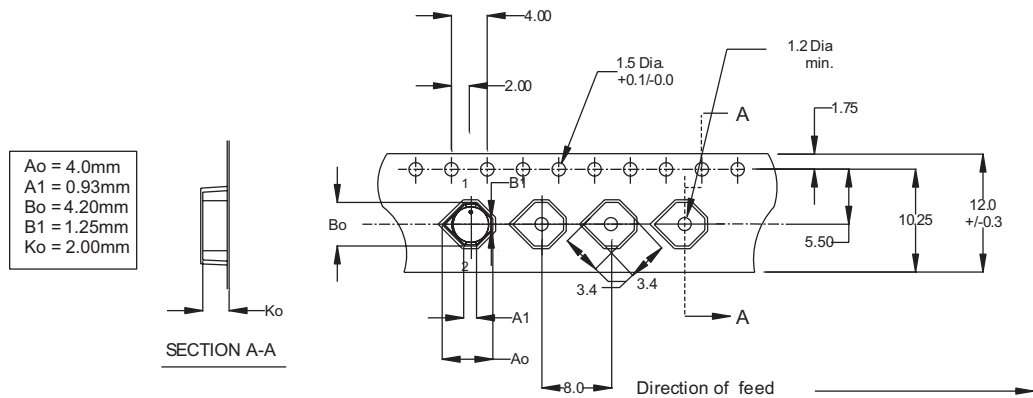
- SD3118 = Product code and size
- xxx= Inductance value in μH, R = decimal point.
- If no "R" is present then third character =# of zeros
- -R suffix = RoHS compliant

## Dimensions - mm



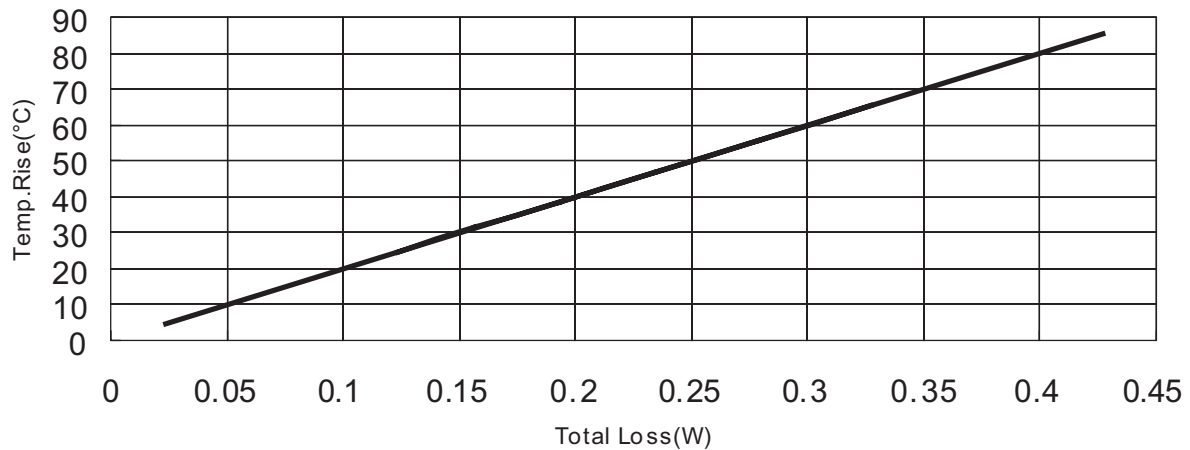
3 Digit Part Marking: (1st digit: Indicates inductance value per letter in Part Marking Designator); (2nd digit: Bi-weekly production date code); (3rd digit: Last digit of the year produced).

## Packaging Information - mm

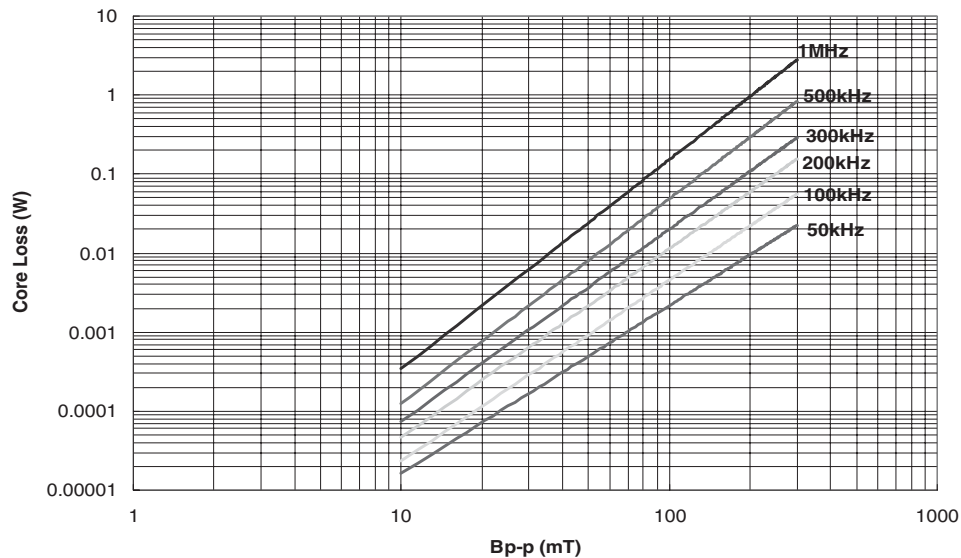


Supplied in tape-and-reel packaging, 4100 parts per reel, 13" diameter reel.

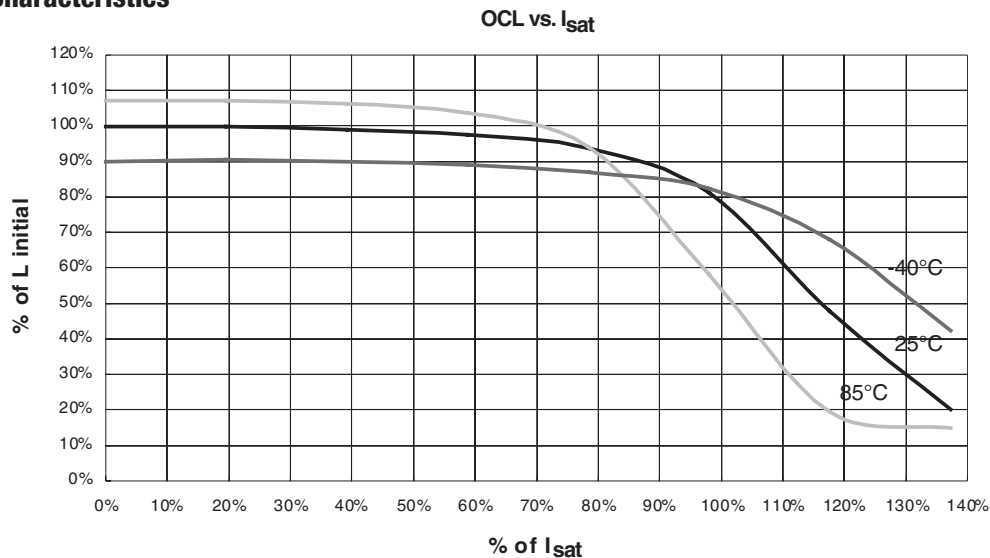
## Temperature Rise vs. Total Loss



## Core Loss



## Inductance Characteristics



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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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