

### Features

- Available in E6 series
- Low profile of 3 mm
- High current
- RoHS compliant\*

### Applications

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

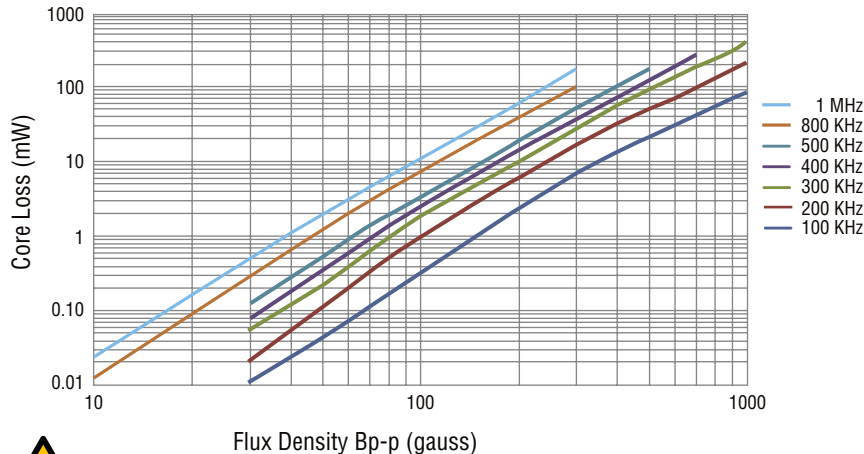
## SRR1003 Series - Shielded Power Inductors

### Electrical Specifications

| Bourns Part No. | Inductance<br>1 KHz |        | Q<br>Ref. | Test<br>Frequency<br>(MHz) | SRF<br>Min.<br>(MHz) | RDC<br>Max.<br>(Ω) | I <sub>rms</sub><br>Max.<br>(A) | I <sub>sat</sub><br>Typ.<br>(A) | **K-<br>Factor |
|-----------------|---------------------|--------|-----------|----------------------------|----------------------|--------------------|---------------------------------|---------------------------------|----------------|
|                 | μH                  | Tol. % |           |                            |                      |                    |                                 |                                 |                |
| SRR1003-1R8M    | 1.8                 | ± 20   | 10        | 7.96M                      | 100.0                | 0.038              | 3.00                            | 8.00                            | 145            |
| SRR1003-2R2M    | 2.2                 | ± 20   | 11        | 7.96M                      | 90.0                 | 0.045              | 2.76                            | 6.70                            | 122            |
| SRR1003-3R0M    | 3.0                 | ± 20   | 11        | 7.96M                      | 70.0                 | 0.062              | 2.20                            | 5.60                            | 106            |
| SRR1003-3R9M    | 3.9                 | ± 20   | 10        | 7.96M                      | 60.0                 | 0.07               | 2.10                            | 5.20                            | 94             |
| SRR1003-4R7M    | 4.7                 | ± 20   | 10        | 7.96M                      | 50.0                 | 0.078              | 1.90                            | 4.60                            | 84             |
| SRR1003-7R5M    | 7.5                 | ± 20   | 10        | 7.96M                      | 32.0                 | 0.10               | 1.44                            | 3.90                            | 69             |
| SRR1003-100M    | 10                  | ± 20   | 18        | 2.52M                      | 28.0                 | 0.145              | 1.24                            | 3.30                            | 55             |
| SRR1003-120M    | 12                  | ± 20   | 20        | 2.52M                      | 26.0                 | 0.185              | 1.10                            | 3.00                            | 51             |
| SRR1003-150M    | 15                  | ± 20   | 20        | 2.52M                      | 25.0                 | 0.20               | 1.02                            | 2.60                            | 48             |
| SRR1003-180M    | 18                  | ± 20   | 20        | 2.52M                      | 14.0                 | 0.27               | 0.90                            | 2.50                            | 45             |
| SRR1003-220M    | 22                  | ± 20   | 17        | 2.52M                      | 22.0                 | 0.30               | 0.85                            | 2.10                            | 41             |
| SRR1003-270M    | 27                  | ± 20   | 17        | 2.52M                      | 19.0                 | 0.40               | 0.75                            | 1.90                            | 35             |
| SRR1003-330M    | 33                  | ± 20   | 17        | 2.52M                      | 17.0                 | 0.45               | 0.70                            | 1.70                            | 32             |
| SRR1003-390M    | 39                  | ± 20   | 18        | 2.52M                      | 16.0                 | 0.56               | 0.65                            | 1.60                            | 29             |
| SRR1003-470M    | 47                  | ± 20   | 18        | 2.52M                      | 14.0                 | 0.65               | 0.60                            | 1.40                            | 27             |
| SRR1003-560M    | 56                  | ± 20   | 15        | 2.52M                      | 13.0                 | 0.68               | 0.52                            | 1.30                            | 25             |
| SRR1003-680M    | 68                  | ± 20   | 15        | 2.52M                      | 11.0                 | 0.80               | 0.48                            | 1.20                            | 22             |
| SRR1003-820M    | 82                  | ± 20   | 20        | 2.52M                      | 11.0                 | 1.20               | 0.42                            | 1.00                            | 21             |
| SRR1003-101M    | 100                 | ± 20   | 23        | 0.796M                     | 10.0                 | 1.40               | 0.40                            | 0.95                            | 19             |
| SRR1003-121M    | 120                 | ± 20   | 22        | 0.796M                     | 9.0                  | 1.52               | 0.35                            | 0.85                            | 17             |
| SRR1003-151M    | 150                 | ± 20   | 23        | 0.796M                     | 8.0                  | 1.80               | 0.32                            | 0.80                            | 15             |
| SRR1003-181M    | 180                 | ± 20   | 20        | 0.796M                     | 7.0                  | 2.20               | 0.28                            | 0.75                            | 14             |
| SRR1003-221M    | 220                 | ± 20   | 20        | 0.796M                     | 6.0                  | 2.20               | 0.26                            | 0.65                            | 12             |
| SRR1003-271Y    | 270                 | ± 15   | 26        | 0.796M                     | 4.1                  | 3.10               | 0.22                            | 0.60                            | 11             |
| SRR1003-331Y    | 330                 | ± 15   | 26        | 0.796M                     | 3.6                  | 3.60               | 0.20                            | 0.55                            | 10             |
| SRR1003-391Y    | 390                 | ± 15   | 28        | 0.796M                     | 2.6                  | 4.60               | 0.18                            | 0.46                            | 9              |
| SRR1003-471Y    | 470                 | ± 15   | 28        | 0.796M                     | 2.1                  | 5.10               | 0.16                            | 0.45                            | 8              |

\*\*K-Factor: To calculate core flux density,  $B_p$ -p (gauss) =  $K \times L(\mu H) \times \Delta I$  (peak-to-peak ripple current, A), determine core loss from *Core Loss vs. Flux Density* plot.

### Core Loss vs. Flux Density



**WARNING Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)**

\*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. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf)

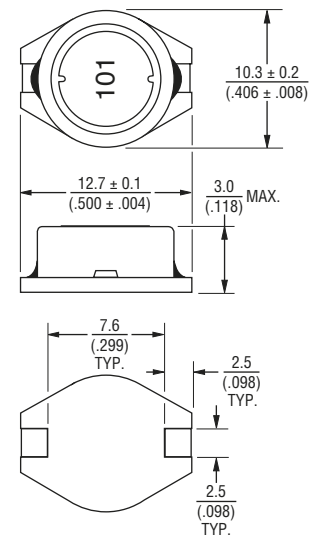
### General Specifications

Test Voltage ..... 1 V  
 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

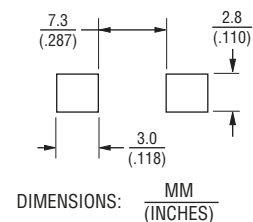
### Materials

Core ..... Ferrite DR & RI core  
 Wire ..... Enameled copper  
 Base ..... LCP E4008  
 Terminal ..... Cu/Ni/Sn  
 Rated Current  
 ..... Ind. drop of 10 % typ. at I<sub>sat</sub>  
 Temperature Rise  
 ..... 40 °C max. at rated I<sub>rms</sub>  
 Packaging ..... 1000 pcs. per reel

### Product Dimensions



### Recommended Layout

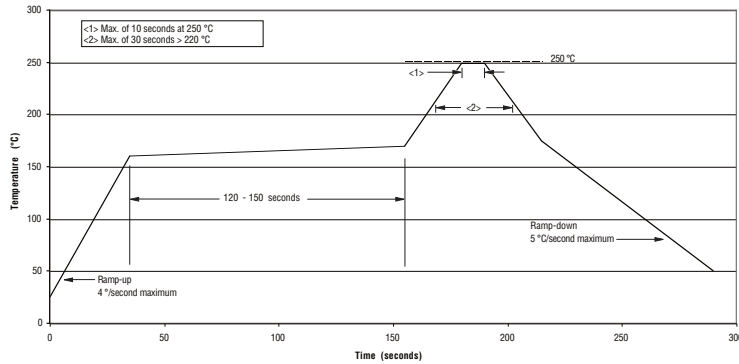


DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

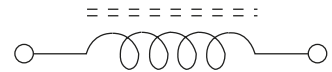
# SRR1003 Series - Shielded Power Inductors



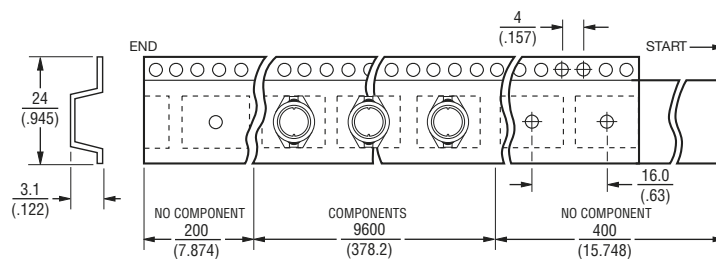
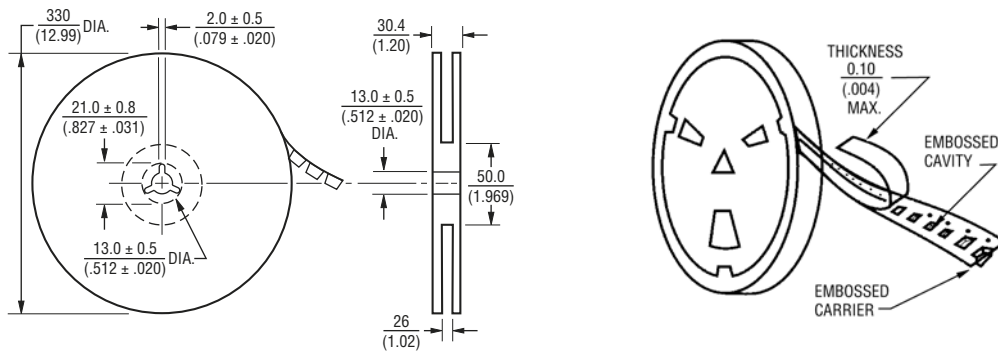
## Soldering Profile



## Schematic



## Packaging Specifications



USER DIRECTION OF FEED →  
QTY: 1000 PCS. PER REEL

DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

REV. 03/18

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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