

SD6D40Q1 TYPE

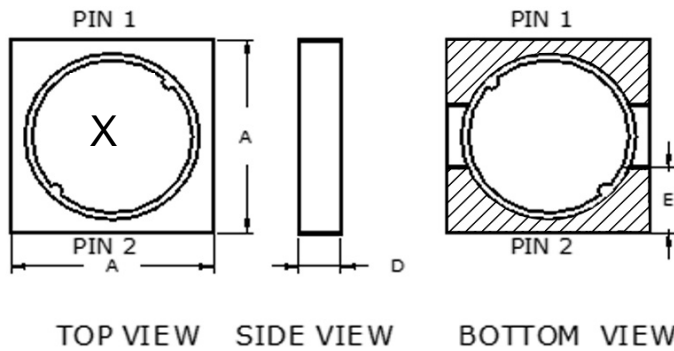
●FEATURE

1. Low DC resistance
2. Magnetic Shielding type

●Applications

1. Automotive power controller and others portable
2. AEC-Q200 Qualified.
3. Same as Maruwa MIB6040M series

●Shape and Dimension



X: Marking code

A=6.00±0.30 m/m; D=4.00m/m Max ; E=2.20m/m Ref.

- Note: a. Recommend 2 patterns size. All patterns are fitness.
 b. soldering patterns should be under 0.12mm(thickness)

●Specification

P/N	L (μH)	Marking Code	DCR (Ω)Max	DCR (Ω)Typ.	Isat (A)	Irms (A)
SD6D40Q1-4R7N	4.7±30%	A	0.029	0.022	4.43	4.58
SD6D40Q1-6R8N	6.8±30%	B	0.036	0.027	3.55	4.11
SD6D40Q1-100M	10±20%	C	0.041	0.034	3.17	3.56
SD6D40Q1-150M	15±20%	D	0.069	0.057	2.78	2.89
SD6D40Q1-220M	22±20%	E	0.120	0.093	1.94	2.09
SD6D40Q1-330M	33±20%	F	0.160	0.130	1.52	1.75
SD6D40Q1-101M	100±20%	G	0.350	0.290	1.02	1.21

Note1. Measurement frequency of Inductance value : at 100KHz, 0.25V

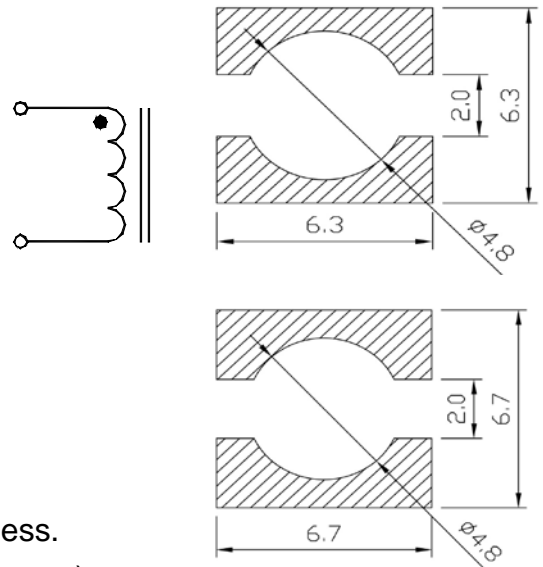
Note2. Measurement ambient temperature of L, DCR and IDC : at 25°C

Note3. Isat: DC current at which the inductance drops 30%(typ) from its value without current

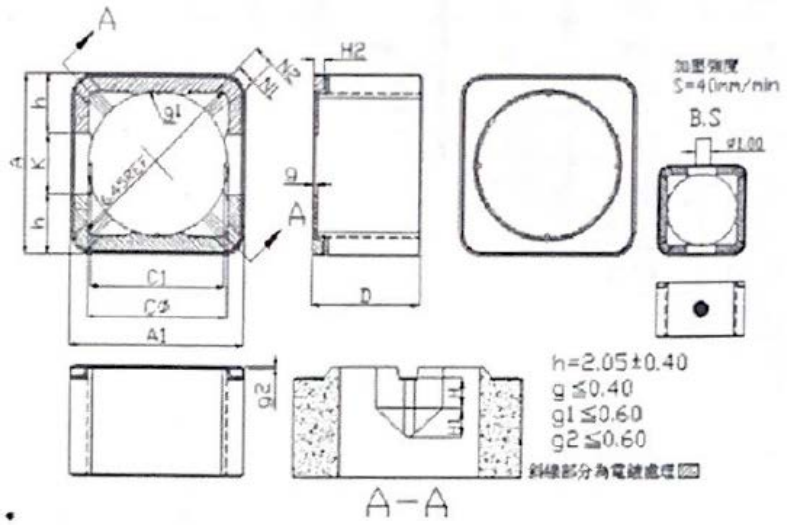
Note4. Iirms: Average current for 40°C temperature rise from 25°C ambient(typical)

Note5. Packing Quantity: 1000pcs/reel

●Schematics and Land Patterns(mm)



Note6. add shield core spec. thickness: $6.10 - 4.75 = 0.675 \text{ mm} \pm 0.10 \text{ mm}$

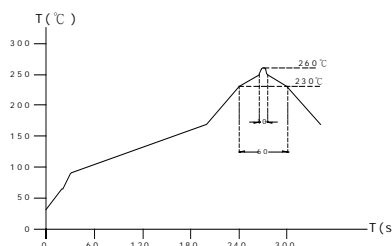


A	A1	Cφ	C1	D	H	H1	H2	N1	N2
6.10 ^{+0.08} / _{-0.08}	6.10 ^{+0.08} / _{-0.08}	4.75 ^{+0.08} / _{-0.08}	4.57 ^{+0.04} / _{-0.04}	3.85 ^{+0.10} / _{-0.05}	0.50 ^{+0.10} / _{-0.10}	1.00 ^{+0.10} / _{-0.10}	0.35 ^{+0.10} / _{-0.10}	0.60 ^{+0.10} / _{-0.10}	0.70 ^{+0.10} / _{-0.10}

GENERAL CHARACTERISTICS

1. Operating temperature range: -40 TO + 125°C (Includes temperature when the coil is heated)
2. High temperature exposure(storage) refer MIL-STD-202 Method 108: 1000 hrs at rated operating temperature(e.g. 125°C). Part can be stored for 1000 hrs @125°C. Unpowered. Measurement at 24±4 hours after test conclusion.
3. Temperature cycling refer JESD22 Method JA-104: 1000 cycles(-40 TO + 125°C). Measurement at 24±4 hours after test conclusion. 30 min maximum dwell time at each temp. extreme. 1 min. maximum transition time.
4. Biased Humidity refer MIL-STD-202 Method 103: 1000 hours 85°C/85%RH. Unpowered. Measurement at 24±4 hours after test conclusion.
5. Operational Life refer MIL-PRF-27: 1000 hrs. at 125 °C tested. Measurement at 24±4 hours after test conclusion.
6. External Visual refer MIL-STD-883 Method 2009: Inspect device construction, marking and workmanship.
7. Physical Dimension refer JESD22 Method JB-100: Verify physical dimensions to the applicable device detail specification.
8. Resistance to Solvents refer MIL-STD-202 Method 215: Add aqueous wash chemical - OKEM clean or equivalent.
9. Mechanical Shock refer MIL-STD-202 Method 213: Figure 1 of Method 213. Condition C.
10. Vibration refer MIL-STD-202 Method 204: 5g;s for 20 minutes, 12 cycles each of 3 orientations. Test from 10-2000 Hz.
11. Resistance to soldering Heat refer MIL-STD-202 Method 210: Condition B No pre-heat of samples. Single wave solder-procedure 2 for SMD and procedure 1 for leaded with solder within 1.5mm of device body.
12. ESD refer AEC-Q200-002 or ISO/DIS 10605: Direct contact discharge 2kV.
13. Solderability refer J-STD-002: For both Leaded & SMD. Magnification 50X. Conditions: Leaded, Method A@235°C ,category 3 ; SMD, a)Method B, 4hrs@125°C dry heat @235°C , b)Method B@215°C category 3., c)Method D category 3@260°C
14. Electrical Characterization refer spec: Show Min, Max Mean and Standard deviation at room from Min and Max temperature.
15. Flammability refer UL-94: V-0 or V-1 Acceptable.
16. Board Flex refer AEC-Q200-005: 60 sec minimum holding time.
17. Terminal Strength(SMD) refer AEC-Q200-006
18. Reflow profile recommend:

Lead-free heat endurance test



Lead-free the recommended reflow condition

