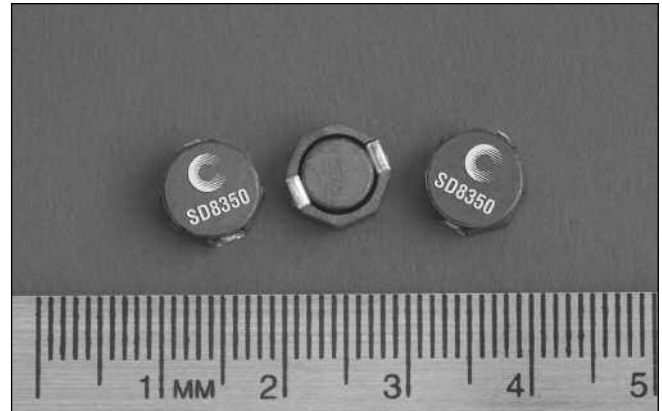


Description

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



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 (range is application specific)
- Solder reflow temperature: +260°C max. for 10 seconds maximum

Packaging

- Supplied in tape and reel packaging, 750 per reel

| Part Number | Rated Inductance (µH) | OCL (1) µH±30% | Irms(2) Amperes | Isat (3) Amperes | DCR (Ω) mΩ @20°C (Typical) | DCR (Ω) 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) Isat Amperes 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).

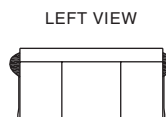
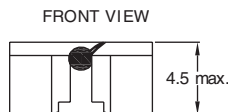
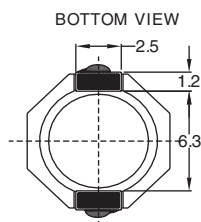
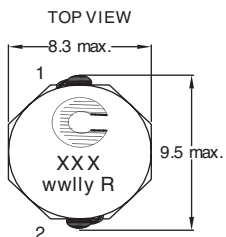
(5) Part Number Definition: SD8350-xxx-R

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

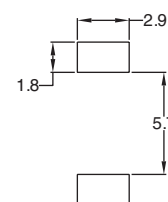
R = decimal point; If no R is present, third character = # of zeros.

-R suffix = RoHS compliant

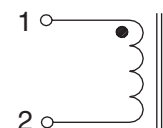
Mechanical Diagrams



RECOMMENDED PCB LAYOUT



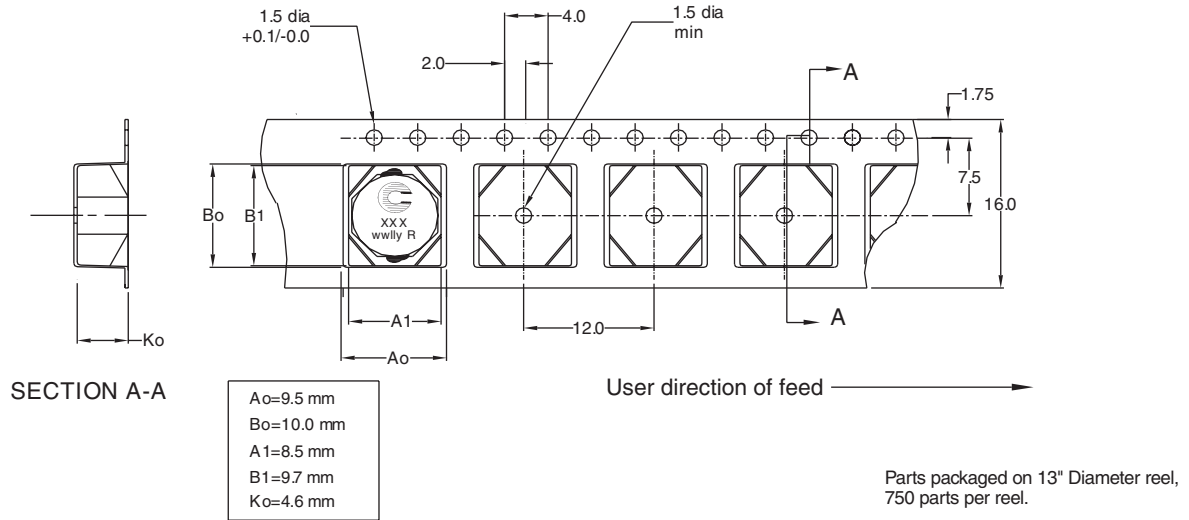
SCHEMATIC



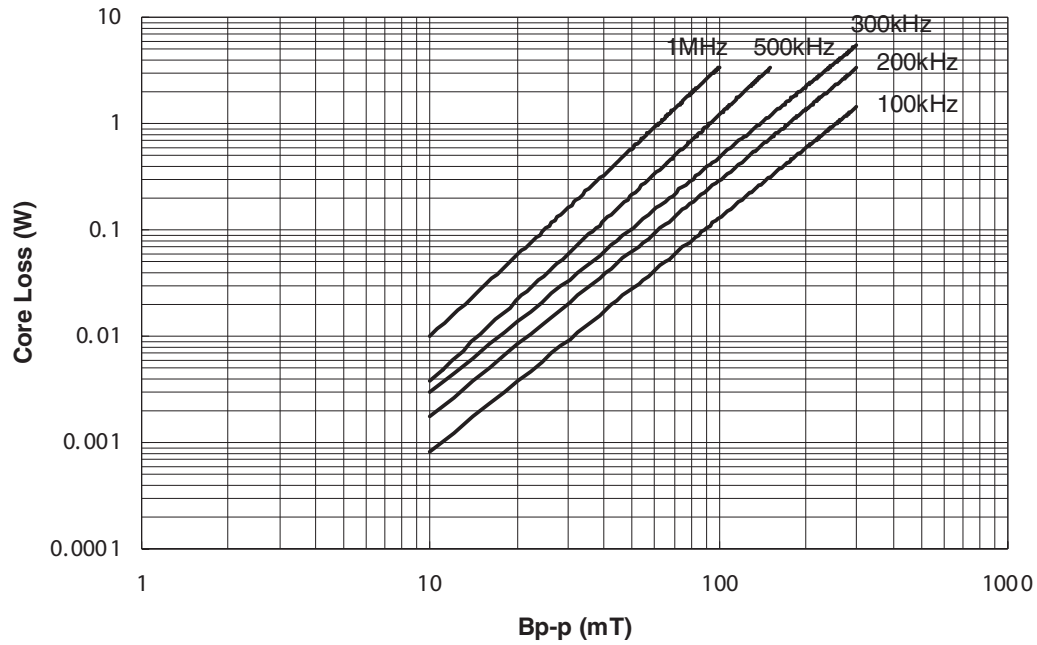
Dimensions are in millimeters.

xxx = Inductance value in µH. R = decimal point. If no R is present third character = # of zeros. wwllly = Date code, R = Revision level.

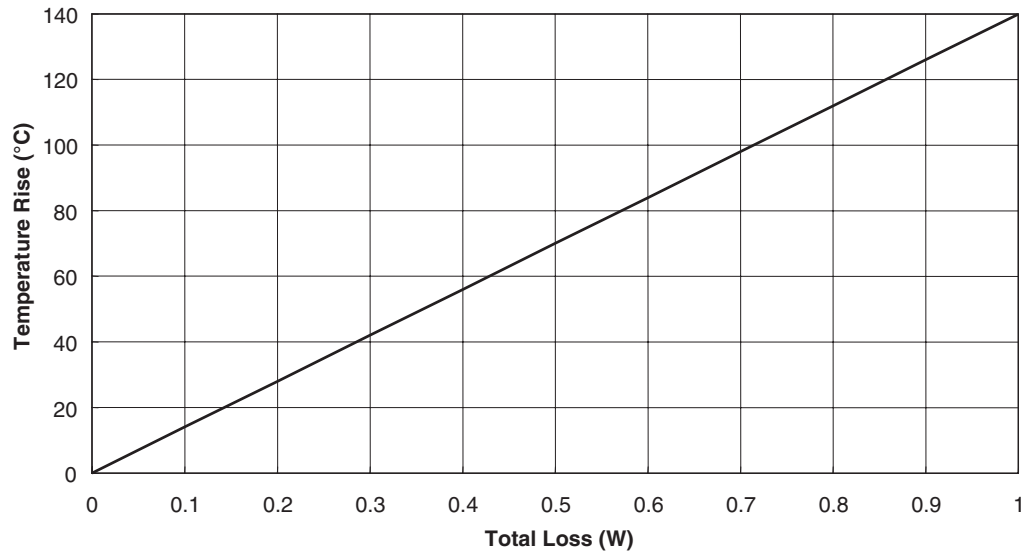
Packaging Information



Core Loss



Temperature Rise vs. Loss



Inductance Characteristics

OCL Vs. Isat

