



## Features

- Available in E6 series
- Low profile of only 5.0 mm
- Inductance as low as 0.68  $\mu$ H
- RoHS compliant\*

## Applications

- Input/output of DC/DC converters
- Power supplies for:
  - Portable communications equipment
  - Camcorders
  - LCD TVs

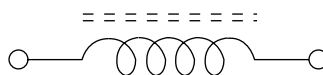
**BOURNS®**

## SDR1005 Series - SMD Power Inductors

### Electrical Specifications

| Bourns Part Number | Inductance 1 kHz |          | Q Ref. | Test Frequency Q (MHz) | SRF Min. (MHz) | RDC Max. ( $\Omega$ ) | I rms Max. (A) | I sat Typ. (A) |
|--------------------|------------------|----------|--------|------------------------|----------------|-----------------------|----------------|----------------|
|                    | ( $\mu$ H)       | Tol. %   |        |                        |                |                       |                |                |
| SDR1005-R68ML      | 0.68             | $\pm 20$ | 26     | 7.960                  | 160            | 0.006                 | 8.50           | 9.50           |
| SDR1005-1R0ML      | 1                | $\pm 20$ | 55     | 2.600                  | 137            | 0.007                 | 7.50           | 9.00           |
| SDR1005-1R5ML      | 1.5              | $\pm 20$ | 50     | 3.000                  | 95             | 0.009                 | 6.50           | 8.00           |
| SDR1005-2R2ML      | 2.2              | $\pm 20$ | 51     | 2.470                  | 65             | 0.012                 | 6.10           | 7.00           |
| SDR1005-2R5ML      | 2.5              | $\pm 20$ | 49     | 3.000                  | 56             | 0.012                 | 5.50           | 7.00           |
| SDR1005-3R3ML      | 3.3              | $\pm 20$ | 45     | 2.520                  | 54             | 0.015                 | 5.00           | 6.40           |
| SDR1005-4R7ML      | 4.7              | $\pm 20$ | 46     | 2.700                  | 42             | 0.019                 | 4.50           | 5.40           |
| SDR1005-6R8ML      | 6.8              | $\pm 20$ | 56     | 2.000                  | 31             | 0.030                 | 3.40           | 4.50           |
| SDR1005-100ML      | 10               | $\pm 20$ | 43     | 4.000                  | 26             | 0.050                 | 2.90           | 3.70           |
| SDR1005-150ML      | 15               | $\pm 20$ | 42     | 2.700                  | 22             | 0.060                 | 2.50           | 3.00           |
| SDR1005-220ML      | 22               | $\pm 20$ | 29     | 2.520                  | 18             | 0.10                  | 2.00           | 2.50           |
| SDR1005-330KL      | 33               | $\pm 10$ | 29     | 2.200                  | 14             | 0.12                  | 1.80           | 2.00           |
| SDR1005-470KL      | 47               | $\pm 10$ | 30     | 2.200                  | 12             | 0.19                  | 1.40           | 1.60           |
| SDR1005-680KL      | 68               | $\pm 10$ | 24     | 2.200                  | 11             | 0.24                  | 1.20           | 1.40           |
| SDR1005-101KL      | 100              | $\pm 10$ | 41     | 0.056                  | 8              | 0.33                  | 1.00           | 1.20           |
| SDR1005-151KL      | 150              | $\pm 10$ | 58     | 0.087                  | 6              | 0.59                  | 0.80           | 1.00           |
| SDR1005-221KL      | 220              | $\pm 10$ | 50     | 0.068                  | 5              | 0.78                  | 0.70           | 0.80           |
| SDR1005-331KL      | 330              | $\pm 10$ | 56     | 0.070                  | 4              | 1.15                  | 0.55           | 0.60           |
| SDR1005-471KL      | 470              | $\pm 10$ | 60     | 0.081                  | 4              | 1.70                  | 0.45           | 0.50           |
| SDR1005-681KL      | 680              | $\pm 10$ | 72     | 0.096                  | 3              | 2.60                  | 0.35           | 0.40           |
| SDR1005-102KL      | 1000             | $\pm 10$ | 78     | 0.122                  | 2              | 3.90                  | 0.30           | 0.35           |
| SDR1005-152KL      | 1500             | $\pm 10$ | 97     | 0.131                  | 2              | 6.30                  | 0.25           | 0.30           |
| SDR1005-222KL      | 2200             | $\pm 10$ | 85     | 0.128                  | 2              | 8.20                  | 0.20           | 0.24           |
| SDR1005-332KL      | 3300             | $\pm 10$ | 106    | 0.128                  | 1              | 14.00                 | 0.16           | 0.18           |
| SDR1005-472KL      | 4700             | $\pm 10$ | 96     | 0.125                  | 1              | 17.00                 | 0.15           | 0.16           |
| SDR1005-682KL      | 6800             | $\pm 10$ | 105    | 0.171                  | 1              | 30.00                 | 0.11           | 0.12           |
| SDR1005-822KL      | 8200             | $\pm 10$ | 102    | 0.145                  | 1              | 34.00                 | 0.11           | 0.12           |
| SDR1005-103KL      | 10000            | $\pm 10$ | 102    | 0.138                  | 1              | 39.00                 | 0.10           | 0.11           |

### Electrical Schematic



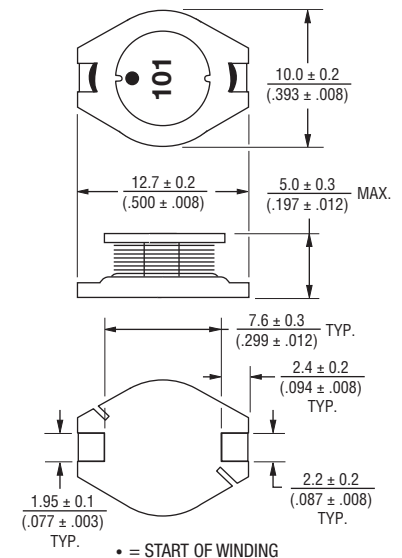
### General Specifications

Test Voltage ..... 0.1 V, 100 KHz  
 Reflow Soldering .. 250 °C, 10 sec. max.  
 (in compliance with JEDEC, J-STD-020C, Table 4-2)  
 Operating Temperature ..... -40 °C to +125 °C  
 (Temperature rise included)  
 Storage Temperature .. -40 °C to +125 °C  
 Resistance to Soldering Heat ..... +250 °C, 10 sec. max.  
 Moisture Sensitivity Level ..... 1  
 ESD Classification (HBM)..... N/A

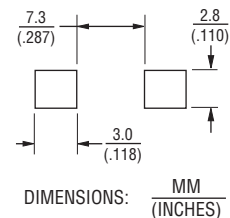
### Materials

Core ..... Ferrite DR  
 Wire ..... Enameled copper  
 Base ..... DAP  
 Terminal ..... Cu/Sn  
 Rated Current ..... Ind. drop 10 % typ. at Isat  
 Temperature Rise ..... 15 °C max. at rated I rms  
 Packaging ..... 600 pcs. per reel

### Product Dimensions



### Recommended Layout

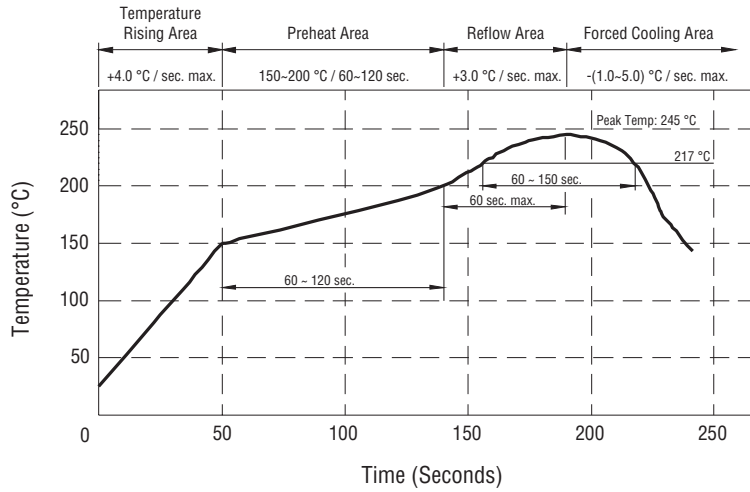


\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.  
 Specifications are subject to change without notice.  
 The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.  
 Users should verify actual device performance in their specific applications.

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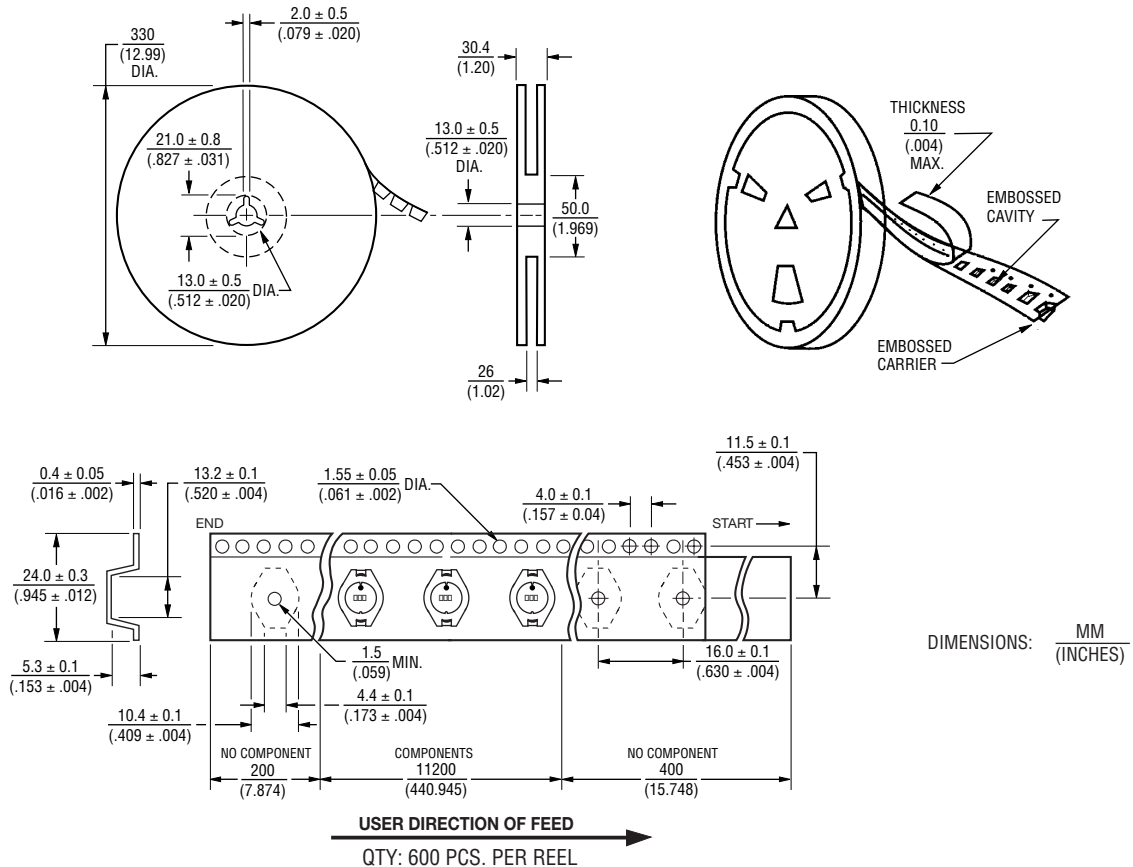
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## Soldering Profile



Peak Temperature: 245 °C max.  
 Max. Peak Temperature: -5 °C, 30 sec. max.  
 Max. Time Above 217 °C: 60 ~ 150 sec. max.

## Packaging Specifications



REV. 03/18

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