COOPER COILTRONICS®

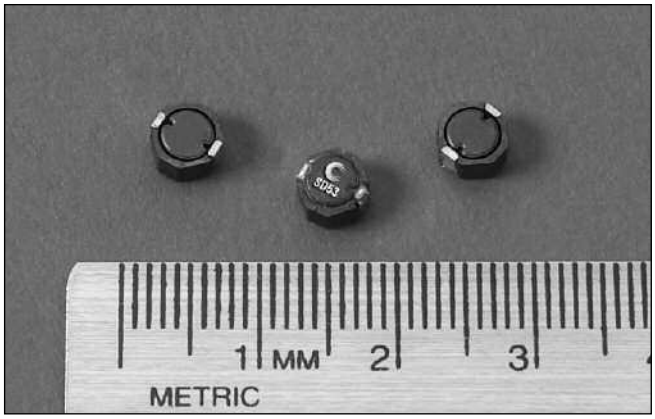
COOPER Bussmann

SD53 Series
Low Profile, Shielded Inductors

Description

- 125°C maximum total temperature operation
- Octagonal shape utilizes board space
- 5.2mm x 5.2mm x 3.0mm surface mount package
- Shielded drum core reduces EMI
- Ferrite core material
- Inductance range from 1.1uH to 100uH
- Current range from 4.08 Amps to 0.44 Amps

RoHS 2002/95/EC



Applications

- High Power LED driver
- White LED and OLED displays
- DSL modems, digital cameras
- Buck, Boost Inductor
- Cellular phones, Smart phones
- MP3 players, Digital radio player
- PDA, Palmtop, and wireless handhelds
- Battery power, TFT - LCD Bias supply

Packaging

- Supplied in tape and reel packaging, 2600 per reel

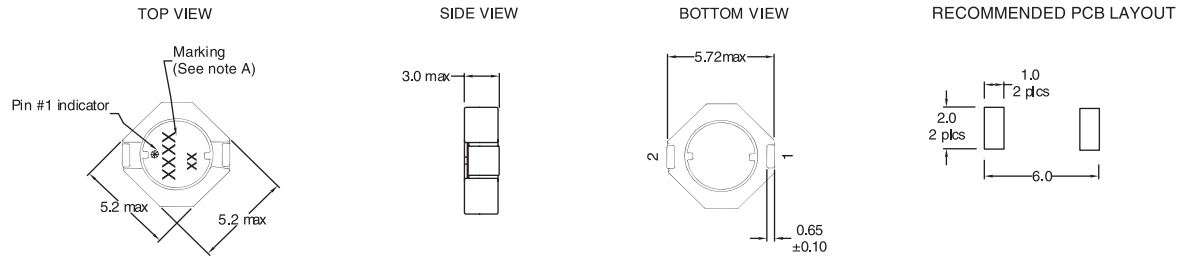
Environmental Data

- 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

Part Number	Rated Inductance (µH)	OCL (1) µH ± 20%	Part Marking	Irms (2) Amperes	Isat (3) Amperes	DCR Ω @20°C (Typical)	DCR Ω @20°C (Maximum)	K-factor (4)
SD53-1R1-R	1.10	1.10	A	3.25	4.80	0.017	0.020	48
SD53-2R0-R	2.00	2.00	B	2.64	3.30	0.023	0.027	35
SD53-3R3-R	3.30	3.30	C	2.26	2.60	0.029	0.034	28
SD53-4R7-R	4.70	4.70	D	2.01	2.10	0.039	0.045	21
SD53-6R8-R	6.80	6.80	E	1.65	1.85	0.059	0.068	20
SD53-100-R	10.0	10.0	F	1.41	1.40	0.077	0.090	15
SD53-150-R	15.0	15.0	G	1.10	1.10	0.122	0.142	12
SD53-220-R	22.0	22.0	H	0.81	0.94	0.179	0.208	10
SD53-330-R	33.0	33.0	I	0.75	0.76	0.221	0.257	8
SD53-470-R	47.0	47.0	J	0.64	0.64	0.303	0.352	7
SD53-680-R	68.0	68.0	K	0.52	0.58	0.452	0.525	6
SD53-101-R	100	100	L	0.44	0.45	0.689	0.801	5

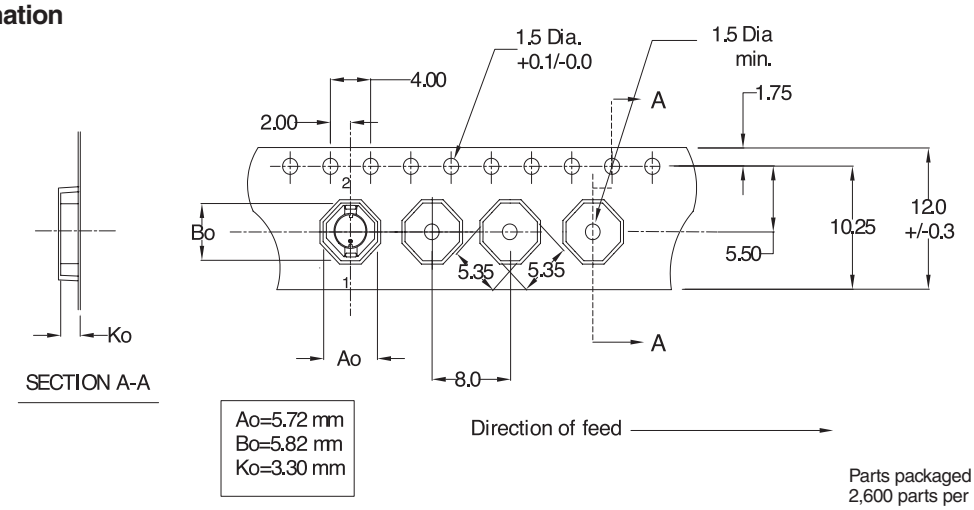
(1) Open Circuit Inductance Test Parameters: 100kHz, 0.1V, 0.0Adc.
(2) Irms: DC current for an approximate ΔT of 40°C without core loss. Derating is necessary for AC currents. PCB layout, trace thickness and width, air-flow, and proximity of other heat generating components will affect the temperature 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 (@25°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).
(5) Part Number Definition: SD53-xxx-R
SD53 = Product code and size; -xxx = Inductance value in uH;
R = decimal point; If no R is present, third character = # of zeros.
-R suffix = RoHS compliant

Mechanical Diagrams



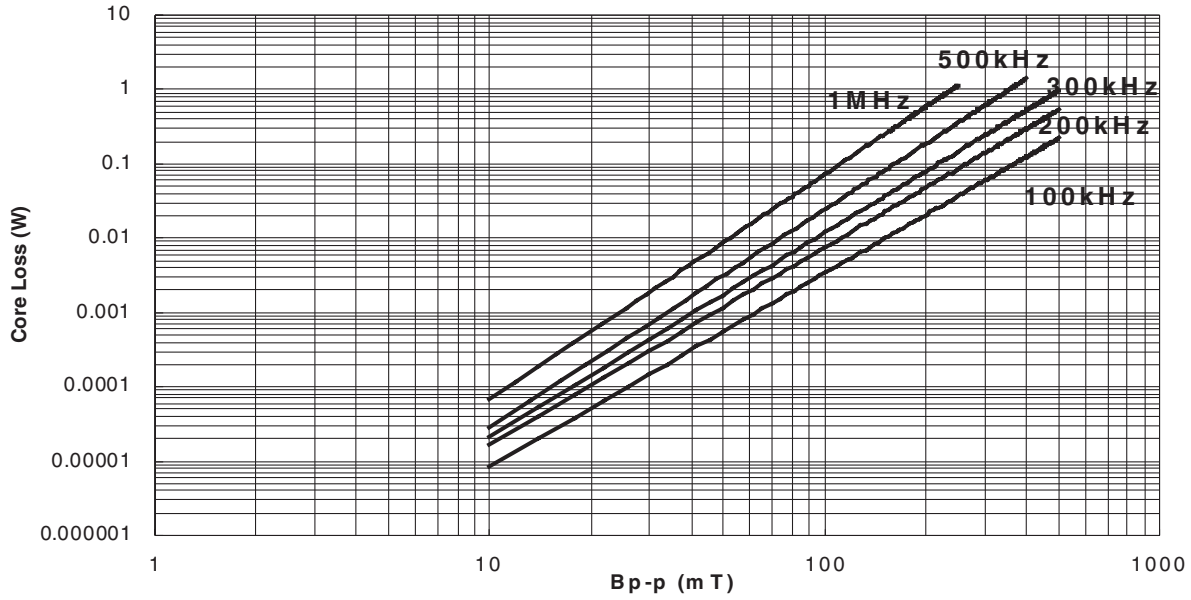
Dimensions are in millimeters.
Note A. Part Marking:
4 Digit Marking: Line 1: (1st digit: Indicates inductance value per Part Marking Designator in chart above); (2nd digit: Bi-weekly production date code); (3rd digit: Last digit of the year produced), (4th digit: Manufacturing code). Line 2: 53 (Indicates the product size code)

Packaging Information

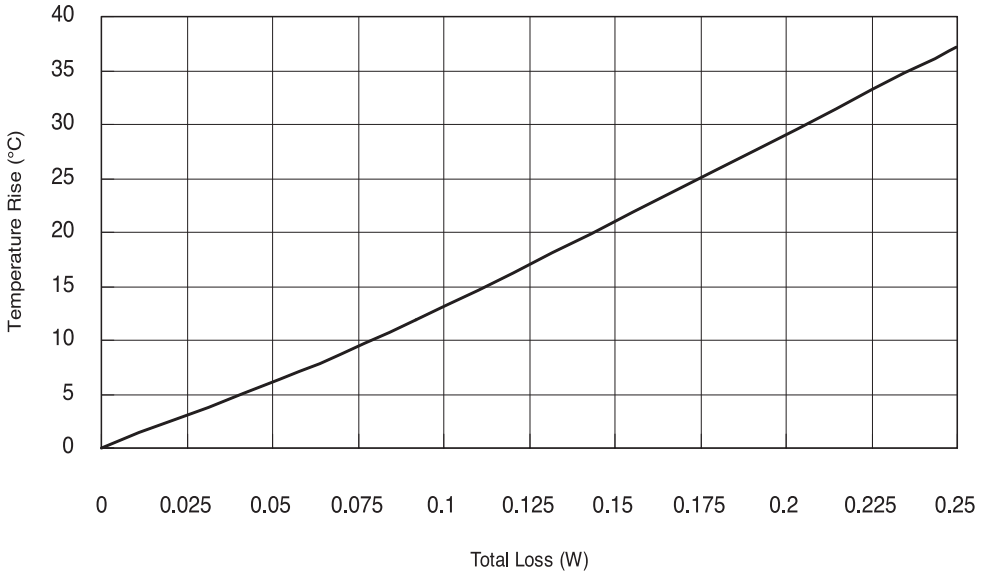


Parts packaged on 13" Diameter reel,
2,600 parts per reel.

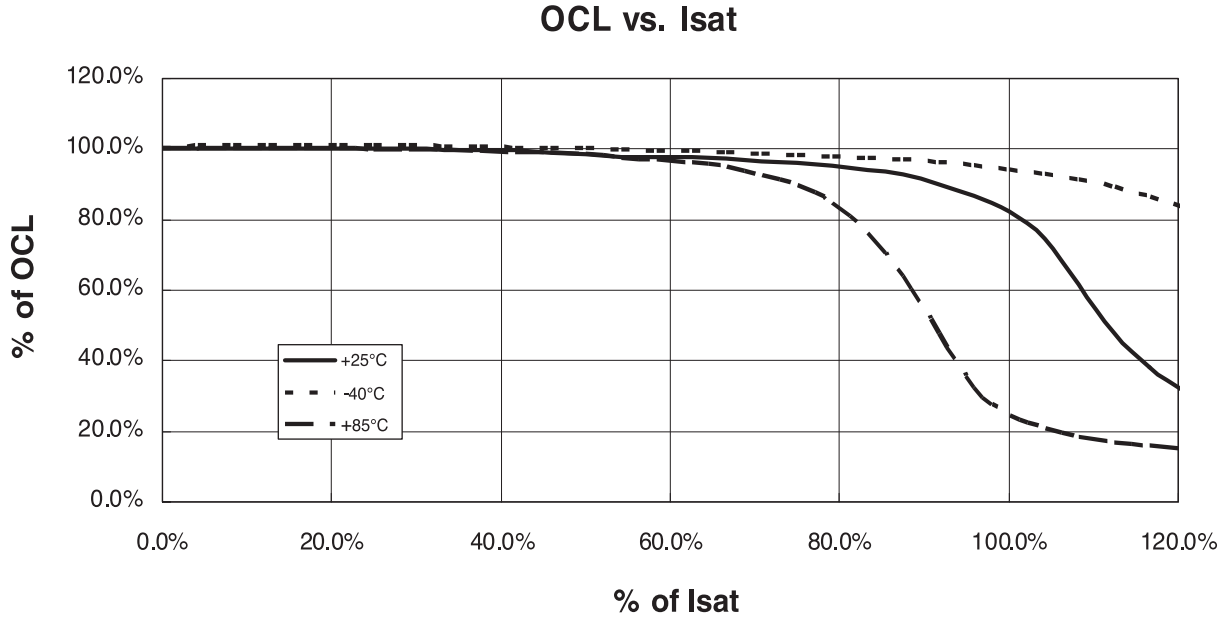
Core Loss



Temperature Rise vs. Loss



Inductance Characteristics



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Visit us on the Web at www.cooperbussmann.com

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

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

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