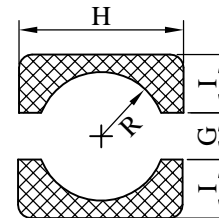
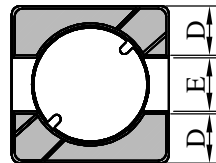
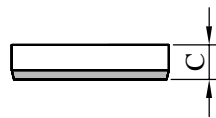
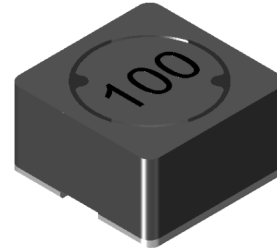
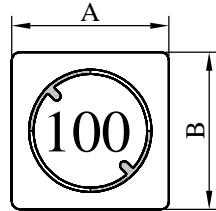


# SPECIFICATION FOR APPROVAL

REF. :

|            |                             |               |                  |      |   |
|------------|-----------------------------|---------------|------------------|------|---|
| PROD. NAME | Shielded SMD Power Inductor | ABC'S DWG NO. | SH6038□□□□L□-□□□ |      |   |
|            |                             | REV.          | 20151102-D       | PAGE | 1 |

**I . Configuration and dimensions :**



( PCB Pattern )

Unit : m/m

| A         | B         | C         | D         | E         | G         | H         | I         | R         |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 6.80 ±0.2 | 6.80 ±0.2 | 3.80 ±0.2 | 2.30 typ. | 2.20 typ. | 2.10 ref. | 7.30 ref. | 2.60 ref. | 2.70 ref. |

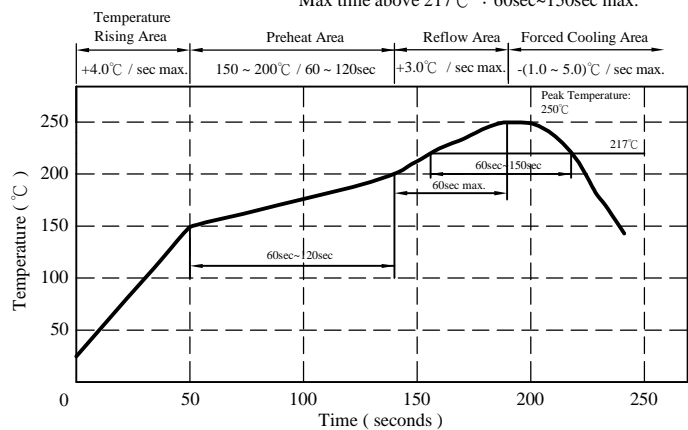
**II . Description :**

- a . Ferrite drum core construction.
- b . Magnetically shielded.
- c . Enamelled copper wire : H class
- d . Product weight : 0.8g ( ref. )
- e . Moisture sensitivity Level 1
- f . Products comply with RoHS' requirements
- g . Halogen free available

Peak Temp : 250°C max.  
Max. Peak Temp - 5°C : 30sec max.  
Max time above 217°C : 60sec~150sec max.

**III . General specification :**

- a . Storage temp. : -40°C ----+125°C
- b . Operating temp. : -40°C ----+125°C  
(Temp. rise included)
- c . Resistance to solder heat : 250°C .10 secs.



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# SPECIFICATION FOR APPROVAL

REF. :

|            |                             |               |                  |      |   |
|------------|-----------------------------|---------------|------------------|------|---|
| PROD. NAME | Shielded SMD Power Inductor | ABC'S DWG NO. | SH6038□□□□L□-□□□ |      |   |
|            |                             | REV.          | 20151102-D       | PAGE | 2 |

IV . Electrical characteristics :

| DWG No.          | Inductance<br>( $\mu$ H) | RDC<br>( $\Omega$ )<br>max. | IDC<br>(A)<br>max. |
|------------------|--------------------------|-----------------------------|--------------------|
| SH60383R3YL□-□□□ | 3.3 $\pm$ 30%            | 0.020                       | 3.50               |
| SH60385R0YL□-□□□ | 5.0 $\pm$ 30%            | 0.024                       | 2.90               |
| SH60386R2YL□-□□□ | 6.2 $\pm$ 30%            | 0.027                       | 2.50               |
| SH60387R4YL□-□□□ | 7.4 $\pm$ 30%            | 0.031                       | 2.30               |
| SH60388R7YL□-□□□ | 8.7 $\pm$ 30%            | 0.034                       | 2.20               |
| SH6038100YL□-□□□ | 10.0 $\pm$ 30%           | 0.038                       | 2.00               |
| SH6038120YL□-□□□ | 12.0 $\pm$ 30%           | 0.053                       | 1.70               |
| SH6038150YL□-□□□ | 15.0 $\pm$ 30%           | 0.057                       | 1.60               |
| SH6038180YL□-□□□ | 18.0 $\pm$ 30%           | 0.092                       | 1.50               |
| SH6038220YL□-□□□ | 22.0 $\pm$ 30%           | 0.096                       | 1.30               |
| SH6038270YL□-□□□ | 27.0 $\pm$ 30%           | 0.109                       | 1.20               |
| SH6038330YL□-□□□ | 33.0 $\pm$ 30%           | 0.124                       | 1.10               |
| SH6038390YL□-□□□ | 39.0 $\pm$ 30%           | 0.138                       | 1.00               |
| SH6038470YL□-□□□ | 47.0 $\pm$ 30%           | 0.155                       | 0.95               |
| SH6038560YL□-□□□ | 56.0 $\pm$ 30%           | 0.202                       | 0.85               |
| SH6038680YL□-□□□ | 68.0 $\pm$ 30%           | 0.234                       | 0.75               |
| SH6038820YL□-□□□ | 82.0 $\pm$ 30%           | 0.324                       | 0.70               |
| SH6038101YL□-□□□ | 100.0 $\pm$ 30%          | 0.358                       | 0.65               |

- 1). □ : Packaging information : □ Code
- 2). "-□□□" : Reference code
- 3). Electrical specifications at 25°C
- 4). Inductance test freq. : 10kHz / 0.1V
- 5). IDC Base on temp rise 30°C max &  $\Delta$ L/L0A=35% max.

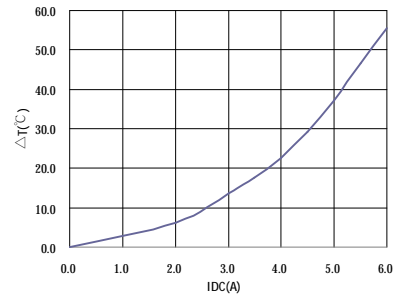
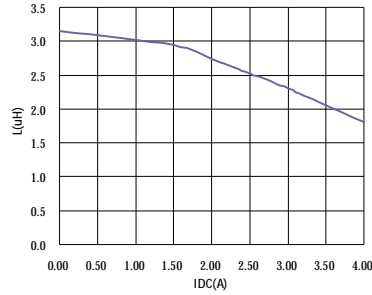
# SPECIFICATION FOR APPROVAL

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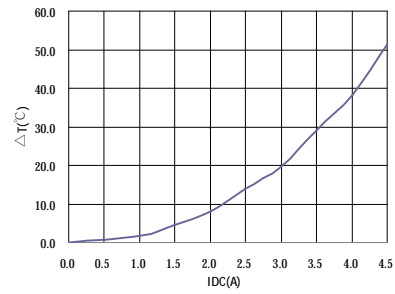
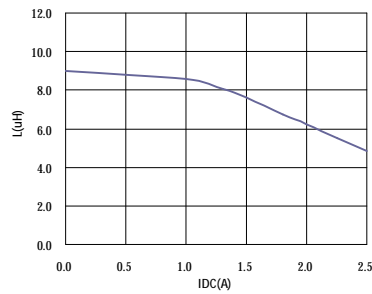
|               |                             |               |                  |      |   |
|---------------|-----------------------------|---------------|------------------|------|---|
| PROD.<br>NAME | Shielded SMD Power Inductor | ABC'S DWG NO. | SH6038□□□□L□-□□□ |      |   |
|               |                             | REV.          | 20151102-D       | PAGE | 3 |

V . Curve :

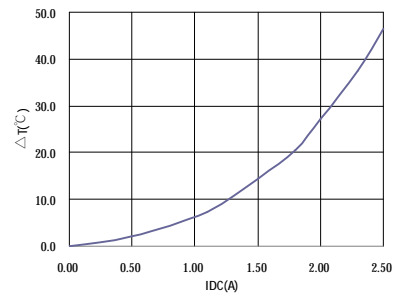
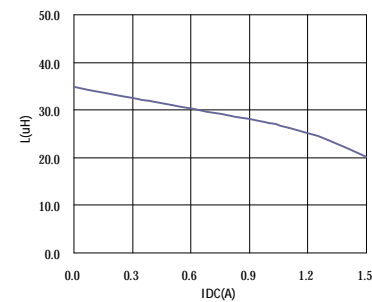
SH60383R3YL□



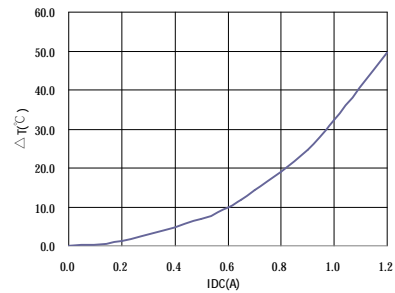
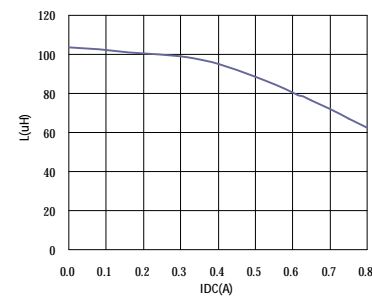
SH6038100YL□



SH6038330YL□



SH6038101YL□



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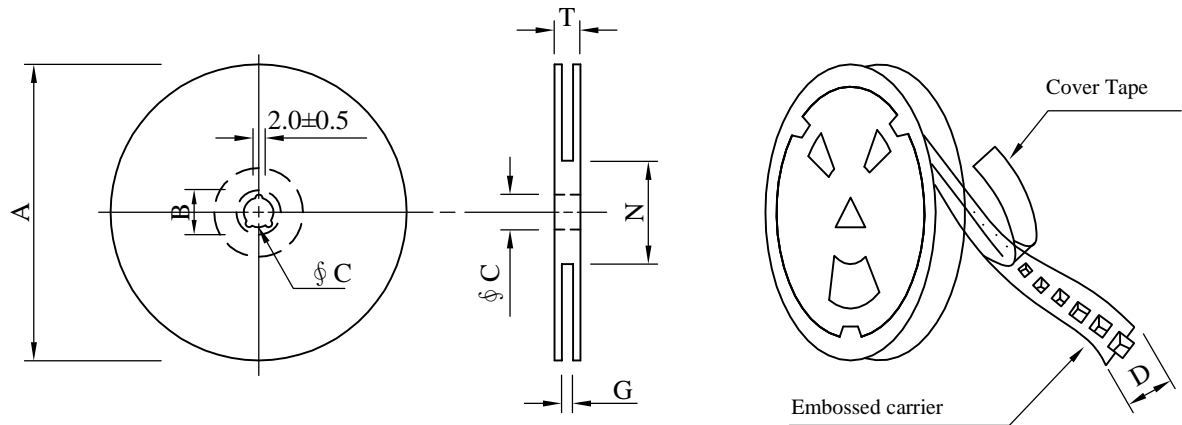
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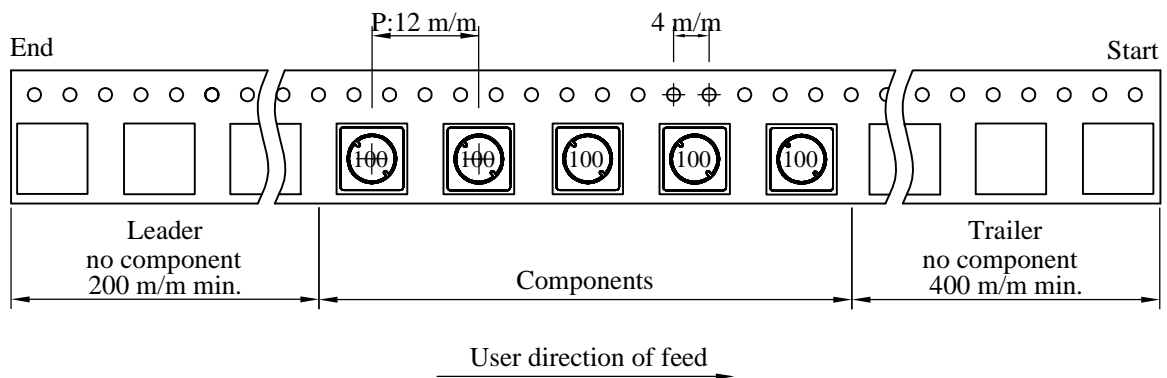
|            |                             |               |                  |      |   |
|------------|-----------------------------|---------------|------------------|------|---|
| PROD. NAME | Shielded SMD Power Inductor | ABC'S DWG NO. | SH6038□□□□L□-□□□ |      |   |
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## VI . Packaging information :

### ( 1 ) Configuration



※Carrier tape width : D



### ( 2 ) Dimensions

Unit:m/m

| Style   | A   | B      | C      | D  | G                | N                | T    |
|---------|-----|--------|--------|----|------------------|------------------|------|
| 13 - 16 | 330 | 21±0.8 | 13±0.5 | 16 | 18 <sup>+0</sup> | 50 <sup>-0</sup> | 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        | 1150      | 13 - 16 | 6,000          | 8.2       | 38 x 37 x 22 |

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# SPECIFICATION FOR APPROVAL

REF. :

|            |                             |               |                  |      |   |
|------------|-----------------------------|---------------|------------------|------|---|
| PROD. NAME | Shielded SMD Power Inductor | ABC'S DWG NO. | SH6038□□□□L□-□□□ |      |   |
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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 & 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 apperance.<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 Amplitud :<br>10-2000-10 Hz, 1.5 mm.<br>2.Direction:X, Y, Z<br>3.Test duration:2 hours for each direction,<br>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 & 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 & User SPEC.                | 1.Applied rated current for 5 second.<br>2.Saturation current  | Inductance shall not drop more than 35% max.  |
| 11.Over load                        | JIS C 6436 & 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 & 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 30 ℃ max.   |
| 13.Solderability Test               | J-STD-002 & JESD22-B 102               | 1.Baking in pre-testing :<br>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 & 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 heigh of 1m<br>2.Drop total time : 6 time<br>(Every side ofsample 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.  |

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