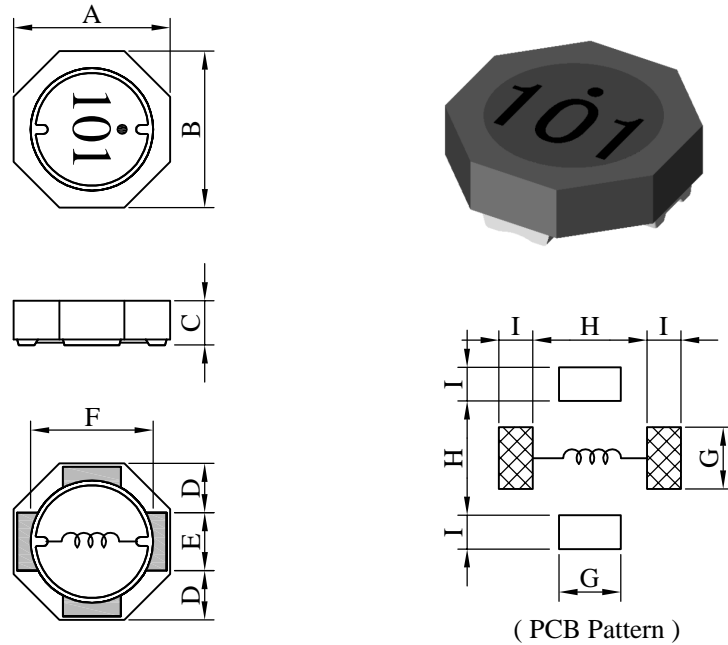


# SPECIFICATION FOR APPROVAL

REF. :

|               |                             |               |                  |      |   |
|---------------|-----------------------------|---------------|------------------|------|---|
| PROD.<br>NAME | Shielded SMD Power Inductor | ABC'S DWG NO. | SU5016□□□□L□-□□□ |      |   |
|               |                             | REV.          | 20150603-D       | PAGE | 1 |

**I . Configuration and dimensions :**



( PCB Pattern )

Unit : m/m

| A          | B          | C          | D         | E         | F         | G         | H         | I         |
|------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 5.20 ±0.20 | 5.20 ±0.20 | 1.60 ±0.20 | 1.70 typ. | 1.80 typ. | 3.90 typ. | 2.00 ref. | 3.70 ref. | 1.10 ref. |

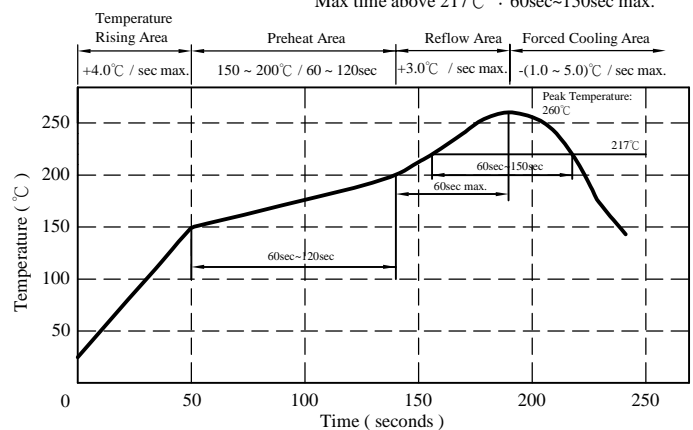
**II . Description :**

- a . Ferrite drum core construction.
- b . Magnetically shielded.
- c . Enamelled copper wire : F 、 H class
- d . Product weight : 0.15 g ( ref. )
- e . Moisture sensitivity Level 1
- f . Products comply with RoHS' requirements
- g . Halogen free available

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. : -40°C ----+125°C
- b . Operating temp. : -40°C ----+125°C  
( Temp. rise included. )
- c . Resistance to solder heat : 260°C .10 secs.



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# SPECIFICATION FOR APPROVAL

REF. :

|            |                             |               |                  |      |   |
|------------|-----------------------------|---------------|------------------|------|---|
| PROD. NAME | Shielded SMD Power Inductor | ABC'S DWG NO. | SU5016□□□□L□-□□□ |      |   |
|            |                             | REV.          | 20150603-D       | PAGE | 2 |

IV . Electrical characteristics :

| DWG No.          | Inductance<br>( $\mu$ H) | Q<br>ref. | Test Freq.<br>( Hz ) |       | RDC<br>( m $\Omega$ ) |      | SRF<br>( MHz )<br>typ. | Irms<br>( mA )<br>max. | Isat<br>( mA )<br>typ. |
|------------------|--------------------------|-----------|----------------------|-------|-----------------------|------|------------------------|------------------------|------------------------|
|                  |                          |           | L                    | Q     | typ.                  | max. |                        |                        |                        |
| SU50161R8YL□-□□□ | 1.8 $\pm$ 30 %           | 9.0       | 100k                 | 7.96M | 24                    | 32   | 100                    | 1750                   | 1700                   |
| SU50163R3YL□-□□□ | 3.3 $\pm$ 30 %           | 9.0       | 100k                 | 7.96M | 35                    | 48   | 80                     | 1550                   | 1500                   |
| SU50164R7YL□-□□□ | 4.7 $\pm$ 30 %           | 9.0       | 100k                 | 7.96M | 43                    | 57   | 60                     | 1300                   | 1200                   |
| SU50166R8YL□-□□□ | 6.8 $\pm$ 30 %           | 8.0       | 100k                 | 7.96M | 50                    | 78   | 50                     | 1200                   | 1100                   |
| SU5016100YL□-□□□ | 10.0 $\pm$ 30 %          | 15.0      | 100k                 | 2.52M | 84                    | 110  | 40                     | 1000                   | 900                    |
| SU5016150YL□-□□□ | 15.0 $\pm$ 30 %          | 15.0      | 100k                 | 2.52M | 130                   | 170  | 32                     | 800                    | 720                    |
| SU5016220YL□-□□□ | 22.0 $\pm$ 30 %          | 15.0      | 100k                 | 2.52M | 195                   | 250  | 28                     | 650                    | 560                    |
| SU5016330YL□-□□□ | 33.0 $\pm$ 30 %          | 13.0      | 100k                 | 2.52M | 300                   | 375  | 22                     | 540                    | 500                    |
| SU5016470YL□-□□□ | 47.0 $\pm$ 30 %          | 18.0      | 100k                 | 2.52M | 390                   | 480  | 18                     | 460                    | 420                    |
| SU5016680YL□-□□□ | 68.0 $\pm$ 30 %          | 18.0      | 100k                 | 2.52M | 560                   | 700  | 15                     | 360                    | 330                    |
| SU5016101YL□-□□□ | 100.0 $\pm$ 30 %         | 18.0      | 100k                 | 796k  | 850                   | 1050 | 12                     | 300                    | 270                    |

- 1) . □ : Packaging information : □ Code
- 2) . "-□□□":Reference code
- 3) . Electrical specifications at 25°C
- 4) . Inductance Test Freq. : 100kHz / 0.1V
- 5) . Isat base on  $\Delta$ L / LOA=35% typ.
- 6) . Irms base on Temp. rise 40°C max.

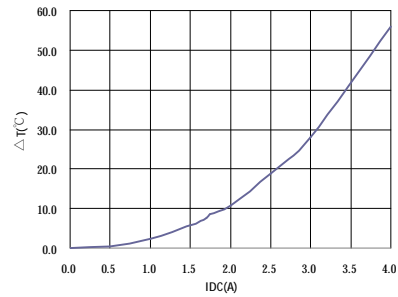
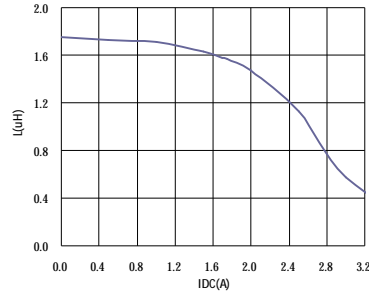
# SPECIFICATION FOR APPROVAL

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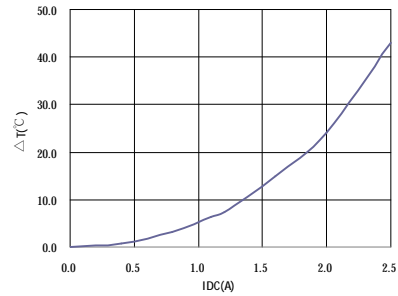
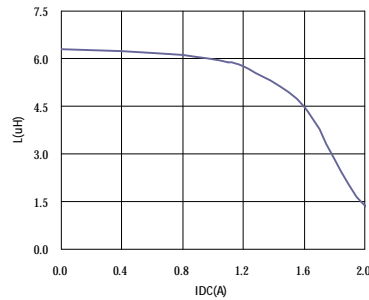
|               |                             |               |                  |      |   |
|---------------|-----------------------------|---------------|------------------|------|---|
| PROD.<br>NAME | Shielded SMD Power Inductor | ABC'S DWG NO. | SU5016□□□□L□-□□□ |      |   |
|               |                             | REV.          | 20150603-D       | PAGE | 3 |

V . Curve :

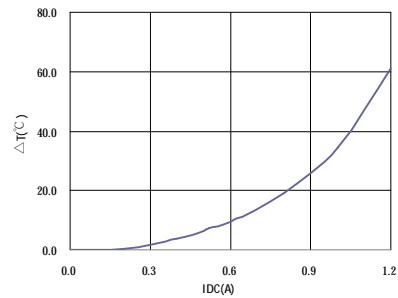
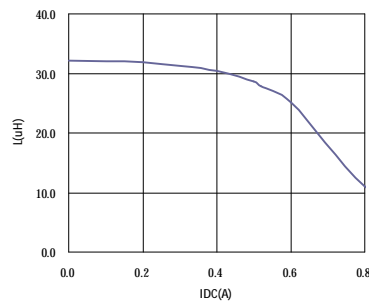
SU50161R8YL□



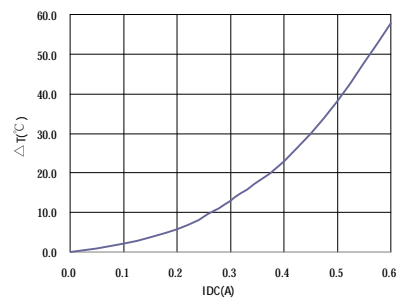
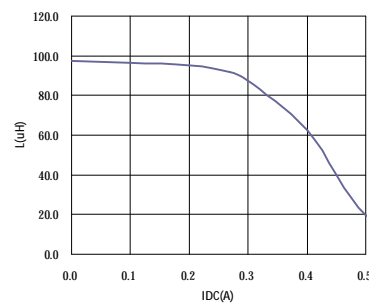
SU50166R8YL□



SU5016330YL□



SU5016101YL□



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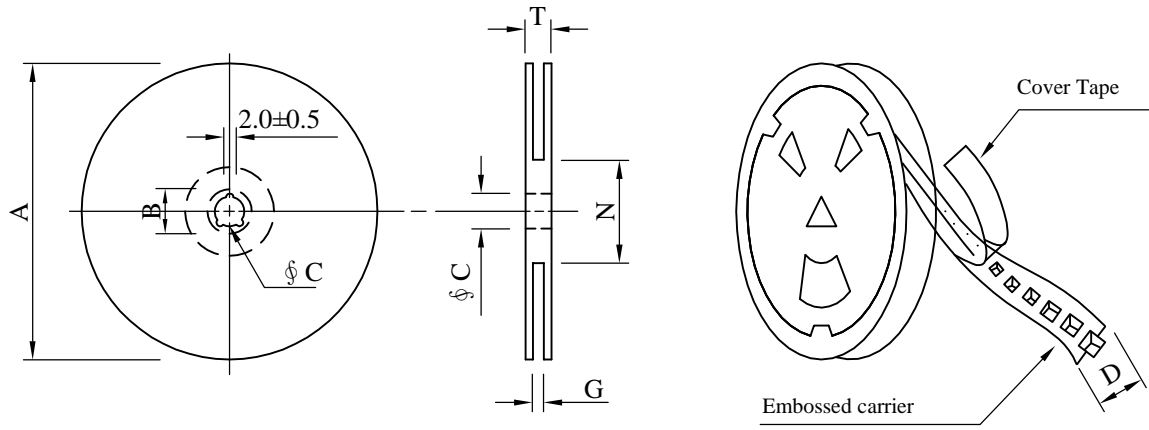
# SPECIFICATION FOR APPROVAL

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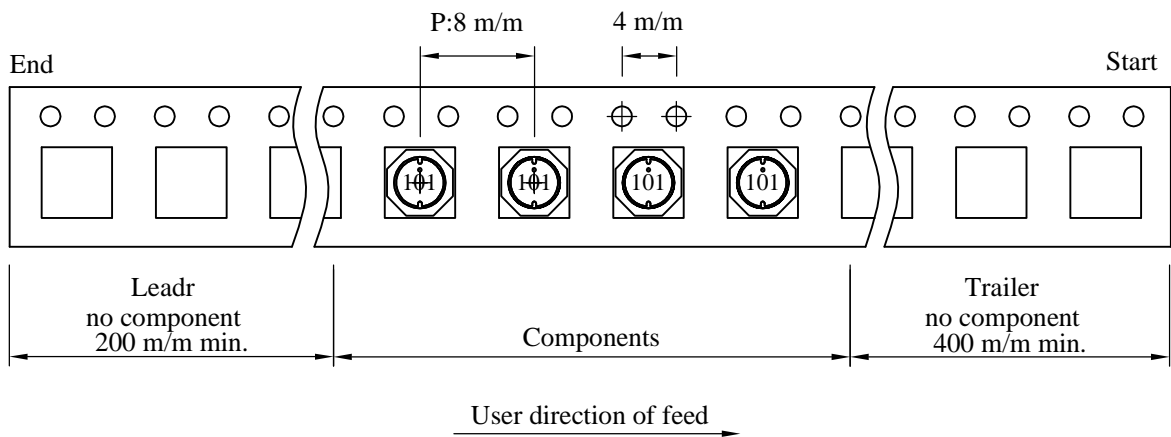
|            |                             |               |                  |      |   |
|------------|-----------------------------|---------------|------------------|------|---|
| PROD. NAME | Shielded SMD Power Inductor | ABC'S DWG NO. | SU5016□□□□L□-□□□ |      |   |
|            |                             | REV.          | 20150603-D       | PAGE | 4 |

## VI . Packaging information :

### (1) Configuration



※Carrier tape width : D



### (2) Dimensions

Unit:m/m

| Style   | A   | B      | C  | D  | G                | N                | T    |
|---------|-----|--------|----|----|------------------|------------------|------|
| 07 - 12 | 178 | 21±0.8 | 13 | 12 | 14 <sup>+0</sup> | 50 <sup>-0</sup> | 16.5 |

### (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        | 260       | 07 - 12 | 40,000         | 11.9      | 42 x 41 x 24 |

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# SPECIFICATION FOR APPROVAL

REF. :

|            |                             |               |                  |      |   |
|------------|-----------------------------|---------------|------------------|------|---|
| PROD. NAME | Shielded SMD Power Inductor | ABC'S DWG NO. | SU5016□□□□L□-□□□ |      |   |
|            |                             | REV.          | 20150603-D       | PAGE | 5 |

## 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 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% 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℃ max.  |
| 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 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 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.  |

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