



# 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-copper solder over tin over nickel over silver plating.

**Weight** 0.17 – 0.20 g

**Ambient temperature**  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  with ( $40^{\circ}\text{C}$  rise) Irms current.

**Maximum part temperature**  $+125^{\circ}\text{C}$  (ambient + temp rise). [Derating](#).

**Storage temperature** Component:  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .

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> ( $\mu\text{H}$ )	DCR max (mOhm)	SRF typ <sup>3</sup> (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). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

B = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to C.

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 that causes the specified temperature rise from  $25^{\circ}\text{C}$  ambient. This information is for reference only and does not represent absolute maximum ratings. [Click for temperature derating information](#).

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

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



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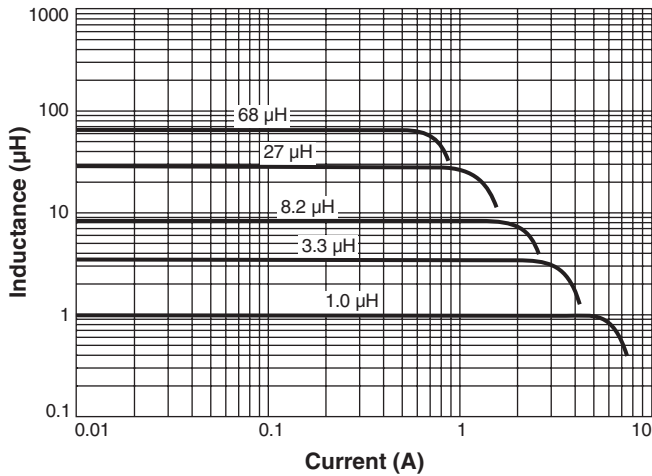
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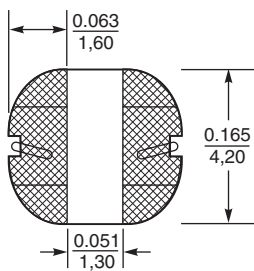
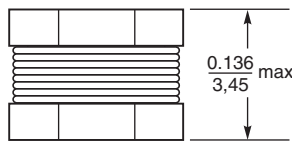
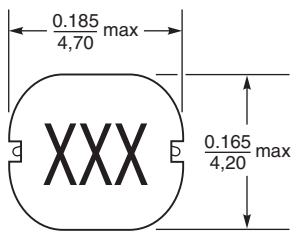
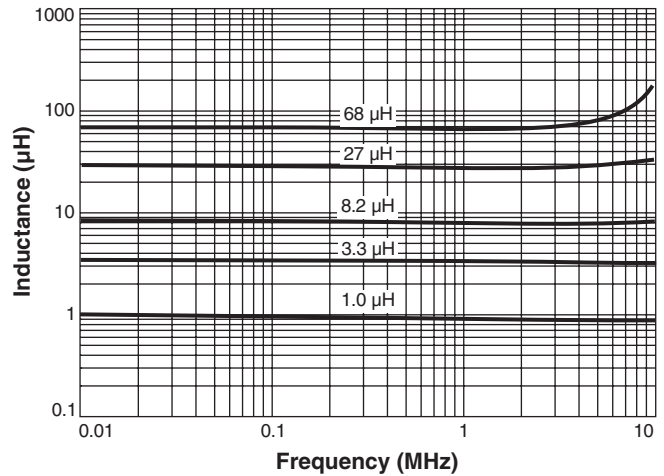


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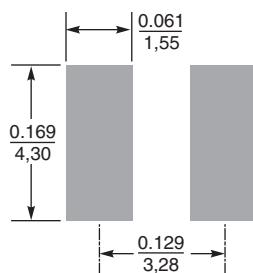
## Typical L vs Current



## Typical L vs Frequency



### Recommended Land Pattern



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



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