

# SHIELDED SMD CHIP POWER INDUCTOR



14.0 x 12.9 x 6.7mm

ASPI-1367



RoHS  
Compliant

## FEATURES:

- 100%lead (Pb) free.
- Lowest DCR/uH, in this package size.
- Frequency range up to 5.0MHZ.
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction.

## APPLICATIONS:

- PDA/Notebook/Desktop/Server applications.
- Low profile, high current power supplies.
- Battery powered devices.
- DC/DC converter for Field Programmable Gate Array(FPGA)

## ELECTRICAL SPECIFICATIONS:

|                        |                          |
|------------------------|--------------------------|
| ABRACON P/N:           | ASPI-1367                |
| Operating Temperature: | -40°C to +125°C          |
| Storage Temperature:   | Less than +40°C, 70% RH. |

| Part Number<br>ASPI-1367- | L<br>( $\mu$ H) | Tolerance<br>(M, N) | $R_{DC}$ (m $\Omega$ ) |      | $I_{sat}$<br>(A) | $I_{rms}$<br>(A) |
|---------------------------|-----------------|---------------------|------------------------|------|------------------|------------------|
|                           |                 |                     | Typ                    | Max  |                  |                  |
| R10                       | 0.1             | N                   | 0.25                   | 0.5  | 80.0             | 60.0             |
| R33                       | 0.33            | M                   | 0.6                    | 0.8  | 65.0             | 46.0             |
| 2R2                       | 2.2             | M                   | 3.8                    | 4.2  | 33.0             | 20.0             |
| 3R3                       | 3.3             | M                   | 5.5                    | 6.8  | 29.0             | 15.0             |
| 4R7                       | 4.7             | M                   | 9.5                    | 11.2 | 25.0             | 13.5             |
| 5R6                       | 5.6             | M                   | 10.5                   | 11.5 | 24.0             | 12.0             |
| 6R8                       | 6.8             | M                   | 13.5                   | 14.9 | 16.5             | 11.5             |
| 8R2                       | 8.2             | M                   | 15.2                   | 16.6 | 16.0             | 10.5             |
| 100                       | 10              | M                   | 17.0                   | 18.5 | 15.5             | 10.0             |

### Test Conditions

1. Inductance tested at 200kHz, 0.25V, 0A; Tolerance M= $\pm$ 20%, N= $\pm$ 30%
2. All test data is in reference to 25°C ambient.
3. Isat will cause the inductance value to drop approximately 30%
4. Irms will cause an approximate  $\Delta T$  of 40°C
5. The part temperature (ambient + temp. rise) should not exceed 125°C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.
6. Please contact Abracon for the availability of other inductance values.

## OPTIONS AND PART IDENTIFICATION

ASPI-1367- -

**Inductance Code**  
Please refer to the  
Electrical Spec Table

**Tolerance**  
M:  $\pm$ 20% \*  
N:  $\pm$ 30% \*

**Packaging**  
T: Tape and Reel (250pcs / reel)

\*N for 0.1 $\mu$ H

\*M for 0.33~10 $\mu$ H



# SHIELDED SMD CHIP POWER INDUCTOR



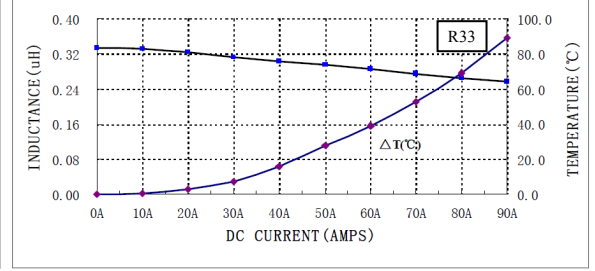
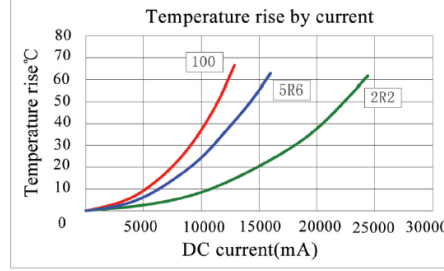
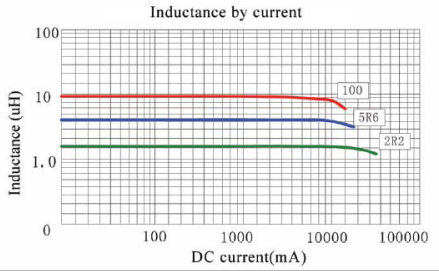
14.0 x 12.9 x 6.7mm

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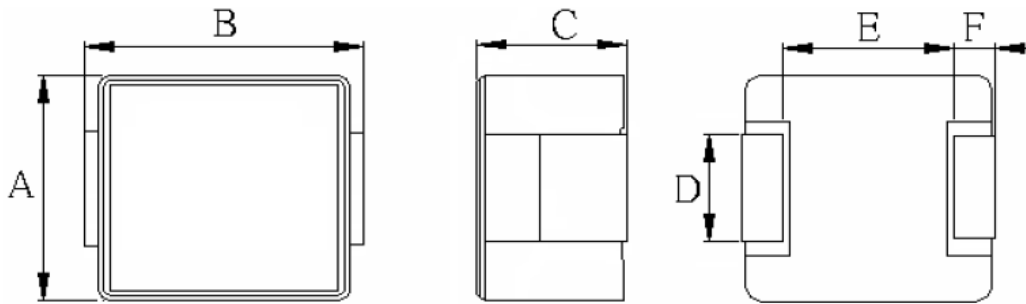


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## INDUCTANCE AND TEMPERATURE CURVE

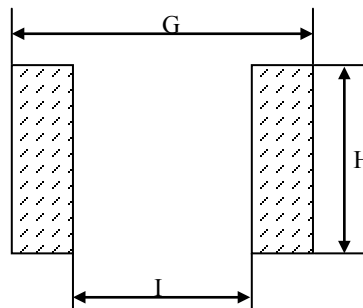


## OUTLINE DIMENSIONS:



| A         | B         | C        | D   | E        | F       |
|-----------|-----------|----------|---|----------|---------|
| 12.9 max. | 14.0 max. | 6.7 max. | 4.0±0.5 for L≤1.5uH<br>3.0±0.5 for L=2.2uH<br>4.7±0.3 for L>2.2uH | 8.4 ref. | 2.0±0.5 |

## Recommended Land Pattern



| G    | H   | I   |
|------|-----|-----|
| 14.5 | 5.0 | 8.0 |

Dimension: mm

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Revised: 04.04.12

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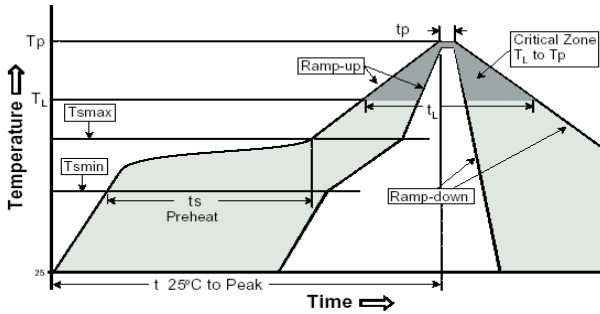
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## REFLOW PROFILE:



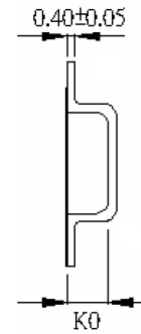
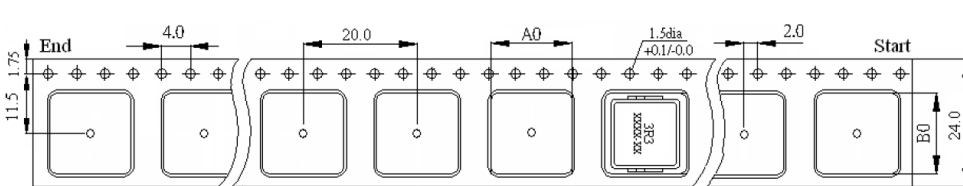
| Profile Feature   | Assembly                         |
|---|----------------------------------|
| Average Ramp-Up Rate (T <sub>s max</sub> to T <sub>p</sub> )  | 3°C/second max.                  |
| Preheat   | 150°C<br>200°C<br>60-180 seconds |
| -Temperature Min (T <sub>s min</sub> )<br>-Temperature Max (T <sub>s max</sub> )<br>-Time (t <sub>s min</sub> to t <sub>s max</sub> ) |                                  |
| <b>Time maintained above:</b><br>-Temperature (T <sub>L</sub> )<br>-Time (t <sub>r</sub> )  | 217°C<br>60-150 seconds          |
| Peak/Classification Temperature (T <sub>p</sub> )   | 245 ±0°C                         |
| Time within 5°C of actual Peak Temperature (t <sub>p</sub> )  | 20-40 seconds                    |
| Ramp-Down Rate  | 6°C/seconds max                  |
| Time 25°C to Peak Temperature   | 8 minutes max.                   |

## Storage Conditions and Handling

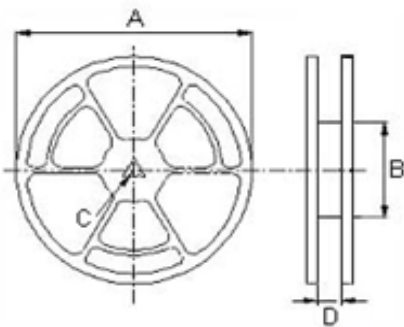
- (1) Temperature and humidity conditions : less than 40°C and 70% RH.
- (2) Products should be used within 6 months.
- (3) The packaging material should be kept where no chlorine or sulfur exists in the air.
- (4) Do not touch the electrodes (soldering terminals) with fingers as this may lead to deterioration of solder ability
- (5) The use of tweezers or vacuum pick-ups is strongly recommended for individual components.
- (6) Bulk handling should ensure that abrasion and mechanical shock are minimized.

## TAPE & REEL:

T= tape and reel (250pcs/reel)



| A <sub>0</sub> | B <sub>0</sub> | K <sub>0</sub> |
|----------------|----------------|----------------|
| 13.2           | 13.9           | 7.0            |



| A   | B   | C    | D  |
|-----|-----|------|----|
| 330 | 100 | 13.5 | 24 |

Dimension: mm

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