


**NEW!**

# SMT Power Inductors – SD43 Series



- Rugged, cost-effective power inductors
- Excellent current handling; low DCR
- Values greater than 27  $\mu\text{H}$  are 10% tolerance

**Core material** Ferrite

**Terminations** RoHS compliant tin-silver over tin over nickel over silver.

**Weight** 0.17 – 0.20 mg

**Ambient temperature**  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  with  $I_{\text{rms}}$  current,  $+85^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  with derated current

**Storage temperature** Component:  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ .

Tape and reel packaging:  $-40^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$

**Resistance to soldering heat** Max three 40 second reflows at  $+260^{\circ}\text{C}$ , parts cooled to room temperature between cycles

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at  $<30^{\circ}\text{C}$  / 85% relative humidity)

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)**

38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

**Packaging** 500/7" reel; 2000/13" reel; Plastic tape: 12 mm wide, 0.35 mm thick, 8 mm pocket spacing, 3.4 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

| Part number <sup>1</sup> | Inductance <sup>2</sup><br>( $\mu\text{H}$ ) | DCR max<br>(mOhm) | SRF typ <sup>3</sup><br>(MHz) | Isat (A) <sup>4</sup> |          |          | Irms (A) <sup>5</sup> |           |
|--------------------------|----------------------------------------------|-------------------|-------------------------------|-----------------------|----------|----------|-----------------------|-----------|
|                          |                                              |                   |                               | 10% drop              | 20% drop | 30% drop | 20°C rise             | 40°C rise |
| SD43-102ML_              | 1.0 $\pm 20\%$                               | 33                | 100                           | 5.5                   | 6.1      | 6.5      | 3.4                   | 5.8       |
| SD43-142ML_              | 1.4 $\pm 20\%$                               | 38                | 90                            | 4.8                   | 5.5      | 5.9      | 3.1                   | 5.8       |
| SD43-182ML_              | 1.8 $\pm 20\%$                               | 42                | 80                            | 4.1                   | 4.6      | 5.1      | 2.7                   | 4.6       |
| SD43-222ML_              | 2.2 $\pm 20\%$                               | 47                | 65                            | 3.6                   | 4.1      | 4.4      | 2.3                   | 3.8       |
| SD43-272ML_              | 2.7 $\pm 20\%$                               | 52                | 60                            | 3.4                   | 3.8      | 4.1      | 2.2                   | 3.7       |
| SD43-332ML_              | 3.3 $\pm 20\%$                               | 58                | 50                            | 2.9                   | 3.3      | 3.5      | 2.1                   | 3.3       |
| SD43-392ML_              | 3.9 $\pm 20\%$                               | 76                | 47                            | 2.6                   | 3.0      | 3.2      | 1.9                   | 3.0       |
| SD43-472ML_              | 4.7 $\pm 20\%$                               | 94                | 45                            | 2.4                   | 2.8      | 3.0      | 1.9                   | 2.9       |
| SD43-562ML_              | 5.6 $\pm 20\%$                               | 101               | 40                            | 2.2                   | 2.5      | 2.7      | 1.6                   | 2.8       |
| SD43-682ML_              | 6.8 $\pm 20\%$                               | 110               | 35                            | 2.0                   | 2.3      | 2.5      | 1.5                   | 2.5       |
| SD43-822ML_              | 8.2 $\pm 20\%$                               | 132               | 30                            | 1.83                  | 2.1      | 2.2      | 1.4                   | 2.2       |
| SD43-103ML_              | 10.0 $\pm 20\%$                              | 182               | 28                            | 1.70                  | 1.95     | 2.1      | 1.3                   | 2.2       |
| SD43-123ML_              | 12.0 $\pm 20\%$                              | 210               | 24                            | 1.53                  | 1.75     | 1.90     | 1.1                   | 1.8       |
| SD43-153ML_              | 15.0 $\pm 20\%$                              | 235               | 22                            | 1.33                  | 1.58     | 1.73     | 1.0                   | 1.7       |
| SD43-183ML_              | 18.0 $\pm 20\%$                              | 338               | 19                            | 1.25                  | 1.43     | 1.58     | 0.89                  | 1.5       |
| SD43-223ML_              | 22.0 $\pm 20\%$                              | 378               | 17                            | 1.15                  | 1.32     | 1.43     | 0.85                  | 1.4       |
| SD43-273ML_              | 27.0 $\pm 20\%$                              | 522               | 16                            | 1.00                  | 1.14     | 1.26     | 0.73                  | 1.1       |
| SD43-333KL_              | 33.0 $\pm 10\%$                              | 540               | 14                            | 0.90                  | 1.05     | 1.14     | 0.62                  | 0.90      |
| SD43-393KL_              | 39.0 $\pm 10\%$                              | 587               | 13                            | 0.84                  | 0.97     | 1.07     | 0.61                  | 0.90      |
| SD43-473KL_              | 47.0 $\pm 10\%$                              | 844               | 12                            | 0.77                  | 0.87     | 0.93     | 0.53                  | 0.86      |
| SD43-563KL_              | 56.0 $\pm 10\%$                              | 937               | 11                            | 0.72                  | 0.80     | 0.86     | 0.51                  | 0.70      |
| SD43-683KL_              | 68.0 $\pm 10\%$                              | 1117              | 10                            | 0.65                  | 0.72     | 0.77     | 0.43                  | 0.60      |

1. When ordering, please specify **packaging** code:

**SD43-683KLC**

**Packaging:** C = 7" machine-ready reel. EIA-481 embossed plastic tape (500 parts per full reel).

B = Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter C instead.

D = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (2000 parts per full reel).

2. Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/HP 4284A impedance analyzer.

3. SRF measured using Agilent/HP 8753D network analyzer and Coilcraft SMD-D test fixture.

4. DC current at which the inductance drops the specified amount from its value without current.

5. Current the causes the specified temperature rise from  $25^{\circ}\text{C}$  ambient.

6. Electrical specifications at  $25^{\circ}\text{C}$ .

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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Document 356-1 Revised 12/12/14

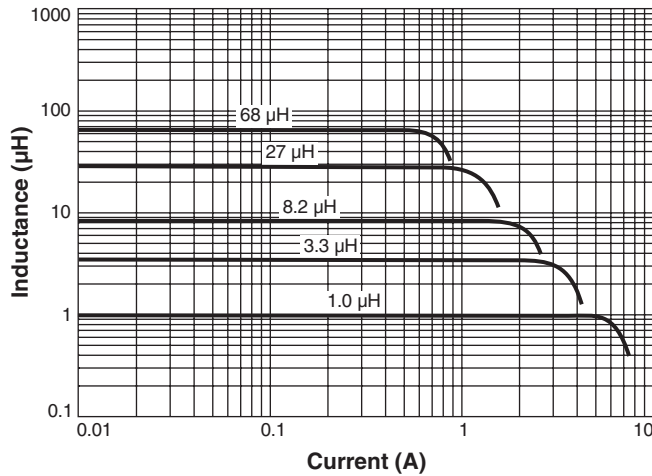
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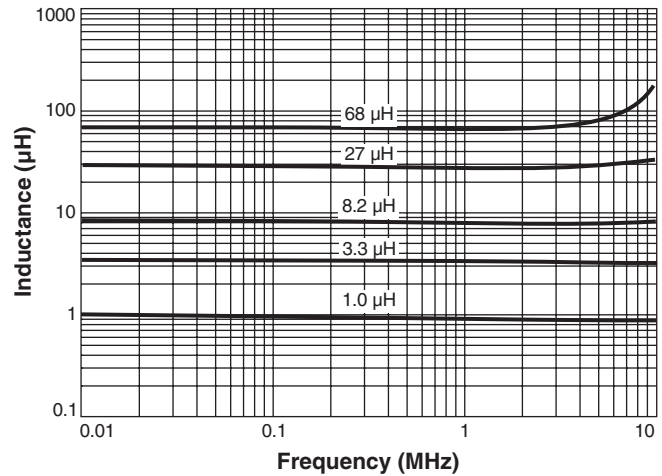
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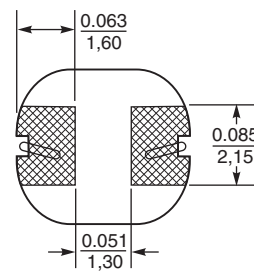
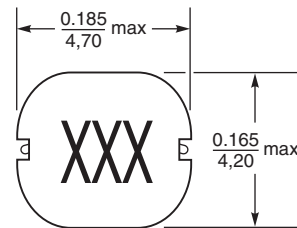
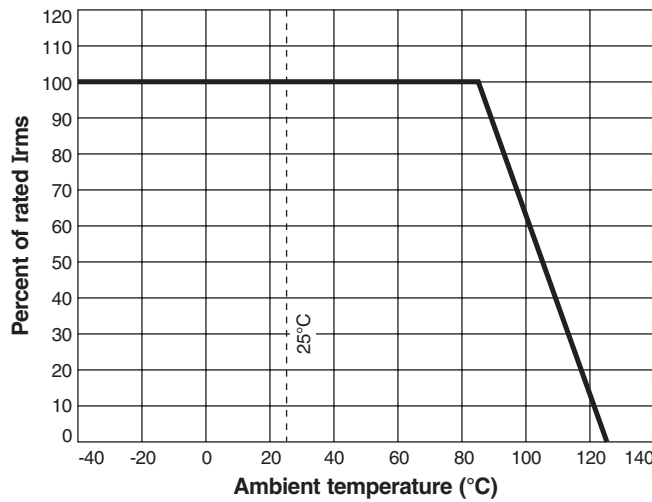
## Typical L vs Current



## Typical L vs Frequency

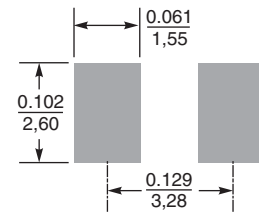


## Irms Derating



Dimensions are in  $\frac{\text{inches}}{\text{mm}}$

## Recommended Land Pattern



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Document 356-2 Revised 12/12/14

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