



**THE DATASHEET OF  
SRR1050A-270Y**





## Features

- Shielded construction
- Inductance range: 0.68 to 330  $\mu$ H
- Heating current up to 9.5A
- AEC-Q200 qualified
- RoHS compliant\* and halogen free\*\*



This series is currently available but not recommended for new designs. The [Model SRR1050HA Series](#) is the recommended replacement.

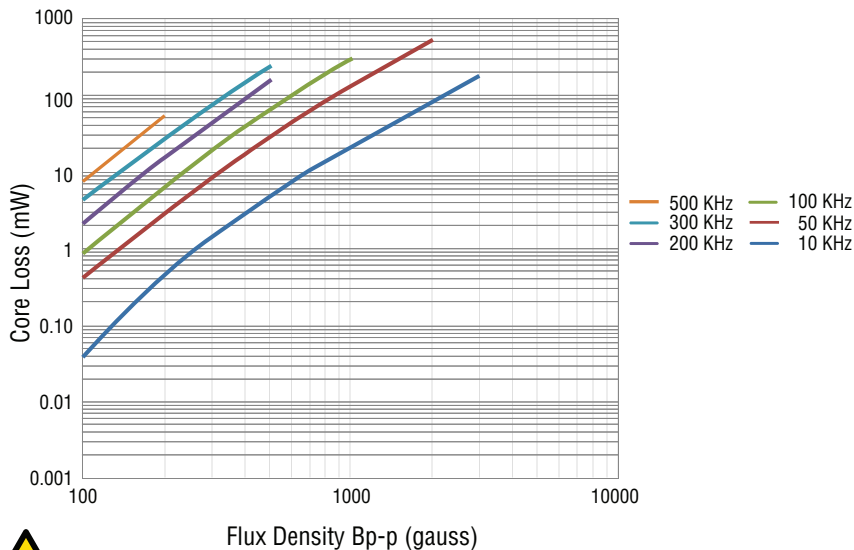
## SRR1050A Series - Shielded Power Inductors

### Electrical Specifications @ 25 °C

Bourns Part Number	Inductance @ 100 kHz/0.1V		SRF (MHz) Typ.	DCR ( $\Omega$ )		I rms (A)	I sat (A)	***K-Factor
	L ( $\mu$ H)	Tol. (%)		Typ.	Max.			
SRR1050A-R68Y	0.68	$\pm 30$	110	0.0045	0.0055	9.50	13.5	221
SRR1050A-1R2Y	1.2	$\pm 30$	85	0.0058	0.007	8.30	10.5	158
SRR1050A-2R2Y	2.2	$\pm 30$	53	0.0071	0.009	7.20	8.20	123
SRR1050A-3R3Y	3.3	$\pm 30$	40	0.0086	0.011	6.50	7.80	100
SRR1050A-4R2Y	4.2	$\pm 30$	29	0.0104	0.014	6.10	6.40	85
SRR1050A-6R8Y	6.8	$\pm 30$	27	0.0151	0.019	5.40	5.40	65
SRR1050A-8R2Y	8.2	$\pm 30$	21	0.0181	0.022	5.00	4.85	58
SRR1050A-100Y	10	$\pm 30$	16.5	0.023	0.031	4.50	4.45	58
SRR1050A-120Y	12	$\pm 30$	15	0.026	0.035	3.80	4.00	53
SRR1050A-150Y	15	$\pm 30$	14	0.035	0.047	3.40	3.60	44
SRR1050A-180Y	18	$\pm 30$	11	0.038	0.051	3.10	3.20	41
SRR1050A-220Y	22	$\pm 30$	10.5	0.046	0.062	2.90	2.95	38
SRR1050A-270Y	27	$\pm 30$	10	0.057	0.077	2.60	2.70	33
SRR1050A-330Y	33	$\pm 30$	9	0.069	0.093	2.50	2.40	30
SRR1050A-390Y	39	$\pm 30$	6.8	0.079	0.106	2.25	2.30	28
SRR1050A-470Y	47	$\pm 30$	5.9	0.094	0.127	2.00	2.00	26
SRR1050A-560Y	56	$\pm 30$	5.5	0.124	0.160	1.90	1.90	24
SRR1050A-680Y	68	$\pm 30$	5	0.138	0.208	1.60	1.65	22
SRR1050A-820Y	82	$\pm 30$	4.5	0.150	0.230	1.45	1.50	20
SRR1050A-101Y	100	$\pm 30$	4.2	0.179	0.255	1.35	1.35	18
SRR1050A-121Y	120	$\pm 30$	3.8	0.213	0.305	1.18	1.28	16
SRR1050A-151Y	150	$\pm 30$	3.6	0.253	0.370	1.10	1.12	15
SRR1050A-181Y	180	$\pm 30$	3.4	0.307	0.420	1.00	1.04	13
SRR1050A-221Y	220	$\pm 30$	3	0.373	0.500	0.94	0.94	12
SRR1050A-271Y	270	$\pm 30$	2.4	0.491	0.675	0.80	0.84	11
SRR1050A-331Y	330	$\pm 30$	2	0.613	0.815	0.73	0.75	10

\*\*\*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



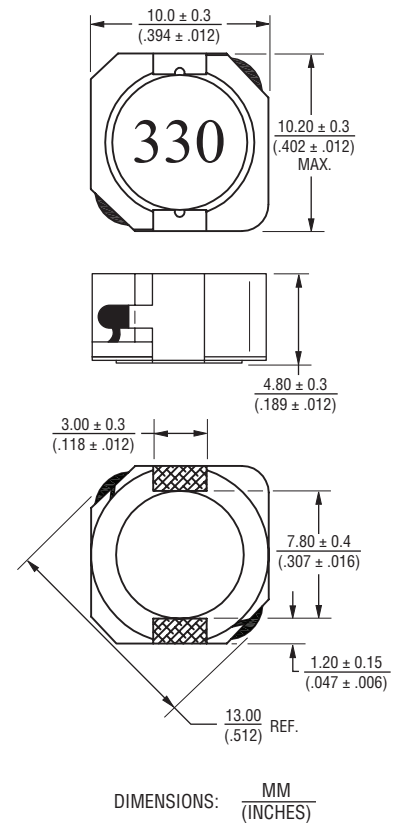
### General Specifications

Operating Temperature ..... -40 °C to +125 °C  
 (Temperature rise included)  
 Storage Temperature .. -40 °C to +125 °C  
 Temperature Rise ..... 40 °C typ. at rated I rms  
 Rated Current ..... Inductance drops 35 % at I sat  
 Failure In Time (FIT) ..... 24.7/10<sup>9</sup> hours  
 Mean Time Between Failures (MTBF) ..... 40.4 x 10<sup>6</sup> hours

### Materials

Core ..... Ferrite  
 Wire ..... Enameled copper  
 Terminal Finish ..... Sn  
 Packaging ..... 700 pcs. per 13-inch reel

### Product Dimensions



DIMENSIONS:  $\frac{MM}{(INCHES)}$   
 \*RoHS Directive 2015/863, Mar 31, 2015 and Annex.  
 \*\*Bourns considers a product to be "halogen free" if  
 (a) the Bromine (Br) content is 900 ppm or less; (b)  
 the Chlorine (Cl) content is 900 ppm or less; and  
 (c) the total Bromine (Br) and Chlorine (Cl)  
 content is 1500 ppm or less.  
 Specifications are subject to change without notice.



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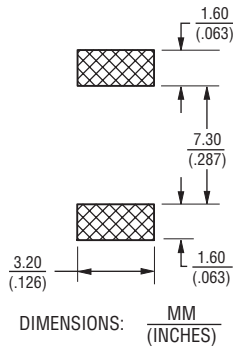
## Applications

- Automotive systems
- DC/DC converters
- Power supplies

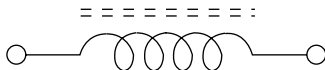
# SRR1050A Series - Shielded Power Inductors

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### Recommended Layout



### Electrical Schematic

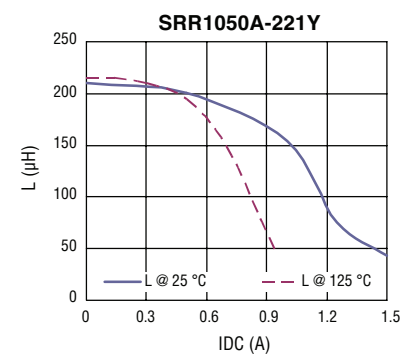
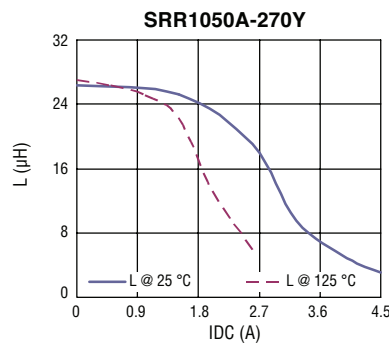
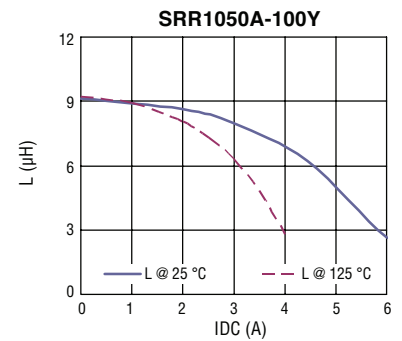
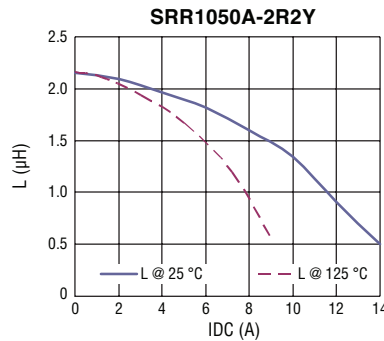


### How to Order

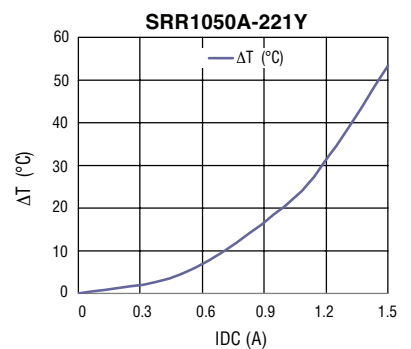
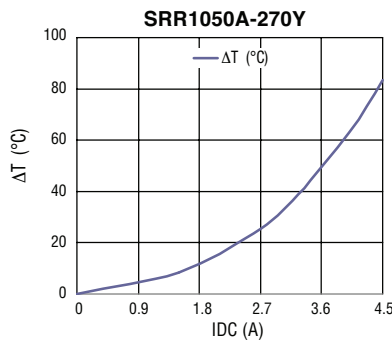
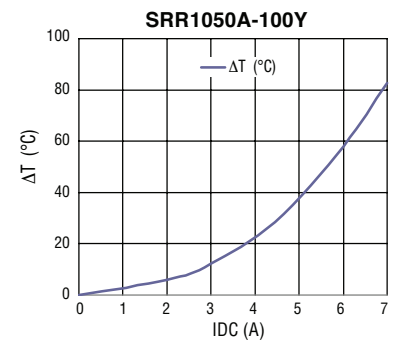
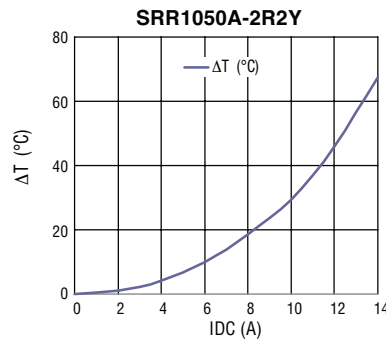
**SRR1050A - 101Y**

Model \_\_\_\_\_  
 Value Code (see table) \_\_\_\_\_

### Inductance vs. IDC



### Temperature vs. IDC



Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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# SRR1050A Series - Shielded Power Inductors

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## Soldering Profile



## Packaging Specifications



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

USER DIRECTION OF FEED

QTY: 700 PCS. PER REEL

REV. 06/23

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