

SD3114 Series

Low Profile Power Inductors

# **COOPER** Bussmann

#### Description

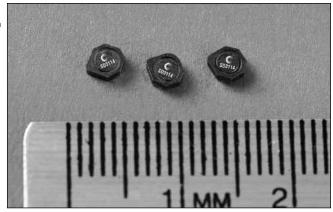
- 125°C maximum total temperature operation
- 3.1mm x 3.1mm x 1.4mm shielded drum core
- · Ferrite core material
- Inductance range from 1.0uH to 330uH
- Current range from 2.59 Amps to 0.106 Amps
- Frequency range up to 4MHz

#### **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	Irms (2) Amperes	Isat (3) Amperes	DCR (Ω) typ. @ 20°C	K-factor (4)
SD3114-1R0-R	1.0	1.16+/-30%	А	1.60	2.35	0.058	98
SD3114-1R5-R	1.5	1.44+/-30%	В	1.39	2.11	0.077	79
SD3114-2R2-R	2.2	2.12+/-30%	С	1.17	1.74	0.110	67
SD3114-3R3-R	3.3	3.36+/-30%	D	0.95	1.38	0.167	54
SD3114-4R7-R	4.7	4.90+/-30%	E	0.77	1.14	0.251	45
SD3114-6R8-R	6.8	6.72+/-30%	F	0.71	0.98	0.296	37
SD3114-8R2-R	8.2	8.10+/-30%	G	0.68	0.89	0.329	34
SD3114-100-R	10.0	10.4+/-30%	Н	0.57	0.78	0.458	30
SD3114-150-R	15.0	14.9+/-20%		0.48	0.66	0.650	25
SD3114-220-R	22.0	22.5+/-20%	J	0.43	0.53	0.821	21
SD3114-330-R	33.0	33.1+/-20%	K	0.35	0.44	1.23	17
SD3114-470-R	47.0	47.5+/-20%	L	0.280	0.37	1.86	14
SD3114-680-R	68.0	68.6+/-20%	М	0.239	0.305	2.62	12
SD3114-820-R	82.0	81.8+/-20%	N	0.227	0.280	2.91	11
SD3114-101-R	100.0	101.1+/-20%	0	0.213	0.252	3.30	10
SD3114-151-R	150.0	149.0+/-20%	Р	0.172	0.207	5.07	8
SD3114-221-R	220.0	220.9+/-20%	Q	0.140	0.170	7.67	6
SD3114-331-R	330.0	329.5+/-20%	R	0.113	0.139	11.78	5

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

(1) Open Critchin Inductance fest Parameters. Tookh2, 0.17, 0.0Addc.
(2) Irms: 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) Isat Amperes peak for approximately 30% rolloff (@20°C)

(d) K-factor: Used to determine B p-p for core loss (see graph). B p-p = K\*L\*∆I, B p-p(mT), K: (K factor from table), L: (Inductance in uH), ∆I (Peak to peak ripple current in Amps).

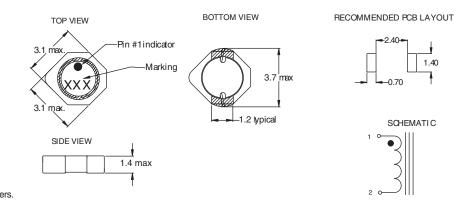




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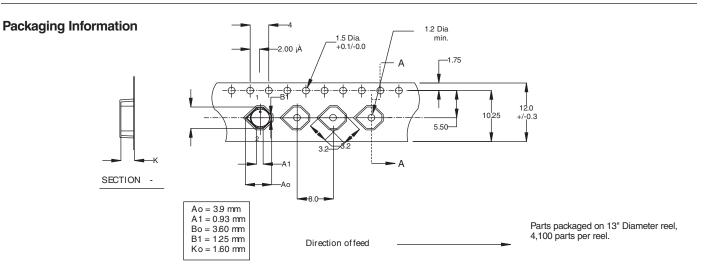
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#### **Mechanical Diagrams**



#### 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).



#### **DC Current vs. Temperature**

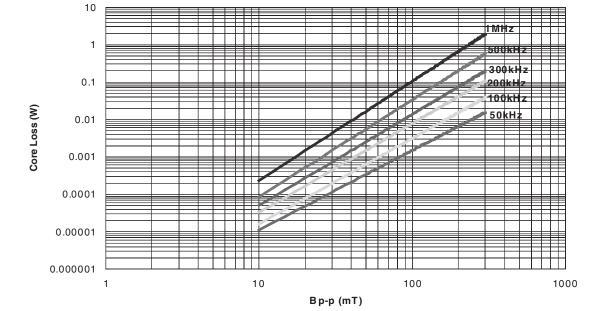




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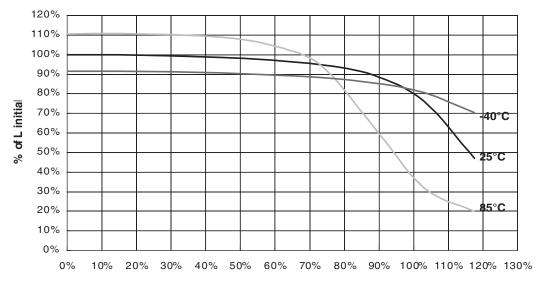


#### Core Loss



#### **Inductance Characteristics**







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#### Visit us on the Web at www.cooperbussmann.com

© Cooper Electronic 1225 Broken Sound Pkwy. Suite F Boca Raton, FL 33487

Technologies 2007 Tel: +1-561-998-4100 Toll Free: +1-888-414-2645 Fax: +1-561-241-6640

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