

SCOPE :

This specification applies to the current type Radial Leaded Inductor
for MCD-110C-SERIES

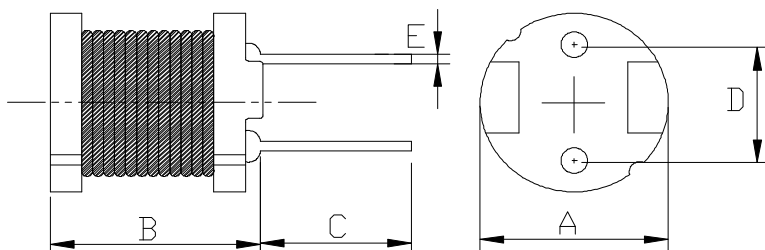
PRODUCT IDENTIFICATION

MCD - 110C - 100 M

① ② ③ ④

- ① Product Code
- ② Dimensions Code
- ③ Inductance Code
- ④ Tolerance Code

(1) SHAPES AND DIMENSIONS



| | | |
|----|-----------|----|
| A: | 10±0.5 | mm |
| B: | 10.5 Max. | mm |
| C: | 15±2.0 | mm |
| D: | 6.5±0.5 | mm |
| E: | φ0.65±0.1 | mm |

(2) ELECTRICAL SPECIFICATIONS

SEE TABLE 1

TEST INSTRUMENTS

- L : HP 4284A PRECISION LCR METER (or equivalent)
RDC : CHROMA MODEL 16502 MILLIOHMMETER (or equivalent)

(3) CHARACTERISTICS

- (3)-1 Ambient temperature +60°C Max.
- (3)-2 Operate temperature range -40°C ~ +125°C
(Including self temp. rise)
- (3)-3 Storage temperature range -40°C ~ +125°C



MAG.LAYERS

TABLE 1

| MAGLAYERS PT/NO. | Inductance L(μH) | Percent Tolerance | Test Frequency | Resistance RDC(Ω)Max. | Rated DC Current IDC(A) |
|---------------------|---------------------|----------------------|-------------------|--------------------------|----------------------------|
| MCD-110C-100□ | 10 | M | 100kHz/0.25V | 22m | 5.3 |
| MCD-110C-120□ | 12 | M | 100kHz/0.25V | 23m | 4.9 |
| MCD-110C-150□ | 15 | M | 100kHz/0.25V | 26m | 4.4 |
| MCD-110C-180□ | 18 | M | 100kHz/0.25V | 33m | 4.0 |
| MCD-110C-220□ | 22 | K,M | 100kHz/0.25V | 37m | 3.6 |
| MCD-110C-270□ | 27 | M | 100kHz/0.25V | 48m | 3.3 |
| MCD-110C-330□ | 33 | K,M | 100kHz/0.25V | 55m | 2.9 |
| MCD-110C-390□ | 39 | K,M | 100kHz/0.25V | 73m | 2.7 |
| MCD-110C-470□ | 47 | K,M | 100kHz/0.25V | 83m | 2.5 |
| MCD-110C-560□ | 56 | K,M | 100kHz/0.25V | 92m | 2.3 |
| MCD-110C-680□ | 68 | K,M | 100kHz/0.25V | 0.12 | 2.1 |
| MCD-110C-820□ | 82 | K,M | 100kHz/0.25V | 0.14 | 1.9 |
| MCD-110C-101□ | 100 | K,M | 100kHz/0.25V | 0.16 | 1.7 |
| MCD-110C-121□ | 120 | K,M | 100kHz/0.25V | 0.20 | 1.5 |
| MCD-110C-151□ | 150 | K,M | 100kHz/0.25V | 0.23 | 1.4 |
| MCD-110C-181□ | 180 | K,M | 100kHz/0.25V | 0.31 | 1.3 |
| MCD-110C-221□ | 220 | K,M | 100kHz/0.25V | 0.34 | 1.1 |
| MCD-110C-271□ | 270 | K,M | 100kHz/0.25V | 0.40 | 1.0 |
| MCD-110C-331□ | 330 | K,M | 100kHz/0.25V | 0.52 | 0.93 |
| MCD-110C-391□ | 390 | K,M | 100kHz/0.25V | 0.65 | 0.86 |
| MCD-110C-471□ | 470 | K,M | 100kHz/0.25V | 0.71 | 0.78 |
| MCD-110C-561□ | 560 | K,M | 100kHz/0.25V | 1.00 | 0.71 |
| MCD-110C-681□ | 680 | K,M | 100kHz/0.25V | 1.10 | 0.65 |
| MCD-110C-821□ | 820 | K,M | 100kHz/0.25V | 1.30 | 0.59 |
| MCD-110C-102□ | 1000 | K,M | 100kHz/0.25V | 1.70 | 0.53 |

※ 1. □ Specify the inductance tolerance, K(±10%), M(±20%)

※ 2. IDC : Based on inductance change ($\Delta L/L_0$: drop 10% Max.) @ ambient temp. 25°C and
Based on temperature rise (ΔT : 40°C TYP.)



(4) RELIABILITY TEST METHOD MECHANICAL

| NO. | ITEMS | SPECIFICATIONS | CONDITIONS |
|-----|--------------------------------|--|---|
| 1 | Solderability test | More than 90% of the terminal electrode should be covered with solder. | Dipping: $245 \pm 5^{\circ}\text{C}$, 3 ± 1 seconds |
| 2 | lead tensile strength test | 1.0 Kg MIN. | The lead of product is pulled with a load of 1.0kg minimum until lead breakdown. The tensile force shall be recorded. |
| 3 | Vibration test | $\Delta L/L \leq \pm 7\%$ Visual:OK | The product is fixed into the vibration with amplitude of 1.52m/m at a frequency of 10~55Hz sweeping for 1min. The vibration is done at X,Y, Z direction respectively for 2 hours, totally 6 hours. |
| 4 | Soldering heat resistance test | Visual:OK Circuit:OK | The leads of product are dipped into a solder pot of $260 \pm 5^{\circ}\text{C}$ for a duration of 10 ± 1 sec. Nothing particular on visual and open circuitry as a result of ore testing. |

ENVIRONMENTAL

| NO. | ITEMS | SPECIFICATIONS | CONDITIONS |
|-----|--------------------------|---------------------------|--|
| 1 | Humidity endurance test | $\Delta L/L \leq \pm 5\%$ | The product is placed in a chamber of $40 \pm 2^{\circ}\text{C}$, 90~95%RH for 96 hours. Measurement is done after the recovery of 4~24 hours. |
| 2 | High temp endurance test | $\Delta L/L \leq \pm 5\%$ | The product is placed in a chamber of $80 \pm 2^{\circ}\text{C}$, for 72 hours. Measurement is done after recovery of 4~24 hours. |
| 3 | Low temp test | $\Delta L/L \leq \pm 5\%$ | The product is placed in a chamber of $-40 \pm 2^{\circ}\text{C}$, for 96 hours. Measurement is done after recovery of 4~24 hours. |
| 4 | Thermal shock test | $\Delta L/L \leq \pm 5\%$ | The specimens are placed in a chamber and the temp is then lowered to $-20 \pm 2^{\circ}\text{C}$ for one hour. The temp will raised to $+80 \pm 2^{\circ}\text{C}$ for one hour. This constitutes one cycle. Ten cycles of such testing shall be completed. Measurement is made after recovery for 4~24 hours from the completion of testing. |



(5) PACKAGE SPECIFICATION (mm)

