

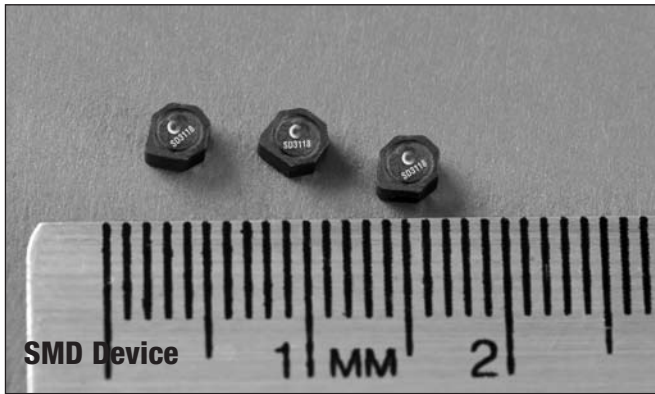


**THE DATASHEET OF
SD3118-4R7-R**



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 ⁵	Rated Inductance (μH)	OCL ¹ (μH)	Part Marking Designator	I _{rms} ² (Amps)	I _{sat} ³ (Amps)	DCR (Ω) @ 20°C (Typical)	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 OCL: Open Circuit Inductance (OCL) Test Parameters: 100kHz, 0.10V_{rms}, 0.0Adc

2 I_{rms}: 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.

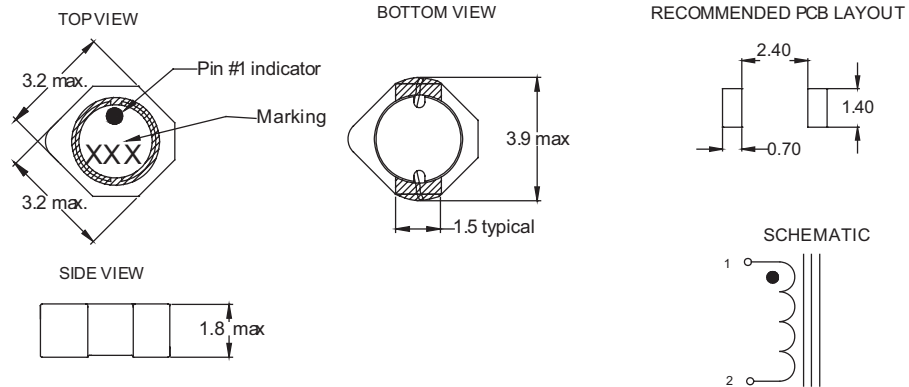
3 I_{sat}: Peak current for approximately 30% rolloff at +20°C.

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 μH), ΔI (peak-to-peak ripple current in amps).

5 Part Number Definition: HCF1007-xxx-R

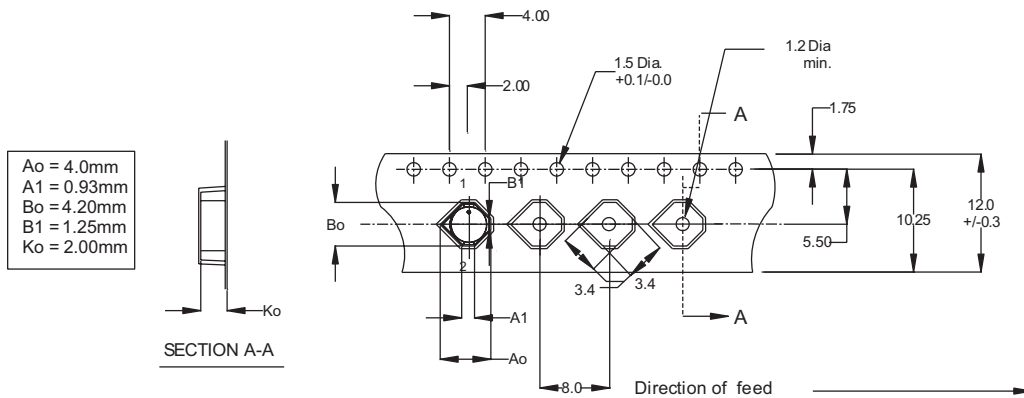
- SD3118 = Product code and size
- xxx= Inductance value in μH, R = decimal point.
- If no "R" is present then third character =# of zeros
- -R suffix = RoHS compliant

Dimensions - mm



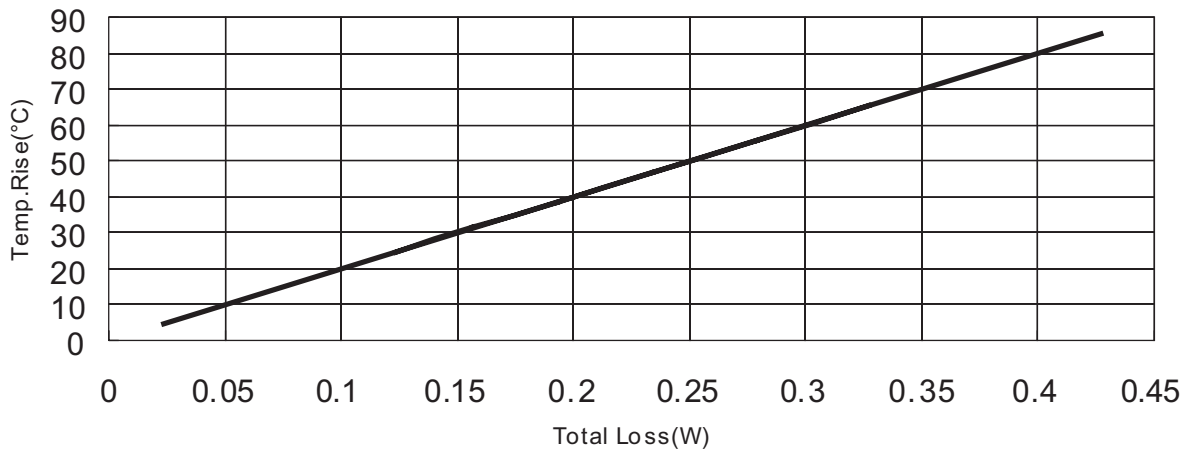
3 Digit Part Marking: (1st digit: Indicates inductance value per letter in Part Marking Designator); (2nd digit: Bi-weekly production date code); (3rd digit: Last digit of the year produced).

Packaging Information - mm



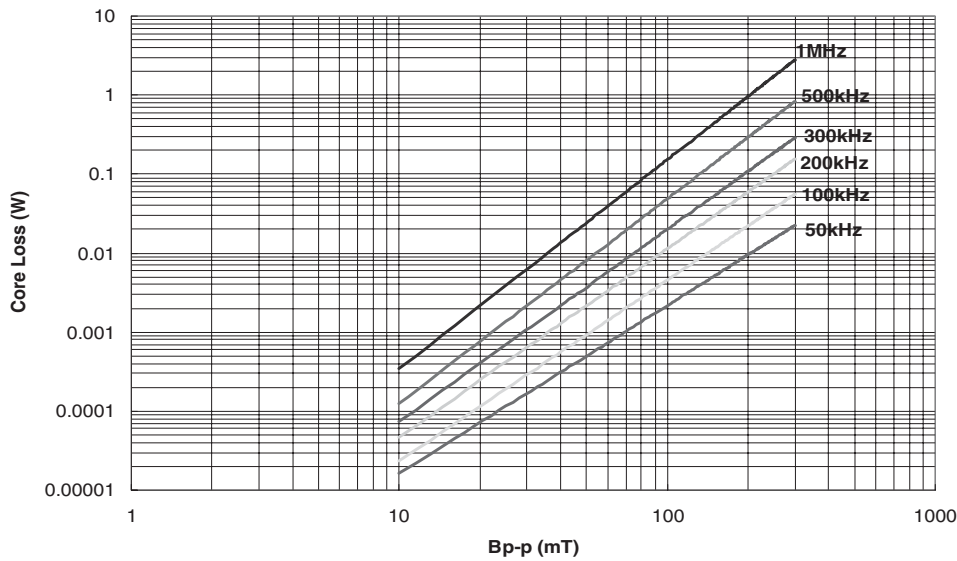
Supplied in tape-and-reel packaging, 4100 parts per reel, 13" diameter reel.

Temperature Rise vs. Total Loss



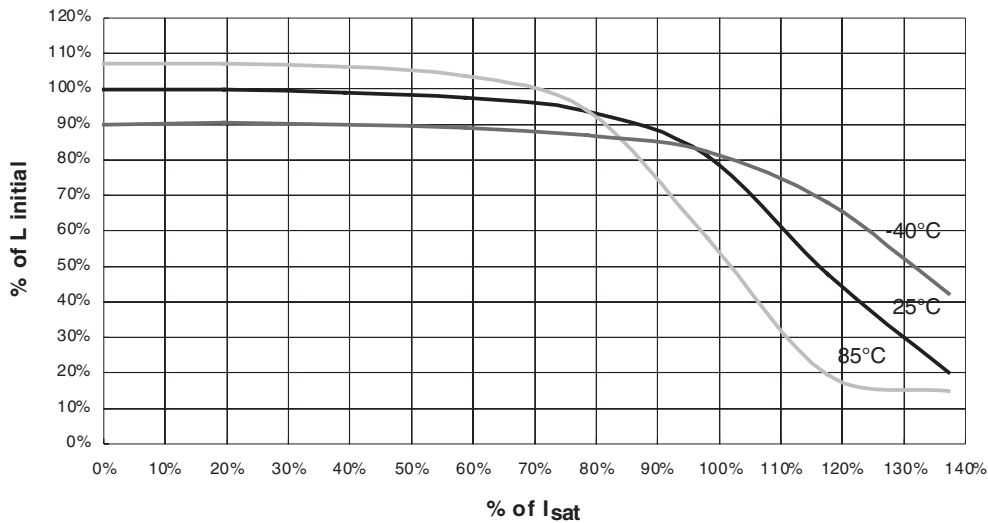


Core Loss



Inductance Characteristics

OCL vs. I_{sat}



North America

Cooper Electronic Technologies
1225 Broken Sound Parkway NW
Suite F
Boca Raton, FL 33487-3533
Tel: 1-561-998-4100
Fax: 1-561-241-6640
Toll Free: 1-888-414-2645

Cooper Bussmann
P.O. Box 14460
St. Louis, MO 63178-4460
Tel: 1-636-394-2877
Fax: 1-636-527-1607

Europe

Cooper Electronic Technologies
Cooper (UK) Limited
Burton-on-the-Wolds
Leicestershire • LE12 5TH UK
Tel: +44 (0) 1509 882 737
Fax: +44 (0) 1509 882 786

Cooper Electronic Technologies
Avda. Santa Eulalia, 290
08223
Terrassa, (Barcelona), Spain
Tel: +34 937 362 812
+34 937 362 813
Fax: +34 937 362 719

Asia Pacific

Cooper Electronic Technologies
1 Jalan Kilang Timor
#06-01 Pacific Tech Centre
Singapore 159303
Tel: +65 278 6151
Fax: +65 270 4160

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