



# 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 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).

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 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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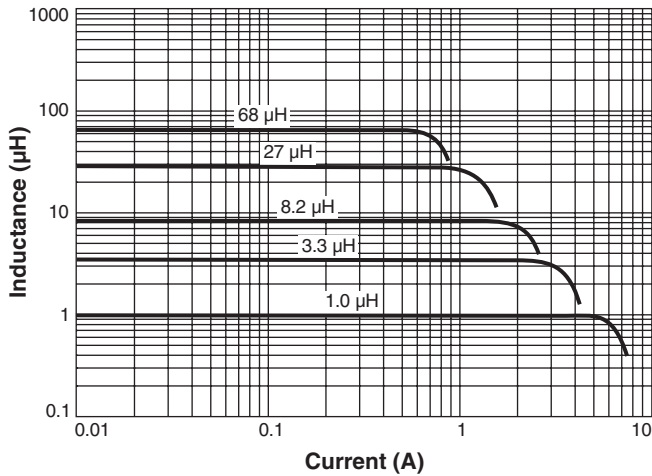
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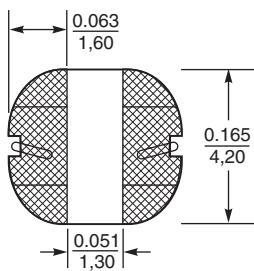
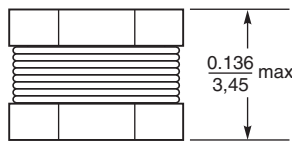
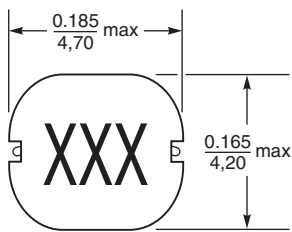
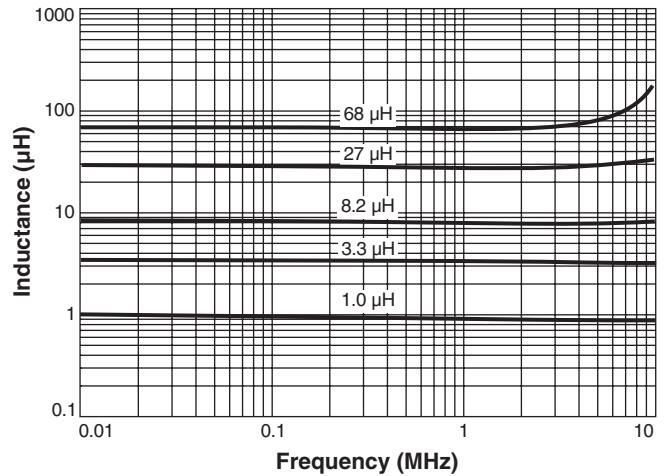


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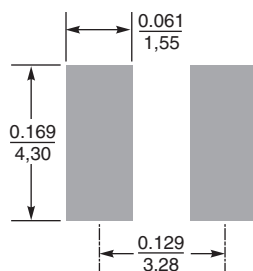
## Typical L vs Current



## Typical L vs Frequency



### Recommended Land Pattern



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



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