



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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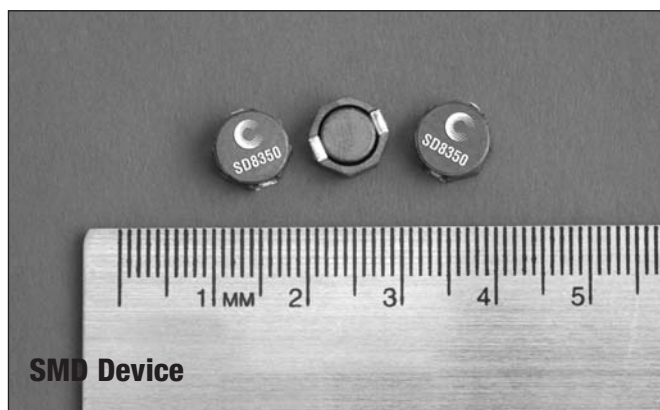
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Shielded Power Inductors

SD8350 Series



Description

- Halogen free, lead free
- 125°C maximum total temperature operation
- Low-profile surface mount inductor
- 9.5 x 8.3 x 4.5mm shielded drum core
- Ferrite core material
- Inductance range from 1.5μH to 100μH
- Current range from 0.8 Amps to 9.1 Amps
- Frequency range up to 1MHz
- RoHS Compliant

Applications

- Server/notebook power
- High power LED driver, portable devices
- Base station, telecom, and networking
- Battery chargers, RAM power supply
- Industrial and automotive power systems
- Noise filtering output filter chokes
- Buck/boost converters, output converters

Environmental Data

- Storage temperature range: -40°C to +125°C
- Operating temperature range: -40°C to +125°C (ambient plus self temperature rise)
- Solder reflow temperature: J-STD-020D compliant

Packaging

- Supplied in tape and reel packaging, 750 parts per 13 inch dia. reel

Product Specifications							
Part Number	Rated Inductance (μH)	OCL ¹ μH±30%	I _{rms} ² (Amps)	I _{sat} ³ (Amps)	DCR mΩ @ 20°C Typical	DCR mΩ @ 20°C Maximum	K-factor ⁴
SD8350-1R8-R	1.8	1.5	5.50	9.1	11.8	14.0	16.0
SD8350-3R9-R	3.9	3.2	4.50	6.3	16.2	19.0	9.6
SD8350-4R7-R	4.7	4.2	4.10	5.5	18.5	22.0	8.5
SD8350-6R8-R	6.8	6.8	3.90	4.4	20.8	25.0	7.6
SD8350-100-R	10	9.9	3.20	4.0	31.4	36.0	6.3
SD8350-150-R	15	13.6	2.30	2.9	45.0	53.0	5.3
SD8350-220-R	22	20.4	1.80	2.6	63.5	75.0	4.4
SD8350-330-R	33	31.4	1.40	2.2	111.4	125.0	3.5
SD8350-470-R	47	44.9	1.30	1.8	130.0	150.0	2.9
SD8350-680-R	68	65.1	1.00	1.5	200.8	240.0	2.4
SD8350-101-R	100	99.7	0.80	1.3	308.0	360.0	2.0

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

2. I_{rms}: 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. I_{sat} Amps peak for approximately 35% 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 μH), ΔI (Peak to peak ripple current in Amps).

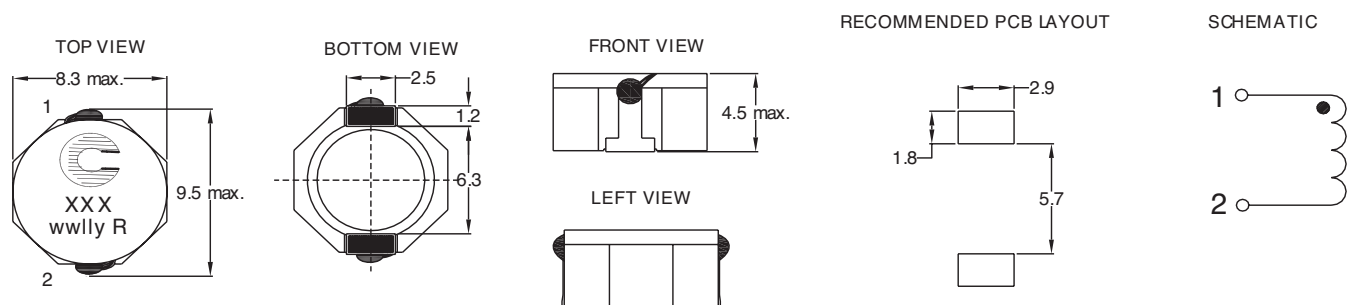
5. Part Number Definition: SD8350-xxx-R

SD8350 = Product code and size; -xxx = Inductance value in μH;

R = decimal point; If no R is present, third character = # of zeros.

-R suffix = RoHS compliant

Dimensions - mm



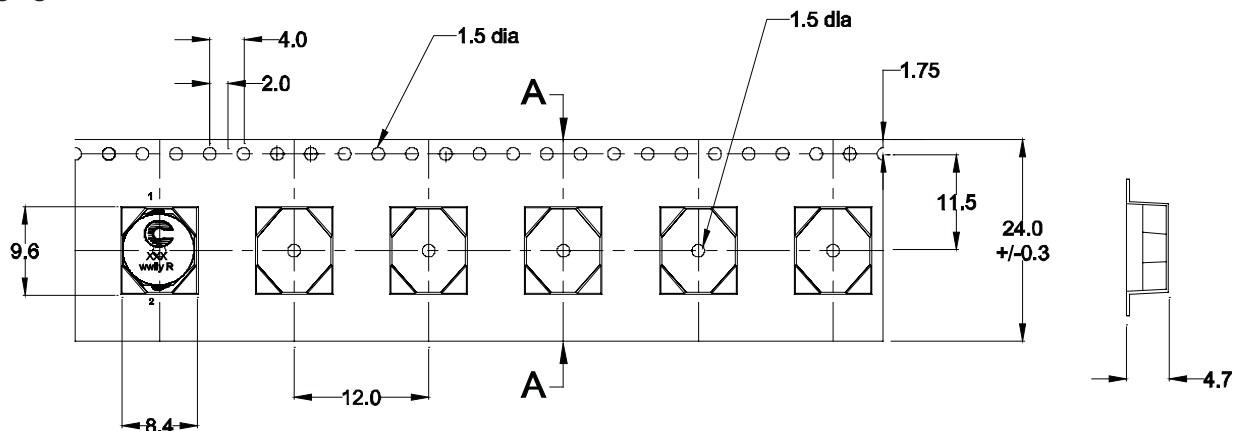
Part Marking: Coiltronics logo

xxx = Inductance value in μH . (R = Decimal point). If no R is present, third character = number of zeros

wwly - or - wwlyly = Date code

R = Revision level

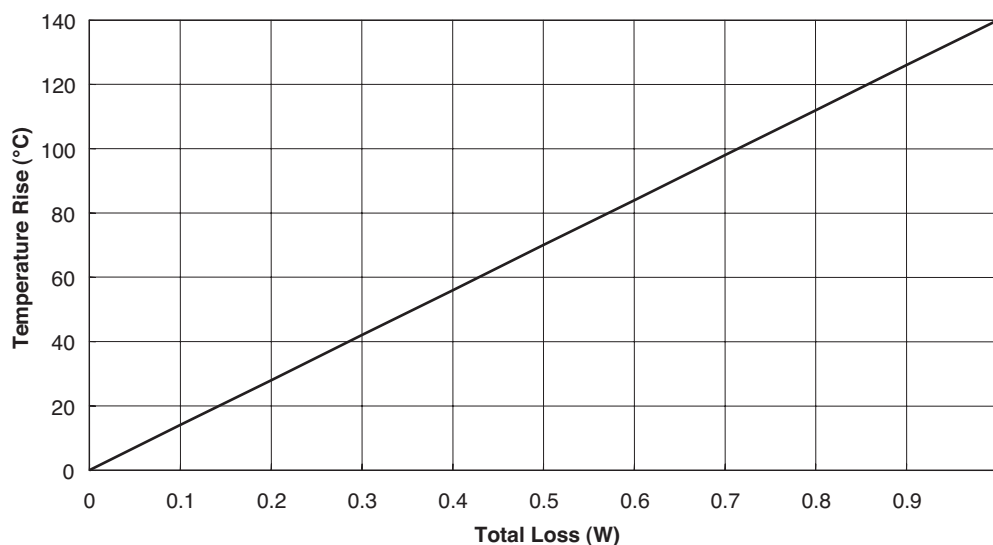
Packaging Information - mm



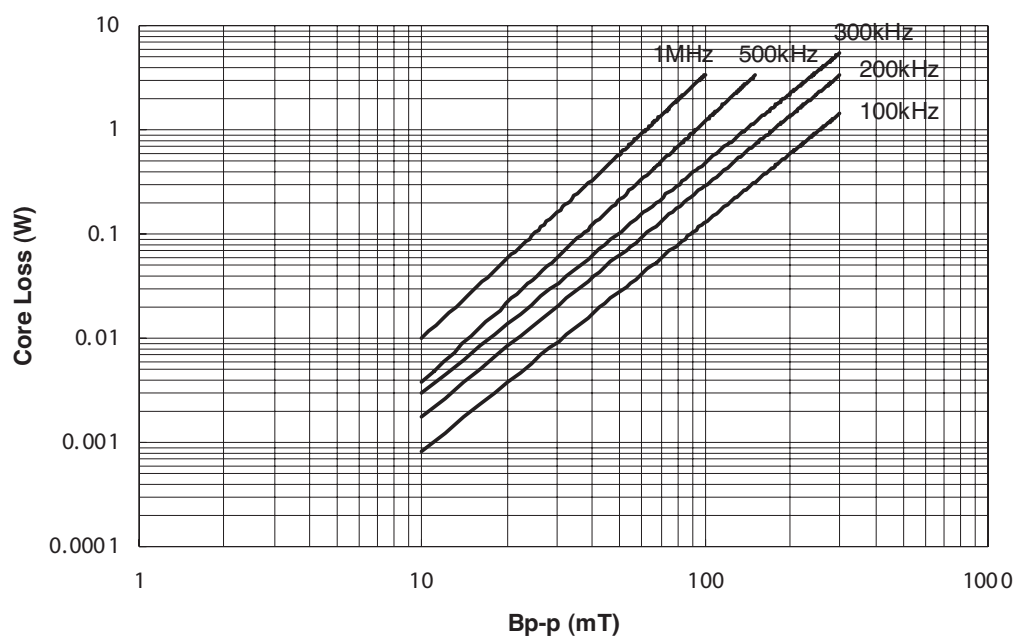
Supplied in tape-and-reel packaging, 750 parts per reel, 13" diameter reel.

SECTION A-A

Temperature Rise vs.Total Loss

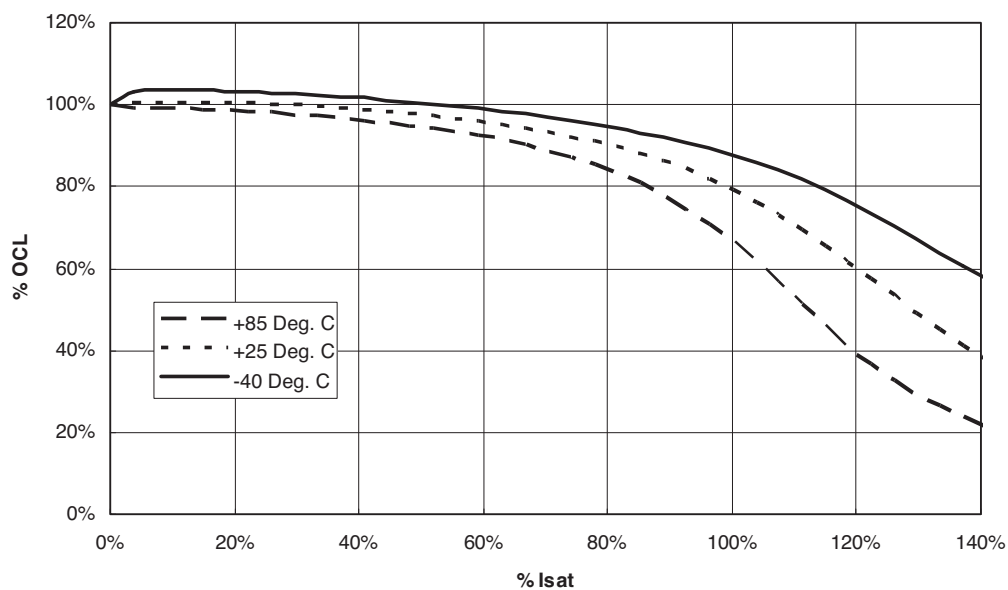


Core Loss



Inductance Characteristics

OCL Vs. Isat



Solder Reflow Profile

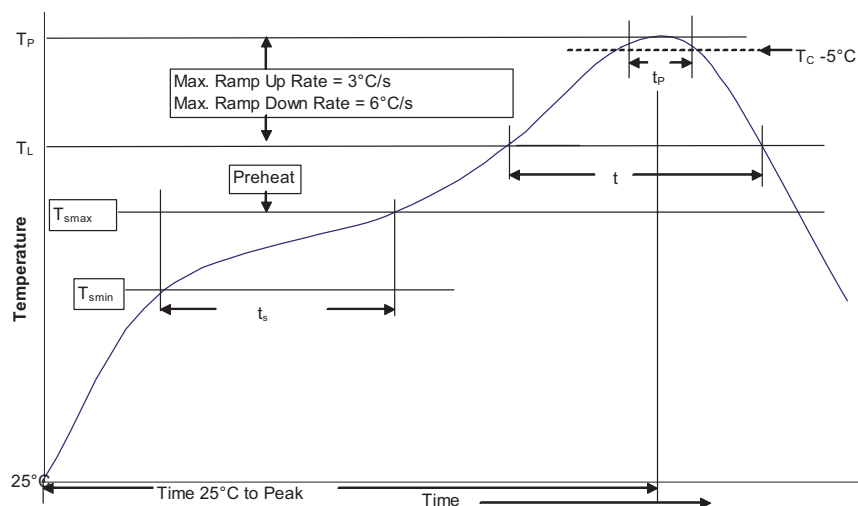


Table 1 - Standard SnPb Solder (T_C)

Package Thickness	Volume mm^3 <350	Volume mm^3 ≥ 350
<2.5mm	235°C	220°C
$\geq 2.5\text{mm}$	220°C	220°C

Table 2 - Lead (Pb) Free Solder (T_C)

Package Thickness	Volume mm^3 <350	Volume mm^3 350 - 2000	Volume mm^3 >2000
<1.6mm	260°C	260°C	260°C
1.6 - 2.5mm	260°C	250°C	245°C
>2.5mm	250°C	245°C	245°C

Reference JDEC J-STD-020D

Profile Feature	Standard SnPb Solder	Lead (Pb) Free Solder
Preheat and Soak		
• Temperature min. (T_{smin})	100°C	150°C
• Temperature max. (T_{smax})	150°C	200°C
• Time (T_{smin} to T_{smax}) (t_s)	60-120 Seconds	60-120 Seconds
Average ramp up rate T_{smax} to T_p	3°C/ Second Max.	3°C/ Second Max.
Liquidous temperature (T_L)	183°C	217°C
Time at liquidous (t_L)	60-150 Seconds	60-150 Seconds
Peak package body temperature (T_p)*	Table 1	Table 2
Time (t_p)** within 5 °C of the specified classification temperature (T_C)	20 Seconds**	30 Seconds**
Average ramp-down rate (T_p to T_{smax})	6°C/ Second Max.	6°C/ Second Max.
Time 25°C to Peak Temperature	6 Minutes Max.	8 Minutes Max.

* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

** Tolerance for time at peak profile temperature (t_p) is defined as a supplier minimum and a user maximum.

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