



**THE DATASHEET OF
SRR1050A-3R3Y**





Features

- Shielded construction
- Inductance range: 0.68 to 330 μ 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.

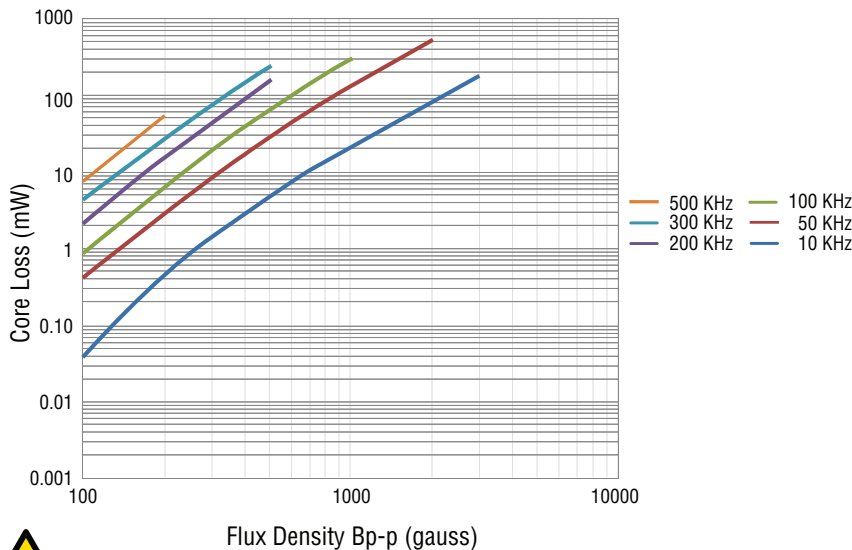
SRR1050A Series - Shielded Power Inductors

Electrical Specifications @ 25 °C

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



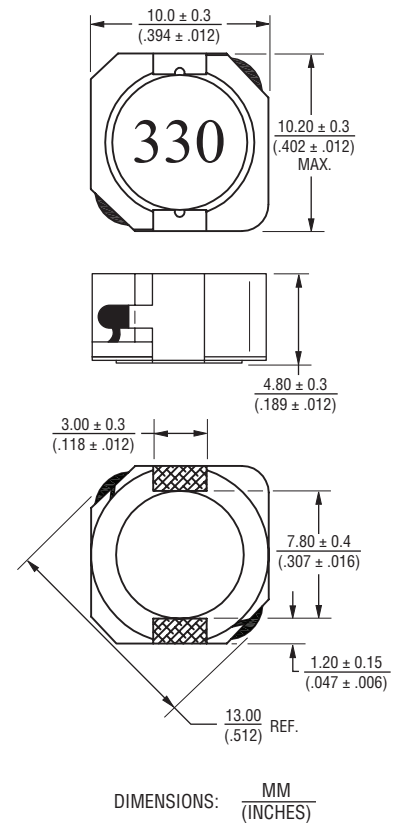
General Specifications

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) 24.7/10⁹ hours
 Mean Time Between Failures (MTBF) 40.4 x 10⁶ hours

Materials

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

Product Dimensions



*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.



WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

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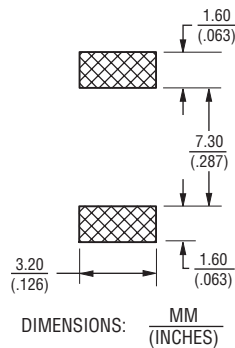
Applications

- Automotive systems
- DC/DC converters
- Power supplies

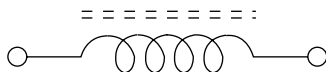
SRR1050A Series - Shielded Power Inductors

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Recommended Layout



Electrical Schematic

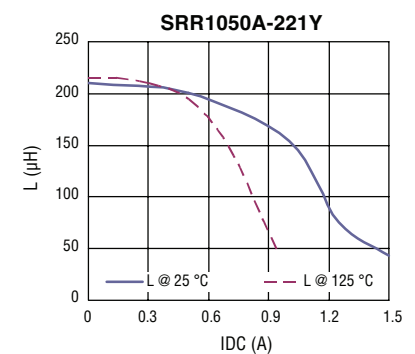
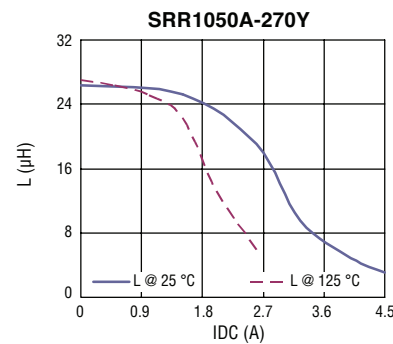
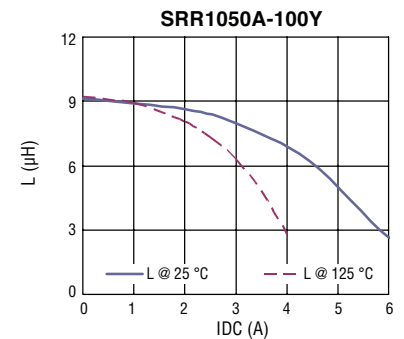
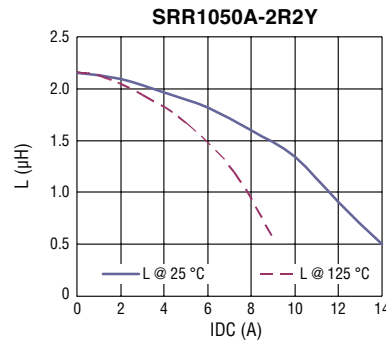


How to Order

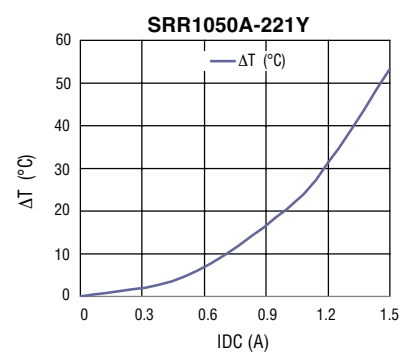
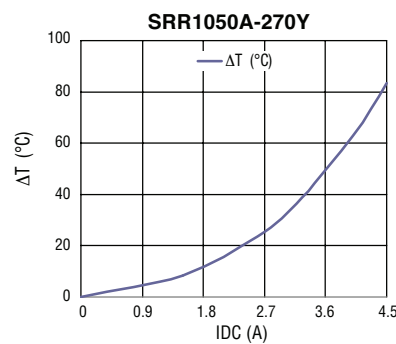
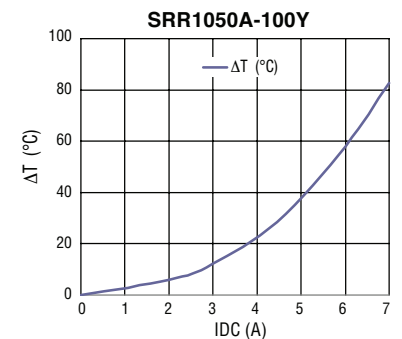
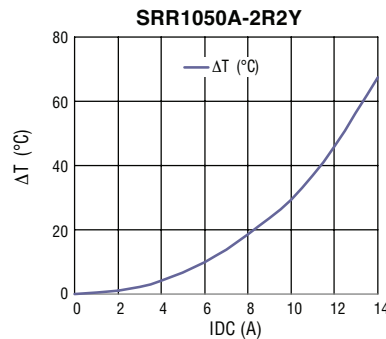
SRR1050A - 101Y

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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