SMD Unshielded Power Inductors

# SCMD Series

Low DC Resistance & For Large Current Applications


## PRODUCT IDENTIFICATION

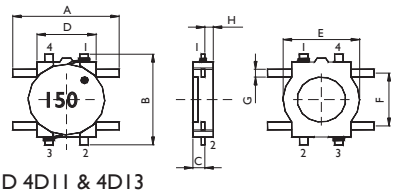
SCMD □□□□ □ -□□□□ -□

- Internal No.
- Tolerance
- Inductance
- Packaging Style
- Dimensions
- Product Symbol

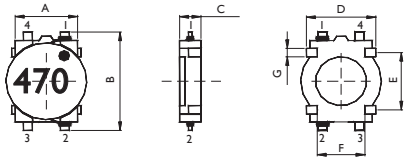
- Packaging: T: Tape and Reel
- Tolerance: M±20%
- Note: YAGEO will start to release SCMD Series inductors with lead-free terminals that meet SONY SS-00259's criteria for lead-free product in Q2 of 2004, and YAGEO Internal No. will be changed to "N" as identification. Ex.: SCMD4D06T-2R2 M-N

## SHAPES AND DIMENSIONS

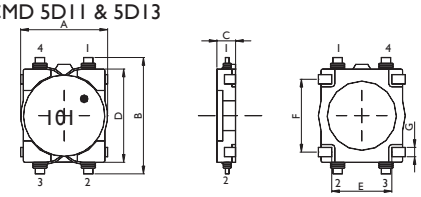
SCMD 4D06 & 4D08




SCMD 4D11 & 4D13




SCMD 5D11 & 5D13




## FEATURES

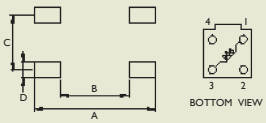
- Available in magnetically shielded.
- Low DC resistance.
- Suitable for large currents.
- Ideal for a variety of DC - Dc converter inductor applications.
- Available on tape and reel for auto surface mounting

## APPLICATIONS

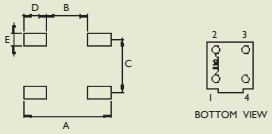
- power supply for VTRs.
- OA equipment.
- LCD televisions.
- Notebook PCs.
- Portable communication equipment.
- DC / DC converters, etc.

## RECOMENDED PATTERN

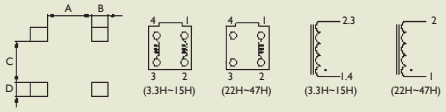
SCMD 4D06 & 4D08



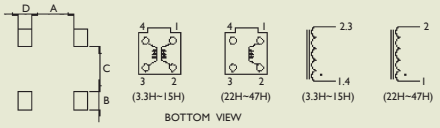

SCMD 4D11 & 4D13




SCMD 5D11




SCMD 5D13




## SHAPES AND DIMENSIONS

| TYPE | A Max | B Max | C Max | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| SCMD4D06 | 6.3 | 5.8 | 0.8 | 3.5 | 4.1 | 3.2 | 0.5 | 0.4 |
| SCMD4D08 | 6.3 | 5.8 | 1.0 | 3.5 | 4.1 | 3.2 | 0.5 | 0.4 |
| SCMD4D11 | 4.4 | 5.8 | 1.25 | 3.7 | 3.2 | 2.9 | 0.5 | |
| SCMD4D13 | 4.4 | 5.8 | 1.45 | 3.7 | 3.2 | 2.9 | 0.5 | |
| SCMD5D11 | 5.8 | 7.4 | 1.2 | 6.0 | 4.2 | 4.5 | 0.6 | |
| SCMD5D13 | 5.8 | 7.4 | 1.5 | 6.0 | 4.2 | 4.5 | 0.6 | |

## RECOMENDED PATTERN

| TYPE | A | B | C | D | E |
|---|---|---|---|---|---|
| SCMD4D06 | 7 | 4 | 3.2 | 0.9 | |
| SCMD4D08 | 7 | 4 | 3.2 | 0.9 | |
| SCMD4D11 | 5.3 | 2.5 | 3.2 | 1.4 | 0.8 |
| SCMD4D13 | 5.3 | 2.5 | 3.2 | 1.4 | 0.8 |
| SCMD5D11 | 3.6 | 1.4 | 3.4 | 1.1 | |
| SCMD5D13 | 3.6 | 1.4 | 3.6 | 1.1 | |

## STANDARD SPECIFICATIONS

| Stamp | Inductance (μH) | D.C.R(Ω) Max. | | | | | | Rated D.C. Current(A) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SCMD 4D06 | SCMD 4D08 | SCMD 4D11 | SCMD 4D13 | SCMD 5D11 | SCMD 5D13 | SCMD 4D06 | SCMD 4D08 | SCMD 4D11 | SCMD 4D13 | SCMD 5D11 | SCMD 5D13 |
| 2R2 | 2.2 | 0.116 | | 0.116 | | | | 0.95 | | 0.95 | | | |
| 3R3 | 3.3 | 0.174 | 0.160 | 0.174 | 0.160 | 0.109 | 0.081 | 0.77 | 0.85 | 0.77 | 0.85 | 0.94 | 1.25 |
| 4R7 | 4.7 | 0.216 | 0.194 | 0.216 | 0.194 | 0.156 | 0.106 | 0.75 | 0.80 | 0.75 | 0.80 | 0.80 | 1.20 |
| 6R8 | 6.8 | 0.296 | 0.276 | 0.296 | 0.276 | 0.216 | 0.144 | 0.62 | 0.65 | 0.62 | 0.65 | 0.65 | 0.90 |
| 100 | 10 | 0.457 | 0.335 | 0.457 | 0.335 | 0.275 | 0.187 | 0.50 | 0.57 | 0.50 | 0.57 | 0.54 | 0.85 |
| 150 | 15 | 0.676 | 0.508 | 0.676 | 0.508 | 0.438 | 0.300 | 0.40 | 0.45 | 0.40 | 0.45 | 0.40 | 0.57 |
| 220 | 22 | 1.066 | 0.766 | 1.066 | 0.766 | 0.663 | 0.431 | 0.30 | 0.37 | 0.30 | 0.37 | 0.36 | 0.54 |
| 330 | 33 | 1.647 | 1.162 | 1.647 | 1.162 | 0.975 | 0.637 | 0.24 | 0.28 | 0.24 | 0.28 | 0.32 | 0.28 |
| 470 | 47 | 2.843 | 1.658 | 2.843 | 1.658 | 1.38 | 0.875 | 0.18 | 0.22 | 0.18 | 0.22 | 0.26 | 0.35 |
| 680 | 68 | | 2.534 | | 2.534 | 1.70 | | | 0.18 | | 0.18 | 0.23 | |
| 101 | 100 | | 3.800 | | 3.800 | 2.80 | | | 0.17 | | 0.17 | 0.20 | |
| 151 | 150 | | | | 5.362 | | | | | | 0.13 | | |

- Measuring Frequency (L) : 100KHz
- Tolerance of Inductance: ±20%(M)
- Rated D.C Current (SCMD4D06/4D08/4D11/4D13/5D11)

  This indicates the value of current when the inductance is 10% lower than its initial value at D.C superposition or D.C current when at Δt=40°C whichever is lower.
- Rated D.C Current (SCMD5D13)

  This indicates the value of current when the inductance is 65% more than its nominal value and the temperature is rising at Δt=40°C lower at D.C superposition.
- Test Equipment:

  L: HP4192. LF Impedance Analyzer or HP4284A.

  DCR: CHEN HWA 502

  Rared dc Current: HP4284A+HP42841A

## ELECTRICAL CHARACTERISTICS : LEAD-FREE & ROHS COMPLIANCE

| TYPE | Inductance(μH) | Test Freq(KHz) | RDC(mΩ)Max | Rated Current(A)Max |
|---|---|---|---|---|
| SCMD4D06T-2R2 □-N | 2.2 | 100KHz,1V | 0.116 | 0.95 |
| SCMD4D06T-3R3 □-N | 3.3 | 100KHz,1V | 0.174 | 0.77 |
| SCMD4D06T-4R7 □-N | 4.7 | 100KHz,1V | 0.216 | 0.75 |
| SCMD4D06T-6R8 □-N | 6.8 | 100KHz,1V | 0.296 | 0.62 |
| SCMD4D06T-100 □-N | 10 | 100KHz,1V | 0.457 | 0.5 |
| SCMD4D06T-150 □-N | 15 | 100KHz,1V | 0.676 | 0.4 |
| SCMD4D06T-220 □-N | 22 | 100KHz,1V | 1.066 | 0.3 |
| SCMD4D06T-330 □-N | 33 | 100KHz,1V | 1.647 | 0.24 |
| SCMD4D06T-470 □-N | 47 | 100KHz,1V | 2.843 | 0.18 |

## ELECTRICAL CHARACTERISTICS : LEAD-FREE & ROHS COMPLIANCE

| TYPE | Inductance(μH) | Test Freq(KHz) | RDC(mΩ)Max | Rated Current(A)Max |
|---|---|---|---|---|
| SCMD4D08T-3R3 □-N | 3.3 | 100KHz,1V | 0.16 | 0.85 |
| SCMD4D08T-4R7 □-N | 4.7 | 100KHz,1V | 0.194 | 0.8 |
| SCMD4D08T-6R8 □-N | 6.8 | 100KHz,1V | 0.276 | 0.65 |
| SCMD4D08T-100 □-N | 10 | 100KHz,1V | 0.335 | 0.57 |
| SCMD4D08T-150 □-N | 15 | 100KHz,1V | 0.508 | 0.45 |
| SCMD4D08T-220 □-N | 22 | 100KHz,1V | 0.766 | 0.37 |
| SCMD4D08T-330 □-N | 33 | 100KHz,1V | 1.162 | 0.28 |
| SCMD4D08T-470 □-N | 47 | 100KHz,1V | 1.658 | 0.22 |
| SCMD4D08T-680 □-N | 68 | 100KHz,1V | 2.534 | 0.18 |
| SCMD4D08T-101 □-N | 100 | 100KHz,1V | 3.8 | 0.17 |
| SCMD4D11T-2R2 □-N | 2.2 | 100KHz,1V | 0.116 | 0.95 |
| SCMD4D11T-3R3 □-N | 3.3 | 100KHz,1V | 0.174 | 0.77 |
| SCMD4D11T-4R7 □-N | 4.7 | 100KHz,1V | 0.216 | 0.75 |
| SCMD4D11T-6R8 □-N | 6.8 | 100KHz,1V | 0.296 | 0.62 |
| SCMD4D11T-100 □-N | 10 | 100KHz,1V | 0.457 | 0.5 |
| SCMD4D11T-150 □-N | 15 | 100KHz,1V | 0.676 | 0.4 |
| SCMD4D11T-220 □-N | 22 | 100KHz,1V | 1.066 | 0.3 |
| SCMD4D11T-330 □-N | 33 | 100KHz,1V | 1.647 | 0.24 |
| SCMD4D11T-470 □-N | 47 | 100KHz,1V | 2.843 | 0.18 |
| SCMD4D13T-3R3 □-N | 3.3 | 100KHz,1V | 0.16 | 0.85 |
| SCMD4D13T-4R7 □-N | 4.7 | 100KHz,1V | 0.194 | 0.8 |
| SCMD4D13T-6R8 □-N | 6.8 | 100KHz,1V | 0.276 | 0.65 |
| SCMD4D13T-100 □-N | 10 | 100KHz,1V | 0.335 | 0.57 |
| SCMD4D13T-150 □-N | 15 | 100KHz,1V | 0.508 | 0.45 |
| SCMD4D13T-220 □-N | 22 | 100KHz,1V | 0.766 | 0.37 |
| SCMD4D13T-330 □-N | 33 | 100KHz,1V | 1.162 | 0.28 |
| SCMD4D13T-470 □-N | 47 | 100KHz,1V | 1.658 | 0.22 |
| SCMD4D13T-680 □-N | 68 | 100KHz,1V | 2.534 | 0.18 |
| SCMD4D13T-101 □-N | 100 | 100KHz,1V | 3.8 | 0.17 |
| SCMD4D13T-151 □-N | 150 | 100KHz,1V | 5.362 | 0.13 |
| SCMD5D11T-3R3 □-N | 3.3 | 100KHz,1V | 0.109 | 0.94 |
| SCMD5D11T-4R7 □-N | 4.7 | 100KHz,1V | 0.156 | 0.8 |
| SCMD5D11T-6R8 □-N | 6.8 | 100KHz,1V | 0.216 | 0.65 |
| SCMD5D11T-100 □-N | 10 | 100KHz,1V | 0.275 | 0.54 |
| SCMD5D11T-150 □-N | 15 | 100KHz,1V | 0.438 | 0.4 |
| SCMD5D11T-220 □-N | 22 | 100KHz,1V | 0.663 | 0.36 |
| SCMD5D11T-330 □-N | 33 | 100KHz,1V | 0.975 | 0.32 |
| SCMD5D11T-470 □-N | 47 | 100KHz,1V | 1.38 | 0.26 |
| SCMD5D11T-680 □-N | 68 | 100KHz,1V | 1.7 | 0.23 |
| SCMD5D11T-101 □-N | 100 | 100KHz,1V | 2.8 | 0.2 |
| SCMD5D13T-3R3 □-N | 3.3 | 100KHz,1V | 0.081 | 1.25 |
| SCMD5D13T-4R7 □-N | 4.7 | 100KHz,1V | 0.106 | 1.2 |
| SCMD5D13T-6R8 □-N | 6.8 | 100KHz,1V | 0.144 | 0.9 |
| SCMD5D13T-100 □-N | 10 | 100KHz,1V | 0.187 | 0.85 |
| SCMD5D13T-150 □-N | 15 | 100KHz,1V | 0.3 | 0.57 |
| SCMD5D13T-220 □-N | 22 | 100KHz,1V | 0.431 | 0.54 |
| SCMD5D13T-330 □-N | 33 | 100KHz,1V | 0.637 | 0.38 |
| SCMD5D13T-470 □-N | 47 | 100KHz,1V | 0.875 | 0.35 |

NOTE : □-tolerance M=±20%

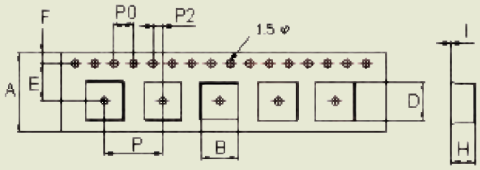
1.Operating temperature range -30°C~100°C

2.Rate current: Inductance drop = 10% typ.

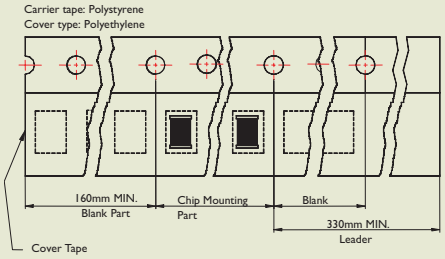
3.This indiscates the value of current when the inductance is 10% lower than it's intial value at D.C superimposition or D.C current when at Δt=40°C whichever is lower

## PACKAGING SPECIFICATIONS

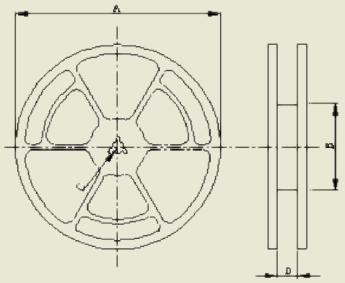
Tape Dimensions




Tape Material




Reel Dimensions



| TYPE | TAPE DIMENSIONS | | | | | | | | | | REEL DIMENSIONS | | | | QUANTITY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | D | E | F | H | I | P | P0 | P2 | A | B | C | D | PCS/REEL |
| SCMD4D06 | 12 | 6 | 7 | 5.5 | 1.75 | 1.5 | 0.4 | 8 | 4 | 2 | 330 | 100 | 13 | 13.4 | 1000 |
| SCMD4D08 | 12 | 6 | 7 | 5.5 | 1.75 | 1.7 | 0.4 | 8 | 4 | 2 | 330 | 100 | 13 | 13.4 | 1000 |
| SCMD4D11 | 12 | 4.4 | 5.55 | 5.5 | 1.75 | 1.4 | 0.3 | 8 | 4 | 2 | 330 | 100 | 13 | 13.4 | 1000 |
| SCMD4D13 | 12 | 4.4 | 5.55 | 5.5 | 1.75 | 1.4 | 0.3 | 8 | 4 | 2 | 330 | 100 | 13 | 13.4 | 1000 |
| SCMD5D11 | 16 | 5.9 | 7.5 | 7.5 | 1.75 | 1.5 | 0.4 | 8 | 4 | 2 | 330 | 100 | 13 | 13.4 | 1000 |
| SCMD5D13 | 16 | 5.9 | 7.5 | 7.5 | 1.75 | 1.8 | 0.4 | 8 | 4 | 2 | 330 | 100 | 13 | 13.4 | 1000 |

## RECOMMEND SOLDERING CONDITIONS

for:CL/ CLH/ SQV/ SMD power inductors/ SMD Chip Beads/ SMD Filters,Transformers, Current Sensors