



**THE DATASHEET OF  
SRR1003-820M**





## 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

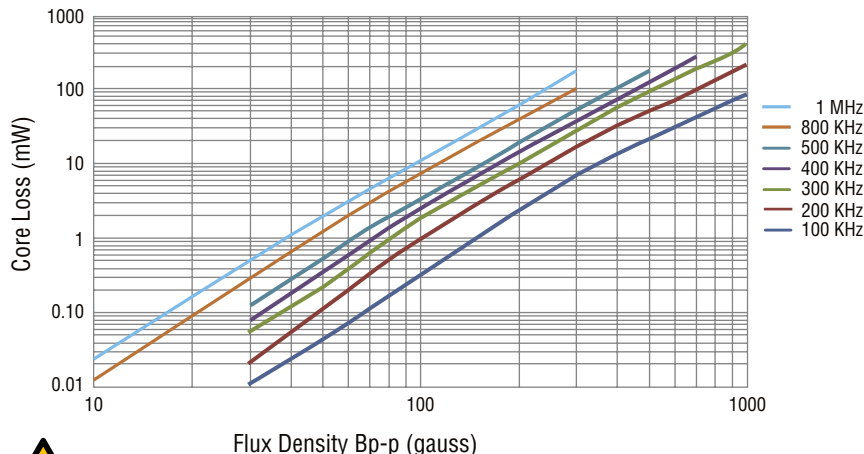
# SRR1003 Series - Shielded Power Inductors

### Electrical Specifications

Bourns Part No.	Inductance 1 KHz		Q Ref.	Test Frequency (MHz)	SRF Min. (MHz)	RDC Max. (Ω)	I <sub>rms</sub> Max. (A)	I <sub>sat</sub> Typ. (A)	**K- 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)

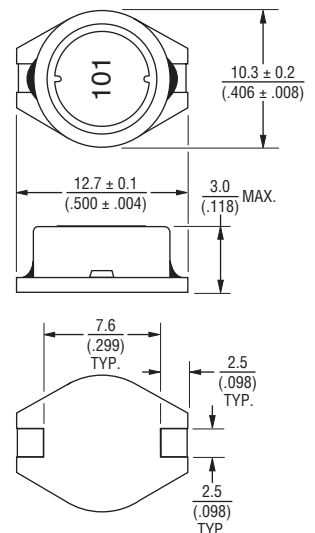
### General Specifications

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

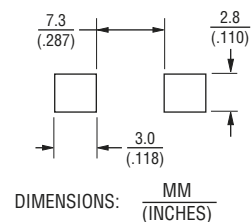
### Materials

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



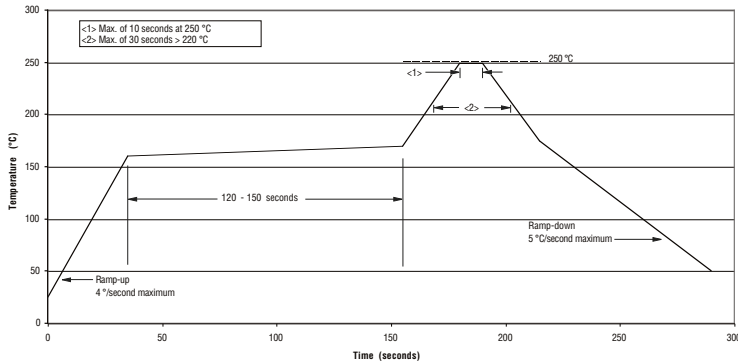
### Recommended Layout



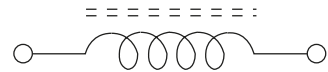
# SRR1003 Series - Shielded Power Inductors

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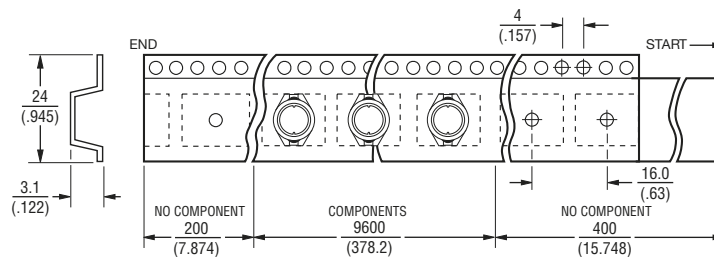
## Soldering Profile



## Schematic



## Packaging Specifications



**USER DIRECTION OF FEED** →  
QTY: 1000 PGS. 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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