



## SD3112 Series **Low Profile Power Inductors**

### Description

- 125°C maximum total temperature operation
- 3.1mm x 3.1mm x 1.2mm shielded drum core
- Ferrite core material
- Inductance range from 1.0uH to 220uH
- Current range from 1.65 Amps to 0.113 Amps
- Frequency range up to 4MHz

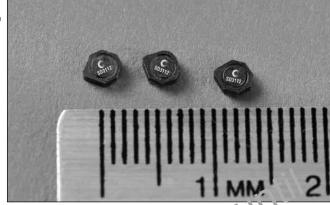
#### **Applications**

- 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**

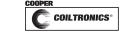
• Supplied in tape and reel packaging, 4100 per reel

| Part Number    | Rated      | OCL (1)      | Part         | Ir ns (2) | ısaı (3) | DCF (2)  | K-factor |
|----------------|------------|--------------|--------------|-----------|----------|----------|----------|
|                | Inductance | (μH)         | Marking      | Amperes   | Amperes  | t) 12. @ | (4)      |
|                | (μH)       | . 1          | E e signator | GU        |          | 20°C     |          |
| SD3112-1R0-R   | 1.0        | 1.11+/-30%   | A            | .30       | 1.05     | 0.069    | 135      |
| SD3112-1R5-R   | 1.5        | 1.70+/-30%   | В            | 1.16      | 1.33     | 0.099    | 110      |
| SD3112-2R2-R   | 2.2        | 24.+, 31%    | С            | 0.97      | 1.12     | 0.140    | 92       |
| SD3112-3R3-R   | 3.3        | 3.24+/-30%   | D            | 0.90      | 0.97     | 0.165    | 79       |
| SD3112-4R7-R   | 47         | 4.72+/-30%   | E            | 1)74      | 0.80     | 0.246    | 66       |
| SD3112-6R8-R   | 0.8        | 6.47+/-75%   | F            | 0.68      | 0.68     | 0.291    | 56       |
| SD3112-8R2-R   | 8.2        | 8.50 / 30%   | G            | 0.57      | 0.60     | 0.408    | 49       |
| SD3112-107-1   | 10.0       | 10.01+/-30%  | 931          | 0.55      | 0.55     | 0.446    | 45       |
| SD5112-130-R   | 16.0       | 15.28 -/ 20% |              | 0.45      | 0.44     | 0.654    | 37       |
| SD31/2-220-R   | 22.0       | 21.66+/20%   | J            | 0.37      | 0.37     | 0.953    | 31       |
| SD3112-330-₽   | 33.0       | 33.37+/-20%  | K            | 0.30      | 0.30     | 1.48     | 25       |
| SD3112-470-R   | 47.0       | 47.44+/-20%  | L            | 0.270     | 0.25     | 1.85     | 21       |
| SF3512-630-R   | (8)        | 68.10+/-20%  | M            | 0.228     | 0.211    | 2.56     | 17       |
| \$ D3112-820-R | 3≥.0       | 83.19+/-20%  | N            | 0.213     | 0.190    | 2.93     | 16       |
| SD3112-101-13  | 100.0      | 99.8+/-20%   | 0            | 0.184     | 0.174    | 3.95     | 14       |
| SD3\12-151-R   | 150.0      | 149.4+/-20%  | Р            | 0.149     | 0.142    | 6.01     | 12       |
| SU: 1\2-221-R  | 220.0      | 219.9+/-20%  | Q            | 0.121     | 0.117    | 9.12     | 10       |
|                |            |              |              |           | •        |          |          |

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

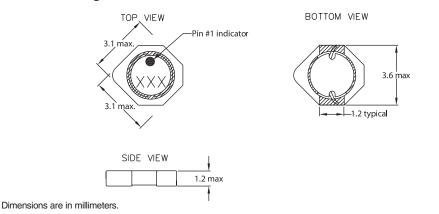
<sup>(3)</sup> Isat Amperes peak for approximately 30% rolloff (@20°C)
(4) K-factor: Used to determine B p-p for core loss (see graph).
B p-p = K\*L\*ΔI, B p-p(mT), K: (K factor from table), L: (Inductance in uH), ΔI (Peak to peak ripple current in Amps).

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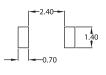


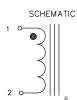


#### **Mechanical Diagrams**

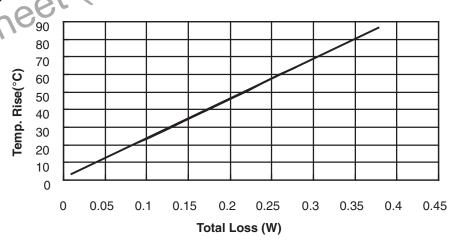


RECOMMENDED PCB LAYOUT





# Part Marking: 3 Digit Marking: (1st digit: Indicates inductance value per letter in Part Marking Designator); (2nd digit: Bi-weekly production date; o le); 3rd ligit: Last digit or to a year produced). Packaging Information 1.2 Dia min. 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.75 Bo = 3.60 mrParts packaged on 13" Diameter reel, Direction of feed 4,100 parts per reel.

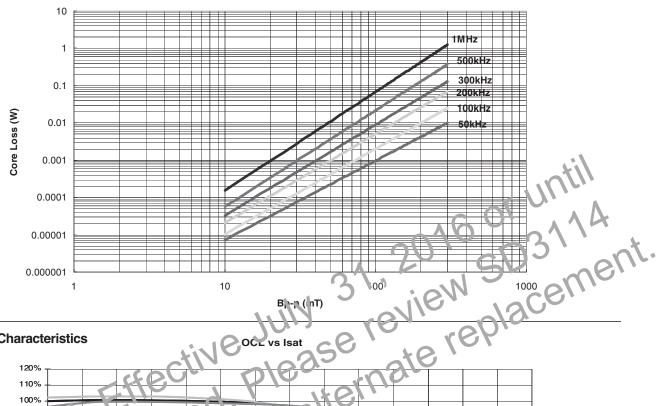


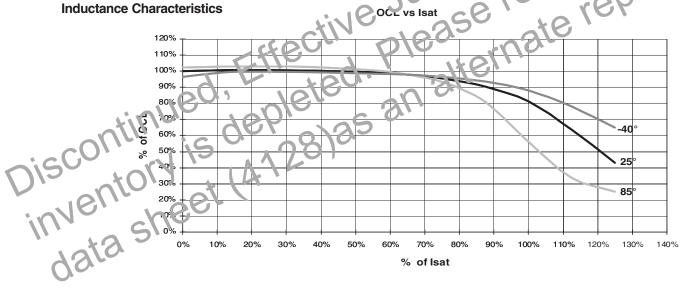
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PM-4127 3/07

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