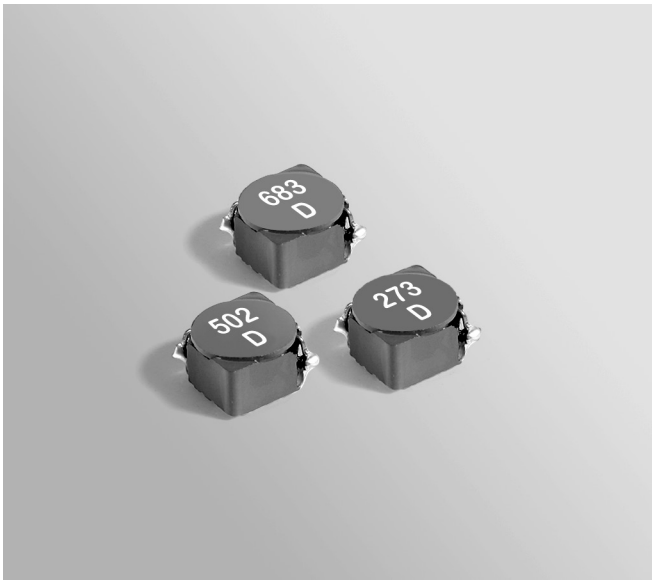
Shielded Power Inductors – RH6D38



- 6.6 × 6.6 mm footprint; 4.1 mm high shielded inductors
- Low DCR and excellent current handling

Designer's Kit C385 contains 3 each of all values.
Core material Ferrite
Core and winding loss
Terminations RoHS compliant matte tin over nickel over phos bronze (current production) or gold over nickel over phos bronze (prior production). Other terminations available at additional cost.
Weight: 0.61 – 0.67 g
Ambient temperature –40°C to +85°C with (40°C rise) Irms current.
Maximum part temperature +125°C (ambient + temp rise).
Storage temperature Component: –40°C to +125°C.
Tape and reel packaging: –40°C to +80°C
Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles **Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°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 300/7 reel; 1200/13″ reel; Plastic tape: 16 mm wide, 0.35 mm thick, 12 mm pocket spacing, 4.5 mm pocket depth
PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash.

Part number	Inductance (µH)	Percent tolerance	DCR (Ohms) typ	DCR (Ohms) max	SRF typ (MHz)	Isat (A) 10% drop	Isat (A) 20% drop	Isat (A) 30% drop	Irms (A) 20°C rise	Irms (A) 40°C rise
RH6D38-332_L_	3.3	**30**,20	0.014	0.018	85	2.74	3.28	3.72	3.95	5.00
RH6D38-502_L_	5.0	**30**,20	0.018	0.023	49	2.30	2.82	3.16	3.40	4.70
RH6D38-622_L_	6.2	**30**,20	0.024	0.027	42	2.18	2.66	2.98	3.05	4.30
RH6D38-742_L_	7.4	**30**,20	0.027	0.031	35	1.92	2.32	2.56	2.80	4.10
RH6D38-872_L_	8.7	**30**,20	0.029	0.034	33	1.78	2.12	2.36	2.80	3.90
RH6D38-103ML_	10	**20**	0.032	0.038	32	1.64	1.92	2.10	2.80	3.80
RH6D38-123ML_	12	**20**	0.040	0.050	27	1.48	1.76	1.92	2.45	3.30
RH6D38-153ML_	15	**20**	0.047	0.055	26	1.36	1.60	1.78	2.05	3.00
RH6D38-183ML_	18	**20**	0.065	0.075	25	1.20	1.46	1.62	1.85	2.65
RH6D38-223ML_	22	**20**	0.074	0.082	22	1.02	1.26	1.42	1.70	2.35
RH6D38-273ML_	27	**20**	0.091	0.109	19	1.00	1.14	1.22	1.50	2.10
RH6D38-333ML_	33	**20**	0.104	0.124	17	0.91	1.04	1.16	1.50	1.95
RH6D38-393ML_	39	**20**	0.115	0.130	15	0.85	1.01	1.12	1.50	1.90
RH6D38-473ML_	47	**20**	0.127	0.155	14	0.74	0.92	1.00	1.50	1.85
RH6D38-563ML_	56	**20**	0.174	0.202	11	0.68	0.80	0.87	1.25	1.60
RH6D38-683ML_	68	**20**	0.236	0.250	9.6	0.62	0.73	0.80	1.00	1.35
RH6D38-823ML_	82	**20**	0.257	0.290	8.5	0.57	0.66	0.72	1.00	1.25
RH6D38-104ML_	100	**20**	0.286	0.310	7.2	0.54	0.64	0.71	0.90	1.15
RH6D38-154ML_	150	**20**	0.438	0.475	6.0	0.45	0.53	0.58	0.86	1.14
RH6D38-224ML_	220	**20**	0.660	0.710	5.0	0.35	0.41	0.47	0.57	0.78
RH6D38-474ML_	470	**20**	1.21	1.45	3.0	0.24	0.28	0.32	0.43	0.57
RH6D38-684KL_	680	**10**	1.85	1.98	2.5	0.22	0.27	0.29	0.42	0.56

1. When ordering, specify **tolerance**, **termination** and **packaging** codes:

RH6D38-872NLD

Tolerance: **M** = 20%, **N** = 30% (Table shows stock tolerances in bold.)
Termination: **L** = RoHS compliant matte tin over nickel over phos bronze
Special order: T = RoHS tin-silver-copper (95.5/4/0.5) over gold over nickel over phos bronze or **S** = non-RoHS tin-lead (63/37) over gold over nickel over phos bronze.
Packaging: **D** = 13″ machine-ready reel. EIA-481 embossed plastic tape (1200 parts per full reel).
C = 7″ machine-ready reel. EIA-481 embossed plastic tape. Special order (300 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 D instead.

2. Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc using a PulseGM SMD-A fixture in an Agilent/HP 4263B LCR meter.
3. Tolerances in bold are stocked for immediate shipment.
4. SRF measured using an Agilent/HP 8753D network analyzer and a PulseGM SMD-D test fixture.
5. DC current at 25°C that causes the specified inductance drop from its value without current.
6. Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.
7. Electrical specifications at 25°C.
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

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Specification subject to change without notice.
Please check web site for latest information.

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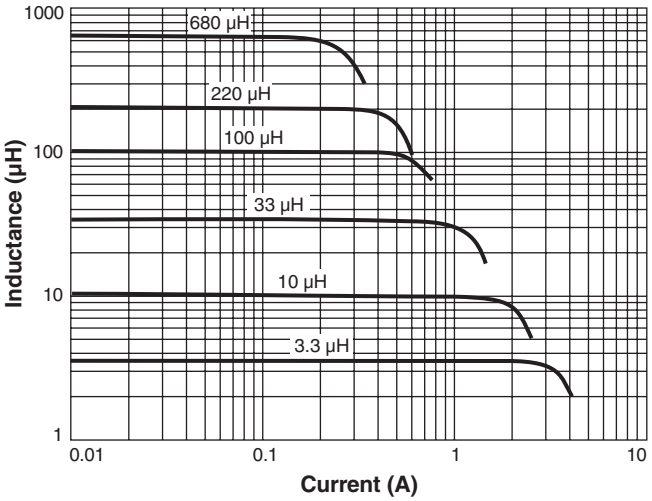
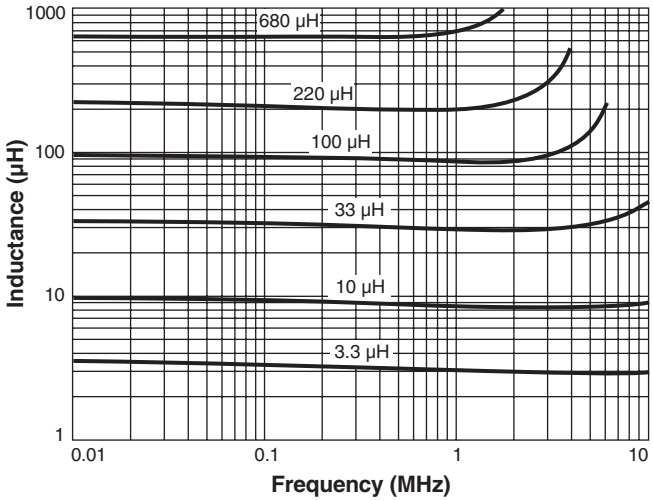
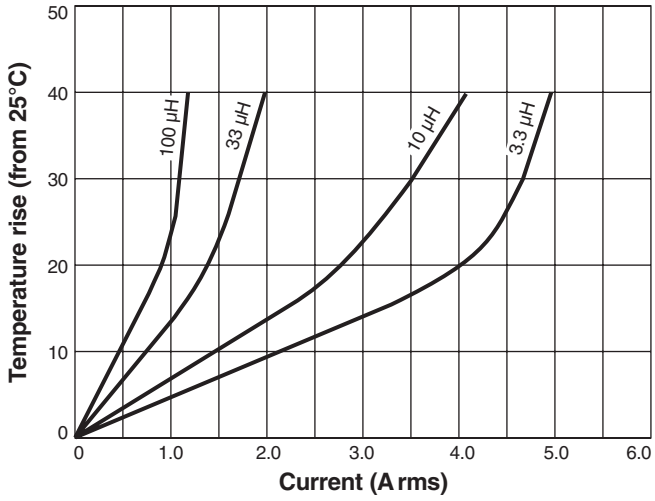
Typical L vs Current

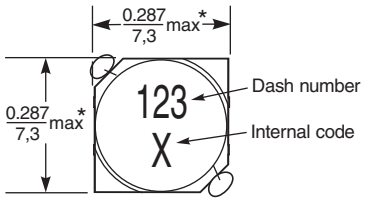


Typical L vs Frequency



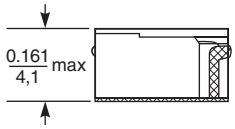
Typical Temperature Rise vs Current

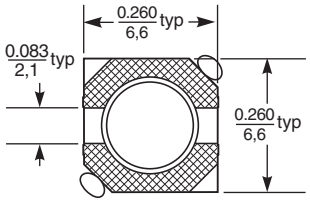


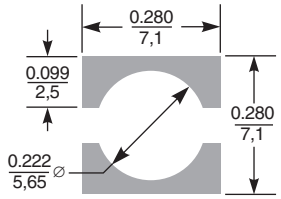


Parts manufactured prior to Sept. 2007 were marked with only the dash number.

*Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.02 in / 0,51 mm.







Recommended Land Pattern

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

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