

DUAL WINDING, SHIELDING INDUCTORS

SDRH0703D SERIES

Description:

- Four sizes of shielded drum core inductors
- Windings can be connected in series or parallel offering a broad range of inductance and current ratings
- Surface Mount

Packaging:

- Supplied in tape and reel packaging 1350 (DRQ73), 1100 (DRQ74) 600 (DRQ125), and 350 (DRQ127) per reel

Applications:

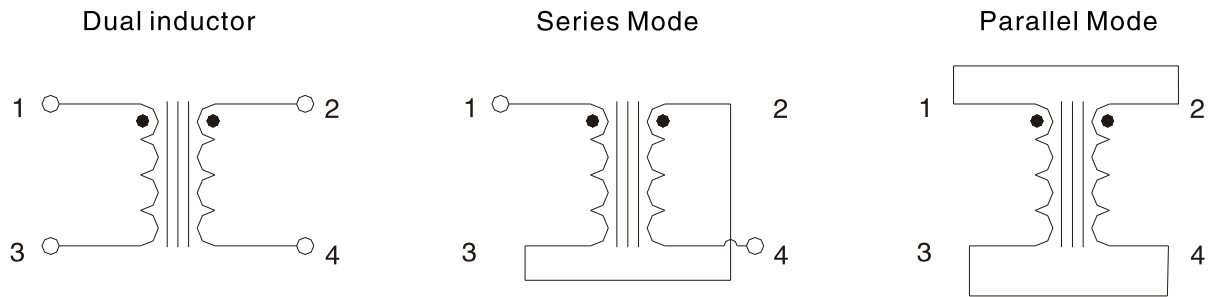
- As a transformer: SEPIC, flyback
- As an inductor: buck, boost, coupled inductor
- DC-DC converters
- VRM inductor for CPU and DDR power supplies
- Input and output filter chokes

ELECTRICAL CHARACTERISTICS:

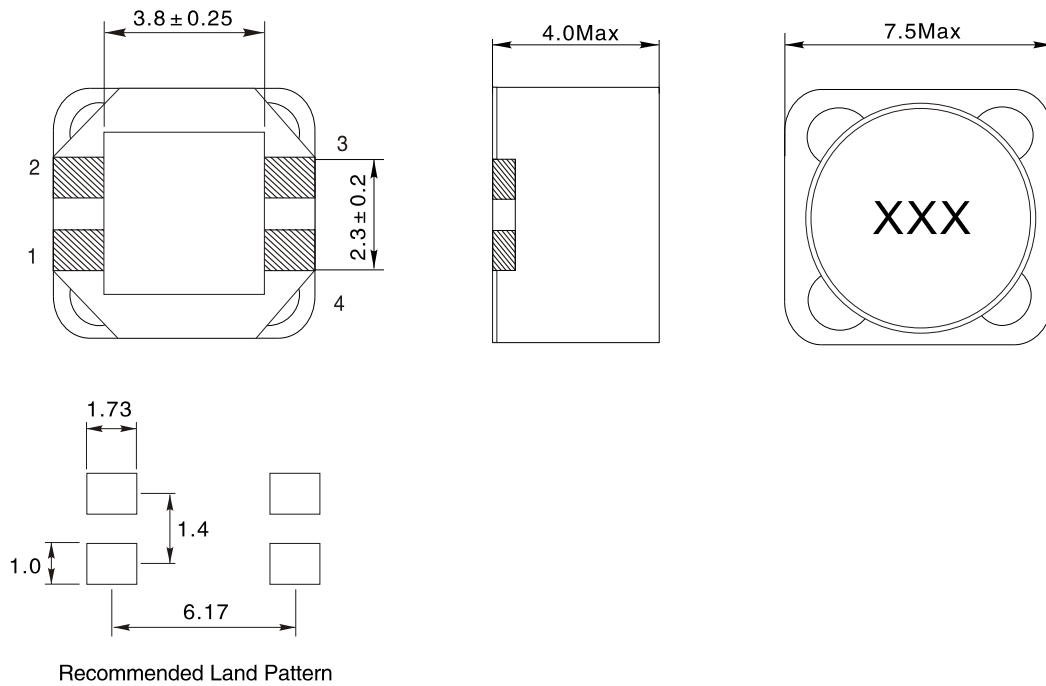
| Part Number | Rated Inductance (uH) | Parallel ratings | | | | | Series ratings | | | | |
|----------------|-----------------------|-------------------|------------------------|------------------------|-----------|--------------|-------------------|------------------------|------------------------|-----------|--------------|
| | | OC L ± 20% (uH) ① | I _{rms} (A) ② | I _{sat} (A) ③ | DCR (Ω) ④ | Volt u-sec ⑤ | OC L ± 20% (uH) ① | I _{rms} (A) ② | I _{sat} (A) ③ | DCR (Ω) ④ | Volt u-sec ⑤ |
| SDRH0703D-R33M | 0.33 | 0.306 | 6.19 | 14.4 | 0.0074 | 1.98 | 1.224 | 3.10 | 7.18 | 0.0296 | 3.96 |
| SDRH0703D-1R0M | 1.0 | 0.992 | 5.25 | 7.97 | 0.0103 | 3.56 | 3.968 | 2.63 | 3.99 | 0.0411 | 7.12 |
| SDRH0703D-1R5M | 1.5 | 1.482 | 4.64 | 6.52 | 0.0132 | 4.36 | 5.928 | 2.32 | 3.26 | 0.0527 | 8.72 |
| SDRH0703D-2R2M | 2.2 | 2.070 | 4.11 | 5.52 | 0.0167 | 5.15 | 8.280 | 2.06 | 2.76 | 0.0669 | 10.3 |
| SDRH0703D-3R3M | 3.3 | 3.540 | 3.31 | 4.22 | 0.0259 | 6.73 | 14.16 | 1.66 | 2.11 | 0.1035 | 13.5 |
| SDRH0703D-4R7M | 4.7 | 4.422 | 3.09 | 3.78 | 0.0297 | 7.52 | 17.69 | 1.55 | 1.89 | 0.1188 | 15.0 |
| SDRH0703D-6R8M | 6.8 | 6.480 | 2.55 | 3.12 | 0.0435 | 9.11 | 25.92 | 1.28 | 1.56 | 0.1742 | 18.2 |
| SDRH0703D-8R2M | 8.2 | 8.930 | 2.19 | 2.66 | 0.0592 | 10.7 | 35.72 | 1.10 | 1.33 | 0.2368 | 21.4 |
| SDRH0703D-100M | 10 | 10.30 | 2.08 | 2.47 | 0.0656 | 11.5 | 41.20 | 1.04 | 1.24 | 0.2623 | 23.0 |
| SDRH0703D-150M | 15 | 15.01 | 1.83 | 2.05 | 0.0844 | 13.9 | 60.04 | 0.916 | 1.03 | 0.339 | 27.8 |
| SDRH0703D-220M | 22 | 22.65 | 1.62 | 1.67 | 0.107 | 17.0 | 90.60 | 0.811 | 0.83 | 0.429 | 34.0 |
| SDRH0703D-330M | 33 | 34.41 | 1.31 | 1.35 | 0.166 | 21.0 | 137.6 | 0.653 | 0.68 | 0.665 | 42.0 |
| SDRH0703D-470M | 47 | 48.62 | 1.08 | 1.14 | 0.241 | 24.9 | 194.5 | 0.542 | 0.57 | 0.965 | 49.8 |
| SDRH0703D-680M | 68 | 68.91 | 0.89 | 0.96 | 0.358 | 29.7 | 275.6 | 0.444 | 0.48 | 1.43 | 59.4 |
| SDRH0703D-820M | 82 | 80.37 | 0.86 | 0.89 | 0.384 | 32.1 | 321.5 | 0.430 | 0.44 | 1.54 | 64.2 |
| SDRH0703D-101M | 100 | 101.4 | 0.73 | 0.79 | 0.527 | 36.0 | 405.6 | 0.367 | 0.39 | 2.11 | 72.0 |
| SDRH0703D-151M | 150 | 150.9 | 0.58 | 0.65 | 0.851 | 44.0 | 603.6 | 0.289 | 0.32 | 3.41 | 88.0 |
| SDRH0703D-221M | 220 | 223.3 | 0.52 | 0.53 | 1.05 | 53.5 | 893.2 | 0.260 | 0.27 | 4.20 | 107 |
| SDRH0703D-331M | 330 | 325.3 | 0.42 | 0.44 | 1.59 | 64.5 | 1302 | 0.211 | 0.22 | 6.36 | 129 |
| SDRH0703D-471M | 470 | 465.8 | 0.35 | 0.37 | 2.36 | 77.2 | 1863 | 0.173 | 0.18 | 9.44 | 154 |
| SDRH0703D-681M | 680 | 676.5 | 0.29 | 0.31 | 3.47 | 93.1 | 2706 | 0.143 | 0.15 | 13.88 | 186 |
| SDRH0703D-821M | 820 | 821.7 | 0.27 | 0.28 | 3.93 | 103 | 3287 | 0.134 | 0.14 | 15.72 | 206 |
| SDRH0703D-102M | 1000 | 995.0 | 0.26 | 0.25 | 4.34 | 113 | 3980 | 0.128 | 0.13 | 17.36 | 226 |

- 1) Open Circuit Inductance Test Parameters: 100kHz, 0.25 Vrms, 0.0 Adc Parallel: (1,2 -4,3) Series: (1-4) tie (2-3)
- 2) RMS current for an approximate DT of 40°C without core loss. It is recommended that the temperature of the part not exceed 125°C.
- 3) Peak current for approximately 30% roll-off at 20°C
- 4) DCR limits @ 20°C
- 5) Applied Volt-Time product (V- μ S) across the inductor. This value represents the applied V- μ Sat 100KHz necessary to generate a core loss equal to 10% of the total losses for a 40° C temperature rise.

SCHEMATIC



PHYSICAL CHARACTERISTICS(Dimensions:mm)



Notes:

1. 200Vac Isolation between windings
2. Storage temperature: -40°C to $+125^{\circ}\text{C}$
3. Operating temperature: -40°C to $+125^{\circ}\text{C}$ (range is application specific).
4. Solder reflow temperature: 260°C max. for 10 seconds max.
5. Turns Ratio (1:3):(2-4)=1:1
6. All specifications subject to change without notice.