# SPECIFICATION FOR APPROVAL

REF. :

| PROD. NAME | Shielded SMD Power Inductor | ABC'S DWG NO. | CS0704□□□□L□-□□□ | | |
|---|---|---|---|---|---|
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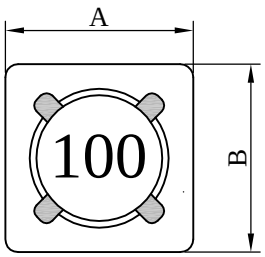
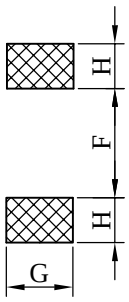
## Ⅰ．Configuration and dimensions：








（PCB Pattern）

Unit：m/m

| A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|
| 7.60 max. | 7.60 max. | 4.55 max. | 1.30 typ. | 2.60 typ. | 3.50 typ. | 3.25 ref. | 2.50 ref. |

## Ⅱ．Description：

a．Ferrite drum core construction.

b．Magnetically shielded.

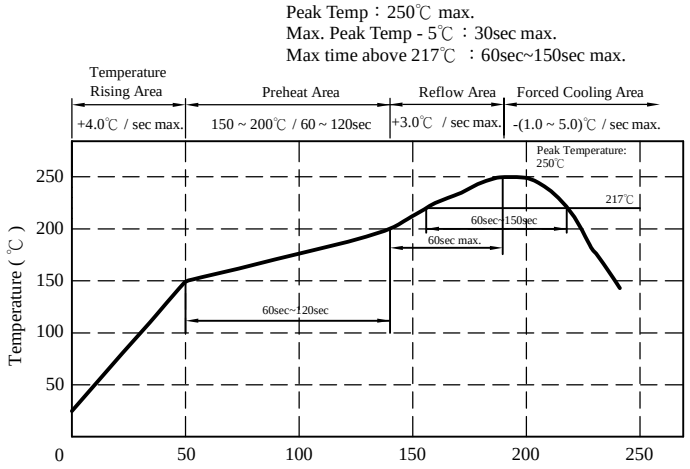
c．Enamelled copper wire：H & F class

d．Product weight： 0.85 g（ref.）

e．Moisture sensitivity Level 1

f．Products comply with RoHS' requirements

g．Halogen free available




## Ⅲ．General specification：

a．Storage temp.：-40℃ ----+125℃

b．Operating temp.：-40℃----+125℃

(Temp. rise included)

c．Resistance to solder heat：250℃.10 secs.



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Ⅳ．Electrical characteristics：

| DWG No. | Inductance (uH) | Test Freq. (Hz) / 1V | RDC (Ω) max. | Irms (A) max. | Isat (A) max. |
|---|---|---|---|---|---|
| CS07043R3ML□-□□□ | 3.3±20% | 1k | 0.024 | 3.50 | 4.80 |
| CS07044R7ML□-□□□ | 4.7±20% | 1k | 0.029 | 3.20 | 4.00 |
| CS07048R2ML□-□□□ | 8.2±20% | 1k | 0.045 | 2.60 | 2.80 |
| CS0704100ML□ -□□□ | 10.0±20% | 1k | 0.052 | 2.10 | 2.50 |
| CS0704120ML□ -□□□ | 12.0±20% | 1k | 0.062 | 2.00 | 2.30 |
| CS0704150ML□ -□□□ | 15.0±20% | 1k | 0.075 | 1.90 | 2.10 |
| CS0704180ML□ -□□□ | 18.0±20% | 1k | 0.090 | 1.80 | 1.95 |
| CS0704220ML□ -□□□ | 22.0±20% | 1k | 0.100 | 1.65 | 1.75 |
| CS0704270ML□ -□□□ | 27.0±20% | 1k | 0.130 | 1.45 | 1.62 |
| CS0704330ML□ -□□□ | 33.0±20% | 1k | 0.170 | 1.35 | 1.45 |
| CS0704390ML□ -□□□ | 39.0±20% | 1k | 0.190 | 1.17 | 1.30 |
| CS0704470ML□ -□□□ | 47.0±20% | 1k | 0.230 | 1.05 | 1.20 |
| CS0704560ML□ -□□□ | 56.0±20% | 1k | 0.280 | 0.95 | 1.10 |
| CS0704680ML□ -□□□ | 68.0±20% | 1k | 0.350 | 0.86 | 0.96 |
| CS0704820ML□ -□□□ | 82.0±20% | 1k | 0.400 | 0.78 | 0.90 |
| CS0704101ML□ -□□□ | 100.0±20% | 1k | 0.450 | 0.70 | 0.78 |
| CS0704121ML□ -□□□ | 120.0±20% | 1k | 0.550 | 0.60 | 0.70 |
| CS0704151ML□ -□□□ | 150.0±20% | 1k | 0.760 | 0.48 | 0.58 |
| CS0704181ML□ -□□□ | 180.0±20% | 1k | 0.820 | 0.46 | 0.54 |
| CS0704221ML□ -□□□ | 220.0±20% | 1k | 1.000 | 0.42 | 0.50 |
| CS0704271ML□ -□□□ | 270.0±20% | 1k | 1.200 | 0.38 | 0.46 |
| CS0704331ML□ -□□□ | 330.0±20% | 1k | 1.500 | 0.34 | 0.40 |
| CS0704391ML□ -□□□ | 390.0±20% | 1k | 1.850 | 0.32 | 0.36 |
| CS0704471ML□ -□□□ | 470.0±20% | 1k | 2.200 | 0.29 | 0.34 |
| CS0704561ML□ -□□□ | 560.0±20% | 1k | 2.600 | 0.26 | 0.30 |
| CS0704681ML□ -□□□ | 680.0±20% | 1k | 2.900 | 0.24 | 0.28 |
| CS0704821ML□ -□□□ | 820.0±20% | 1k | 3.600 | 0.22 | 0.26 |
| CS0704102ML□ -□□□ | 1000.0±20% | 1k | 5.000 | 0.20 | 0.24 |

1). □：Packaging information：□ Code

2). "-□□□"：Reference code

3). Electrical specifications at 25℃

4). Irms base on Temp. rise 40℃ max.

5). Isat base on △L/L0A=25% max.

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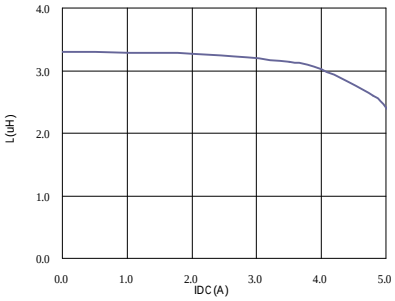
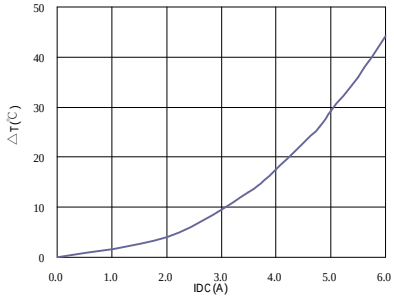
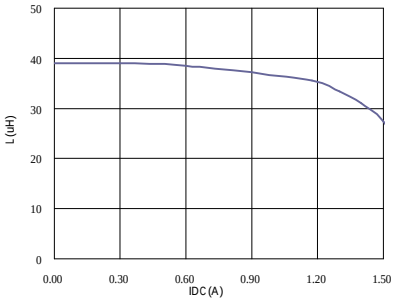
V ．Curve：

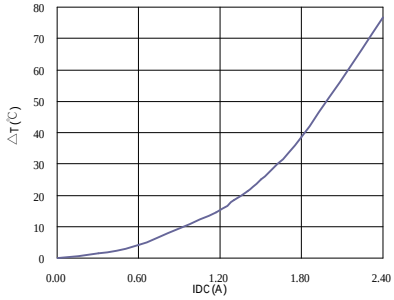
CS07043R3ML□



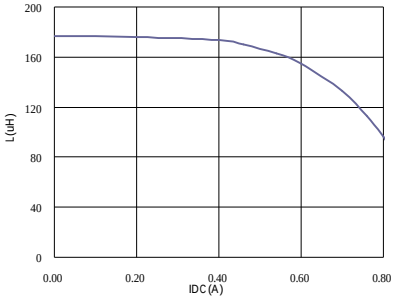



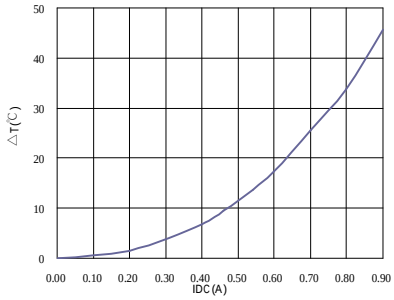

CS0704390ML□



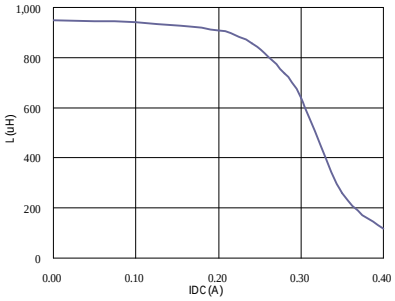



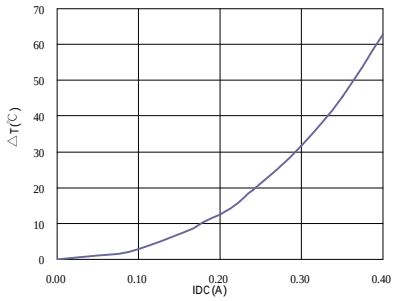

CS0704181ML□




CS0704102ML□



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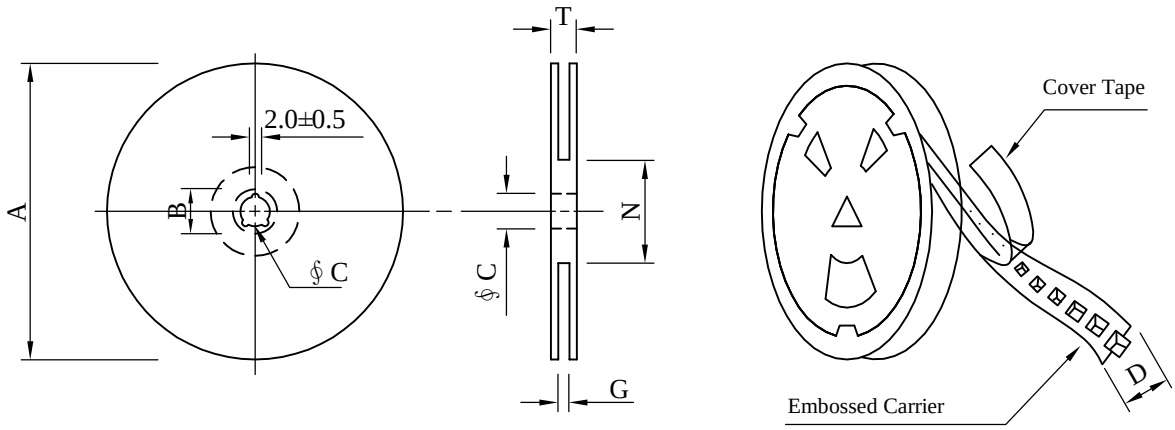
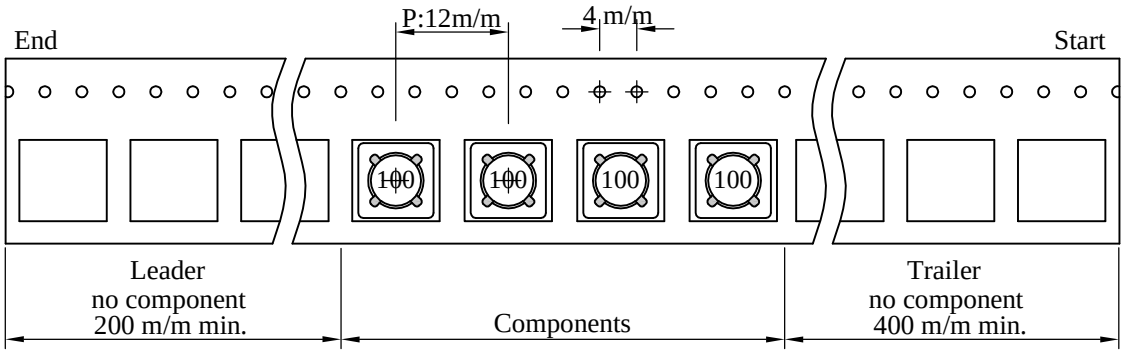
Ⅵ．Packaging information：

( 1 ) Configuration




※Carrier Tape Width : D




User direction of feed

( 2 ) Dimensions

Unit:m/m

| Style | A | B | C | D | G | N | T |
|---|---|---|---|---|---|---|---|
| 13 - 16 | 330 | 21±0.8 | 13±0.5 | 16 | $18^{+0}$ | $50^{-0}$ | 22.4 |

( 3 ) Q'TY & G.W. Per package

| Code | Inner : Reel | | | Outer : Carton | | |
|---|---|---|---|---|---|---|
| | Q'TY (pcs) | G.W. (gw) | Style | Q'TY (pcs) | G.W. (Kg) | Size (cm) |
| B | 1,000 | 1,250 | 13 - 16 | 9,000 | 17.0 | 38 x 37 x 22 |



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Ⅶ．Reliability test：

| Item | Reference documents | Test Condition | Test Specification |
|---|---|---|---|
| 1.High Temperature Exposure | MIL-STD-202 Method 108 | 1.Temperature: 125±2℃<br>2.Time:96±2 hours. | 1.No mechanical or electrical damage.<br>2.Inductance shall not change more than ±20%. |
| 2.Temperature Cycling | JESD22-A 104 | 1.Temperature: -40℃ ~ +125℃<br>2.Number of cycle:100 cycle<br>3.Dwell time:30 minutes | 1.No mechanical or electrical damage.<br>2.Inductance shall not change more than ±20%. |
| 3.Biased Humidity Test | MIL-STD-202 Method 103 | 1.Temperature：85±2 ℃<br>2.Humidity: 85% RH.<br>3.Time:96±2 Hours | 1.No mechanical or electrical damage.<br>2.Inductance shall not change more than ±20%. |
| 4.Operational Life | JESD22-A 108 | 1.Temperature: 125℃ (Temp. rise included)<br>2.Time:96±2 hours.<br>3.Rated current | 1.No mechanical or electrical damage.<br>2.Inductance shall not change more than ±20%. |
| 5.External Visual | JESD22-B 101 &<br>MIL-STD-883 Method 2009 | Inspect product constructions, marking and workmanship. | 1.No pollution on the surface of products.<br>2.Clear marking.<br>3.No crack. |
| 6.Physical Dimensions | JESD22-B 100 | Verify physical dimensions to the applicable product detail specification. | Per product specification standard |
| 7.Resistance to solvents | MIL-STD-202 Method 215 | Immerse into solvent for 3±0.5 minutes & brush 10 times for 3 cycles. | 1.No body change in apperarance.<br>2.No marking blurred.<br>3.Inductance shall not change more than ±20%. |
| 8.Vibration Test | MIL-STD-202 Method 204 | 1.Frequency and Amplitued : 10-2000-10 Hz, 1.5 mm.<br>2.Direction:X, Y, Z<br>3.Test duration:2 hours for each direction, 6 hours in total. | 1.No mechanical or electrical damage.<br>2.Inductance shall not change more than ±20%. |
| 9.Resistance To Soldering Heat Test | MIL-STD-202 Method 210<br>& J-STD020D.1 | 1.Highest temperature：250±5℃.<br>2.Time（temp.≧ 217℃）：60~150 Second.<br>3.IR reflow times：3 times. | 1.No mechanical or electrical damage.<br>2.Inductance shall not change more than ±20%. |
| 10.Saturation Current | JIS C 6436 &<br>User SPEC. | 1.Applied rated current for 5 second.<br>2.Saturation current | Inductance shall not drop more than 25% max. |
| 11.Over load | JIS C 6436 &<br>User SPEC. | 1.Applied one and half rated current for a period of 5 minutes.<br>2.Rated current | No electrical or mechanical damage |
| 12.Temperature Rise Current | JIS C 6436 &<br>User SPEC. | 1.Applied rated current for 10 minutes.<br>2.Temperature measure by digital surface thermometer.<br>3.Irms current | Surface temperature rise is less than 40℃ max. |
| 13.Solderability Test | J-STD-002 &<br>JESD22-B 102 | 1.Baking in pre-testing：150±5℃ / 16Hours±30 min.<br>2.Peak temperature：240±5℃<br>3.Time（temp.≧217℃）：60~150 second.<br>4.IR reflow times：1 times. | More than 95% soldering coverage min on terminations. |
| 14.Electrical Characteriazation | MIL-STD-202 Method 304<br>& User SPEC. | 1.Operating temperature：-40℃~125℃<br>2.Room temperature：25℃. | 1.No mechanical or electrical damage.<br>2.Inductance shall not change more than ±20%. |
| 15.Drop | CNS-C6354 & GB/T 2423.8 | 1.Products shall be mounted on SPEC. PCB and dropped down from a height of 1m<br>2.Drop total time：6 time (Every side of sample drop 2 time) | 1. Adhesion on PCB shall be enough.<br>2. Product appearance shall not break.<br>3. No electrical damage. |
| 16.Terminal Strength Test | IEC 60068-2-21 | 1.Apply push force to samples mounted on PCB.<br>2.Force of 1.8 kg for 60±1 seconds. | After test, inductors shall be no mechanical damage. |