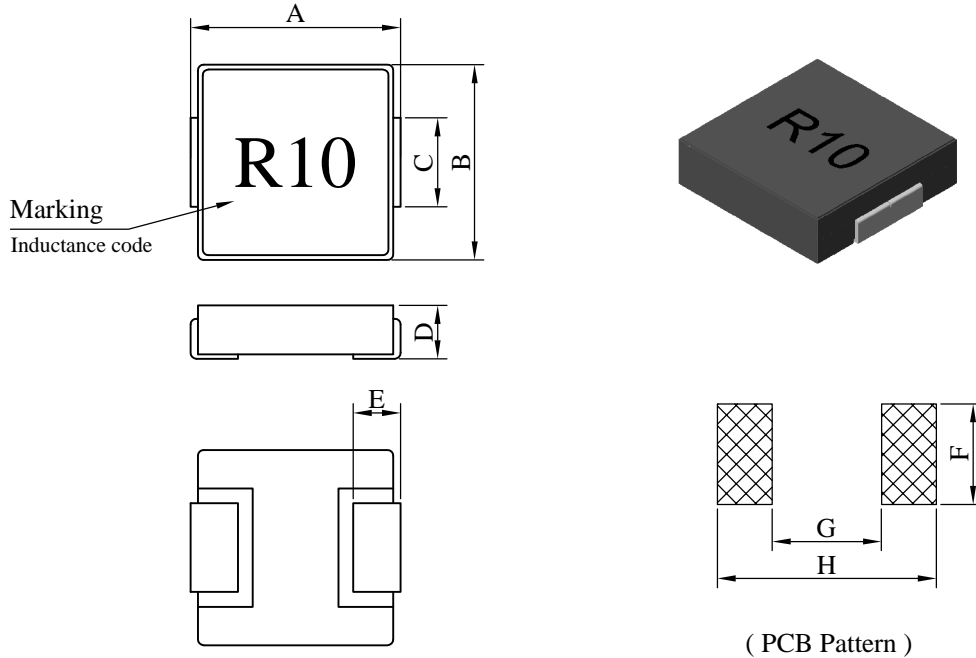


# SPECIFICATION FOR APPROVAL

REF. :

|            |                             |               |                  |      |   |
|------------|-----------------------------|---------------|------------------|------|---|
| PROD. NAME | Shielded SMD Power Inductor | ABC'S DWG NO. | HE0618□□□□S□-□□□ |      |   |
|            |                             | REV.          | 20200519-D       | PAGE | 1 |

## I . Configuration and dimensions :



Unit : mm

| A          | B          | C          | D         | E          | F         | G         | H         |
|------------|------------|------------|-----------|------------|-----------|-----------|-----------|
| 7.10 ±0.30 | 6.60 ±0.30 | 3.00 ±0.30 | 1.80 max. | 1.60 ±0.50 | 3.40 ref. | 3.70 ref. | 7.40 ref. |

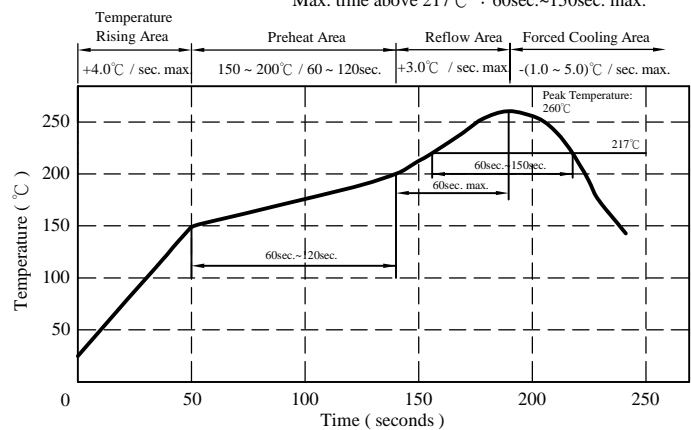
## II . Description :

- a . Powder molding construction
- b . Magnetically shielded
- c . Enamelled copper wire : N class
- d . Product weight : 0.40g ( ref. )
- e . Moisture sensitivity Level 2a
- f . Products comply with RoHS' requirements
- g . Halogen free

Peak temp. : 260°C max.  
Max. peak temp. - 5°C : 30sec. max.  
Max. time above 217°C : 60sec.~150sec. max.

## III . General specification :

- a . Storage temp. : -55°C ~ +125°C
- b . Operating temp. : -55°C ~ +125°C  
( Temp. rise included )
- c . Resistance to solder heat : 260°C . 10 sec.



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# SPECIFICATION FOR APPROVAL

REF. :

|            |                             |               |                  |      |   |
|------------|-----------------------------|---------------|------------------|------|---|
| PROD. NAME | Shielded SMD Power Inductor | ABC'S DWG NO. | HE0618□□□□S□-□□□ |      |   |
|            |                             | REV.          | 20200519-D       | PAGE | 2 |

IV . Electrical characteristics :

| DWG. No.         | Inductance<br>( uH ) | RDC<br>( mΩ ) |      | Isat<br>( A )<br>typ. | Irms<br>( A )<br>typ. |
|------------------|----------------------|---------------|------|-----------------------|-----------------------|
|                  |                      | typ.          | max. |                       |                       |
| HE0618R10MS□-□□□ | 0.10 ±20%            | 3.0           | 3.5  | 40.00                 | 18.00                 |
| HE0618R15MS□-□□□ | 0.15 ±20%            | 4.7           | 5.2  | 38.00                 | 15.00                 |
| HE0618R22MS□-□□□ | 0.22 ±20%            | 5.3           | 5.7  | 23.00                 | 14.00                 |
| HE0618R33MS□-□□□ | 0.33 ±20%            | 6.6           | 7.0  | 18.00                 | 12.00                 |
| HE0618R47MS□-□□□ | 0.47 ±20%            | 8.4           | 9.3  | 18.00                 | 11.00                 |
| HE0618R68MS□-□□□ | 0.68 ±20%            | 12.7          | 13.9 | 17.00                 | 9.00                  |
| HE0618R82MS□-□□□ | 0.82 ±20%            | 13.8          | 15.9 | 17.00                 | 8.00                  |
| HE06181R0MS□-□□□ | 1.00 ±20%            | 17.5          | 18.3 | 14.00                 | 7.00                  |
| HE06181R5MS□-□□□ | 1.50 ±20%            | 32.6          | 34.0 | 11.50                 | 4.00                  |
| HE06182R2MS□-□□□ | 2.20 ±20%            | 40.3          | 46.0 | 9.00                  | 3.75                  |
| HE06182R5MS□-□□□ | 2.50 ±20%            | 49.9          | 52.4 | 8.50                  | 3.50                  |
| HE06183R3MS□-□□□ | 3.30 ±20%            | 56.2          | 60.1 | 6.50                  | 3.25                  |
| HE06184R7MS□-□□□ | 4.70 ±20%            | 76.6          | 78.0 | 6.00                  | 3.00                  |

- 1). Electrical specifications at 25°C
- 2). Inductance Test Condition. :500kHz / 0.25V
- 3). Isat base on  $\Delta L / L0A=30\%$  typ.(Approximately transient current)
- 4). Irms base on Temp. rise 40°C typ.
- 5). Rated Voltage : 50V max.

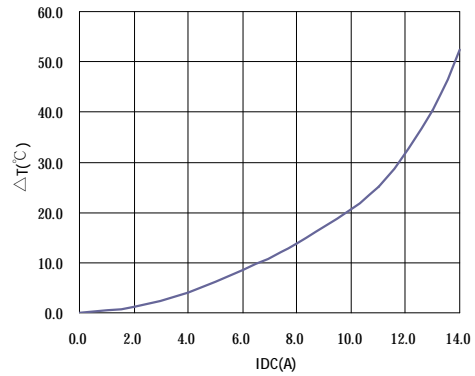
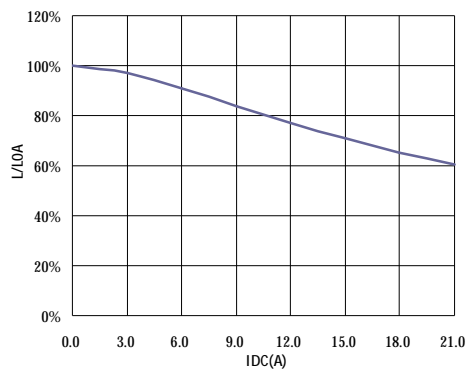
# SPECIFICATION FOR APPROVAL

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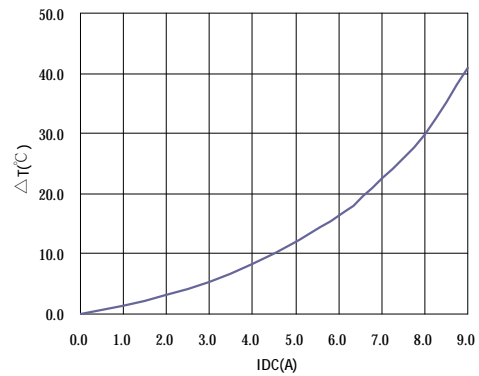
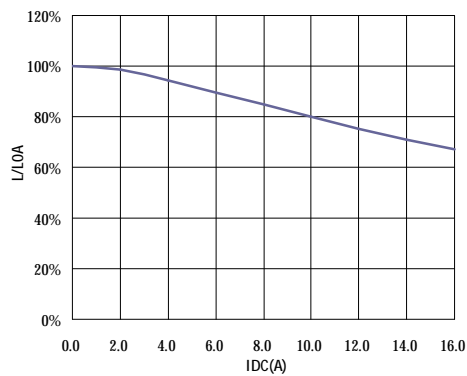
|            |                             |               |                  |      |   |
|------------|-----------------------------|---------------|------------------|------|---|
| PROD. NAME | Shielded SMD Power Inductor | ABC'S DWG NO. | HE0618□□□□S□-□□□ |      |   |
|            |                             | REV.          | 20200519-D       | PAGE | 3 |

V . Curve :

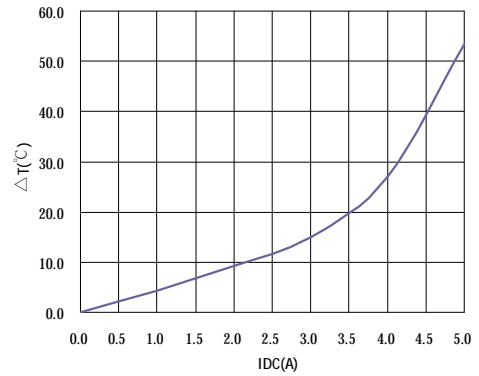
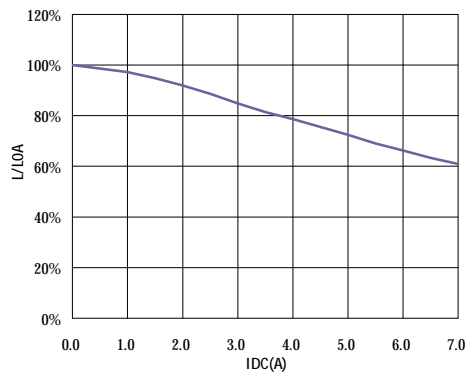
HE0618R47MS□



HE06181R0MS□



HE06184R7MS□



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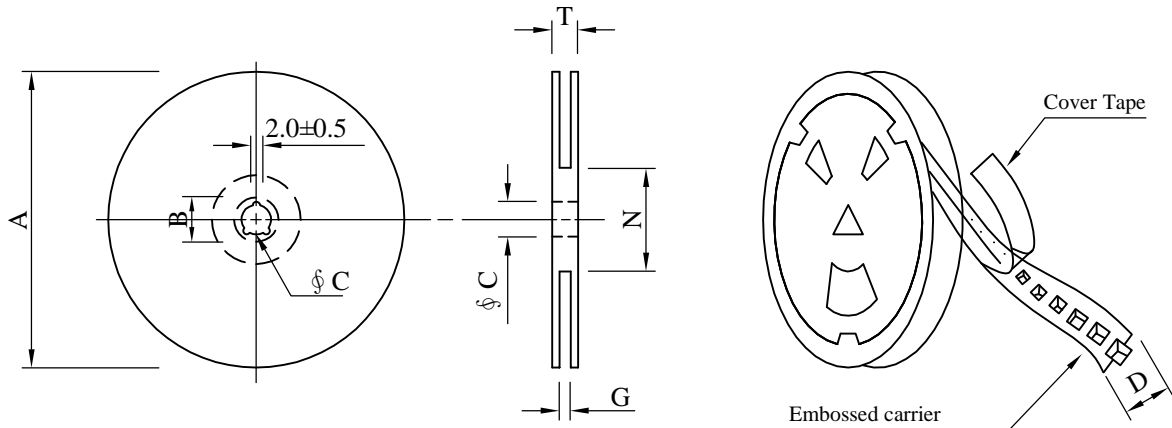
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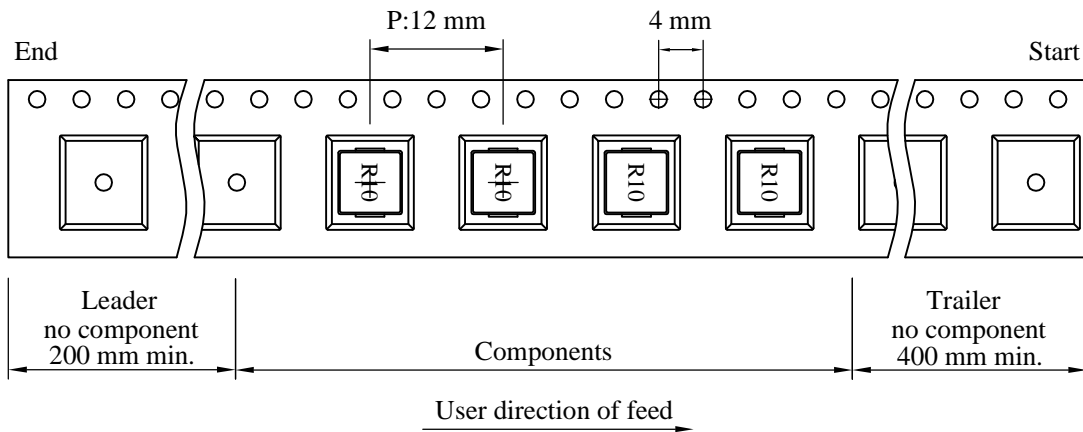
|            |                             |               |                  |      |   |
|------------|-----------------------------|---------------|------------------|------|---|
| PROD. NAME | Shielded SMD Power Inductor | ABC'S DWG NO. | HE0618□□□□S□-□□□ |      |   |
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### V . Packaging information :

#### (1) Configuration



※Carrier tape width : D



#### (2) Dimensions

Unit:mm

| 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. (g) | Style   | Q'TY (pcs)     | G.W. (kg) | Size (cm)    |
| B    | 1,500        | 1,000    | 13 - 16 | 6,000          | 5.50      | 38 x 37 x 22 |

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# SPECIFICATION FOR APPROVAL

REF. :

|            |                             |               |                  |      |   |
|------------|-----------------------------|---------------|------------------|------|---|
| PROD. NAME | Shielded SMD Power Inductor | ABC'S DWG NO. | HE0618□□□□S□-□□□ |      |   |
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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 appearance.<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 : 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 & J-STD020D.1   | 1.Highest temperature : 260±5℃.<br>2.Time ( temp. ≥ 217℃ ) : 60~150 Seconds.<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 seconds.<br>2.Saturation current  | Inductance shall not drop more than 30% typ.  |
| 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 40℃ typ.  |
| 13.Solderability Test               | J-STD-002 & 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 seconds.<br>4.IR reflow times : 1 time. | More than 95% soldering coverage min on terminations.   |
| 14.Electrical Characteriazation     | MIL-STD-202 Method 304 & User SPEC.    | 1.Operating temperature : -55℃~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 times (Every side of sample drop 2 times)              | 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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