



## Features

- Shielded construction
- Inductance range: 1 to 47  $\mu\text{H}$
- Heating current up to 5.1 A
- AEC-Q200 qualified
- RoHS compliant\* and halogen free\*\*

## Applications

- Automotive systems:
  - Driver assistant
  - Infotainment
  - Lighting
- DC/DC converters
- Power supplies

# SRR4818A Series - Shielded Power Inductors

### Electrical Specifications @ 25 °C

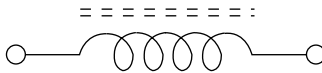
| Bourns Part Number | Inductance @ 100 kHz/0.1 V |          | SRF (MHz) Typ. | DCR ( $\text{m}\Omega$ ) |       | $I_{\text{rms}}^1$ (A) Typ. | $I_{\text{rms}}^2$ (A) Typ. | $I_{\text{sat}}$ (A) Typ. |
|--------------------|----------------------------|----------|----------------|--------------------------|-------|-----------------------------|-----------------------------|---------------------------|
|                    | L ( $\mu\text{H}$ )        | Tol. (%) |                | Typ.                     | Max.  |                             |                             |                           |
| SRR4818A-1R0Y      | 1.0                        | $\pm 30$ | 140            | 19.2                     | 25.0  | 4.00                        | 5.10                        | 3.60                      |
| SRR4818A-1R5Y      | 1.5                        | $\pm 30$ | 105            | 25.2                     | 35.0  | 3.75                        | 4.70                        | 3.00                      |
| SRR4818A-2R2Y      | 2.2                        | $\pm 30$ | 90             | 33.7                     | 45.0  | 2.70                        | 3.50                        | 2.43                      |
| SRR4818A-3R3Y      | 3.3                        | $\pm 30$ | 70             | 42.8                     | 55.0  | 2.50                        | 3.10                        | 2.10                      |
| SRR4818A-3R9Y      | 3.9                        | $\pm 30$ | 65             | 54.5                     | 70.0  | 2.20                        | 2.70                        | 1.90                      |
| SRR4818A-4R7Y      | 4.7                        | $\pm 30$ | 55             | 59.4                     | 80.0  | 2.00                        | 2.60                        | 1.50                      |
| SRR4818A-5R6Y      | 5.6                        | $\pm 30$ | 50             | 74.3                     | 90.0  | 1.75                        | 2.30                        | 1.35                      |
| SRR4818A-6R8Y      | 6.8                        | $\pm 30$ | 45             | 82.1                     | 100.0 | 1.65                        | 2.20                        | 1.25                      |
| SRR4818A-8R2Y      | 8.2                        | $\pm 30$ | 43             | 97.7                     | 130.0 | 1.55                        | 1.90                        | 1.15                      |
| SRR4818A-100M      | 10                         | $\pm 20$ | 40             | 109.8                    | 140.0 | 1.45                        | 1.80                        | 1.05                      |
| SRR4818A-120M      | 12                         | $\pm 20$ | 37             | 132.2                    | 170.0 | 1.30                        | 1.60                        | 0.95                      |
| SRR4818A-150M      | 15                         | $\pm 20$ | 30             | 176.7                    | 220.0 | 1.25                        | 1.50                        | 0.87                      |
| SRR4818A-180M      | 18                         | $\pm 20$ | 28             | 214.8                    | 280.0 | 1.10                        | 1.40                        | 0.79                      |
| SRR4818A-220M      | 22                         | $\pm 20$ | 25             | 280.3                    | 360.0 | 1.00                        | 1.25                        | 0.72                      |
| SRR4818A-270M      | 27                         | $\pm 20$ | 22             | 317.6                    | 400.0 | 0.90                        | 1.15                        | 0.63                      |
| SRR4818A-330M      | 33                         | $\pm 20$ | 20             | 399.1                    | 500.0 | 0.70                        | 0.90                        | 0.56                      |
| SRR4818A-390M      | 39                         | $\pm 20$ | 17             | 439.3                    | 540.0 | 0.63                        | 0.80                        | 0.53                      |
| SRR4818A-470M      | 47                         | $\pm 20$ | 16             | 504.1                    | 630.0 | 0.60                        | 0.75                        | 0.47                      |

### How to Order

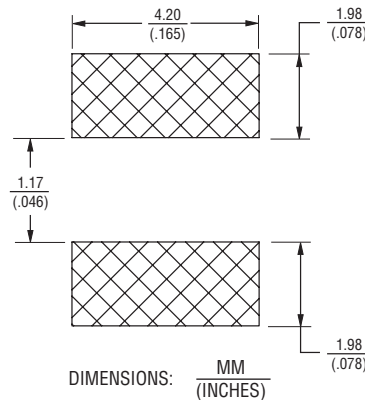
#### SRR4818A - 1R0Y

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

### Electrical Schematic



### Recommended Layout



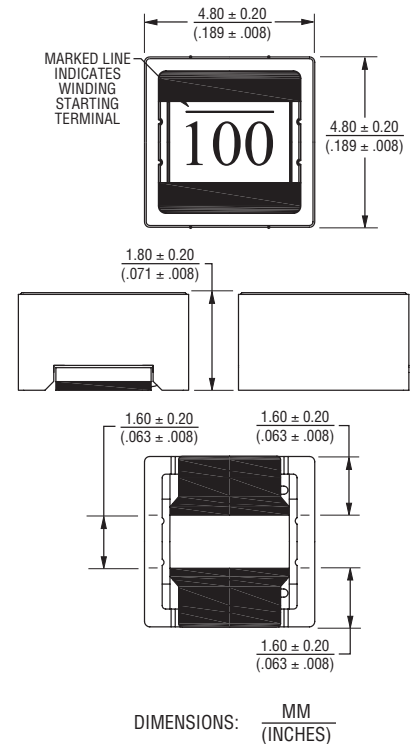
### General Specifications

Operating Temp. .... -40 °C to +150 °C  
(Temperature rise included)  
Storage Temperature .. -40 °C to +150 °C  
Temperature Rise  
..... 20 °C typ. at rated  $I_{\text{rms}}^1$   
40 °C typ. at rated  $I_{\text{rms}}^2$   
Rated Current  
..... Inductance drops 35 % at  $I_{\text{sat}}$   
Moisture Sensitivity Level ..... 1  
ESD Classification (HBM) ..... N/A

### Materials

Core ..... Ferrite  
Wire ..... Enameled copper  
Terminal Finish ..... Sn  
Packaging ..... 800 pcs. per 7-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.

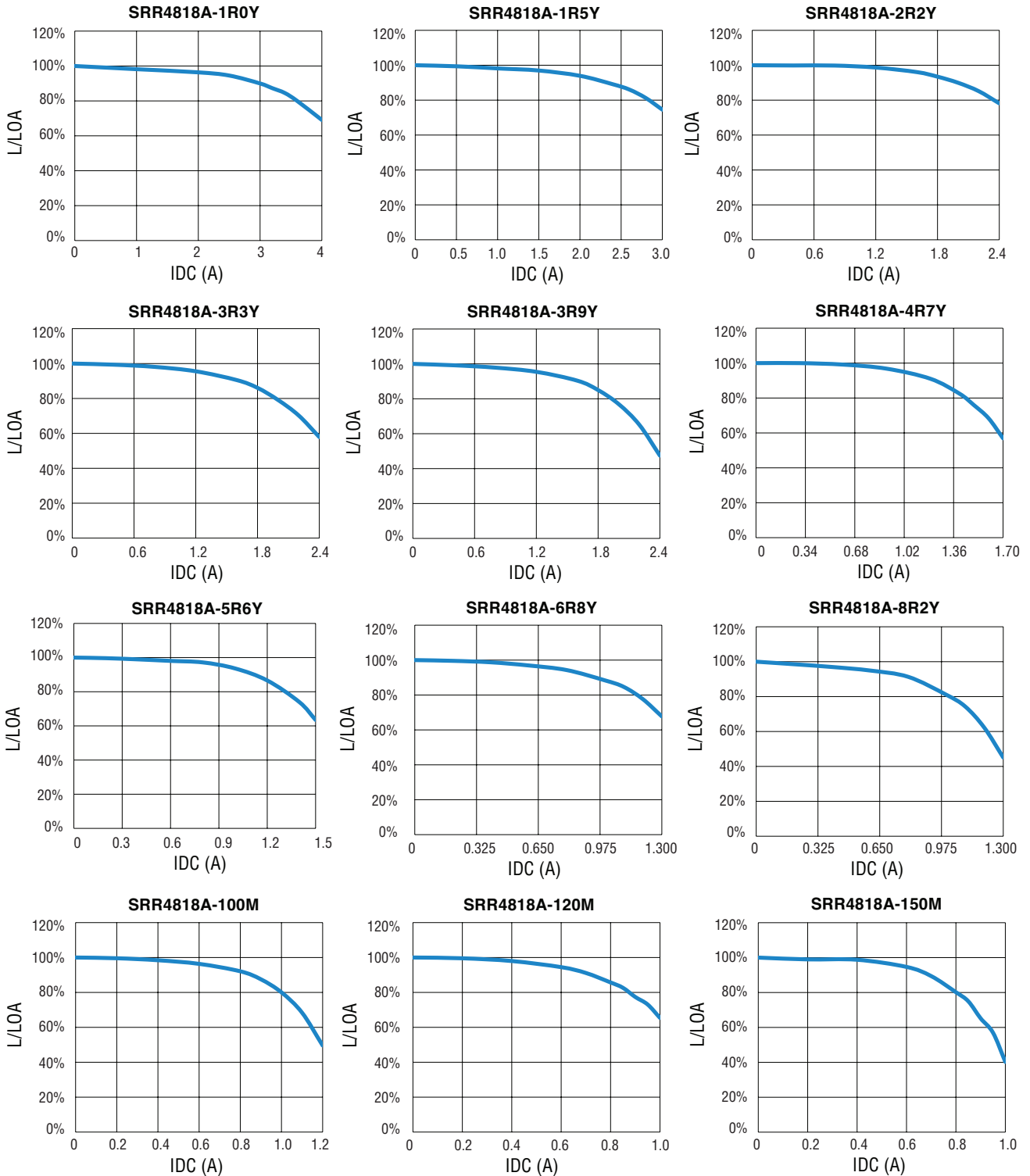
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.

# SRR4818A Series - Shielded Power Inductors

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## Inductance vs. IDC



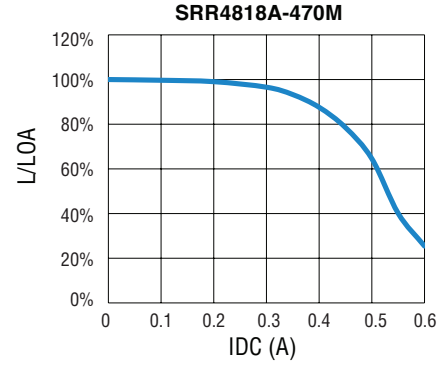
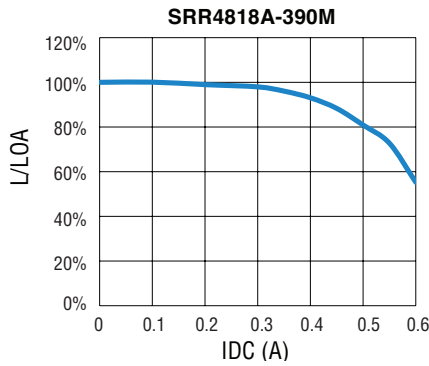
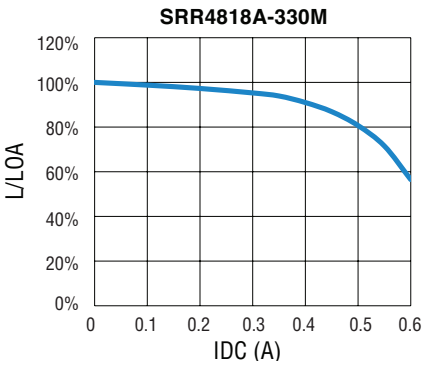
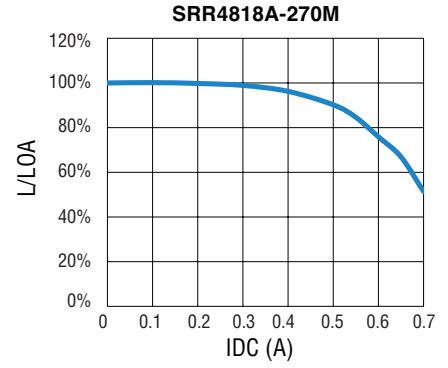
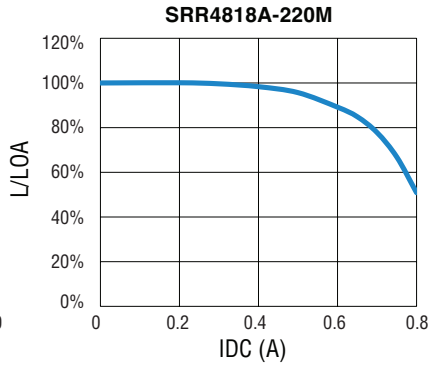
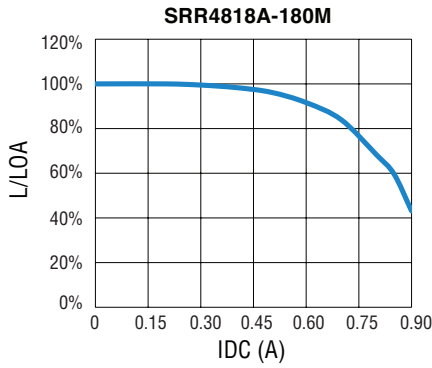
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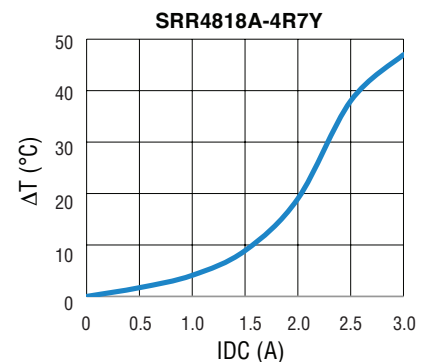
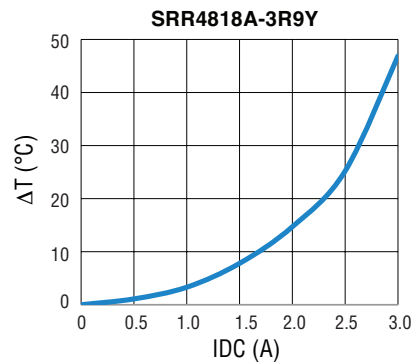
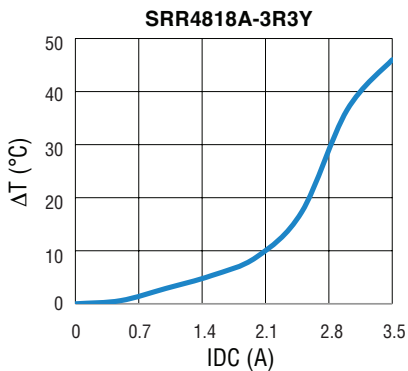
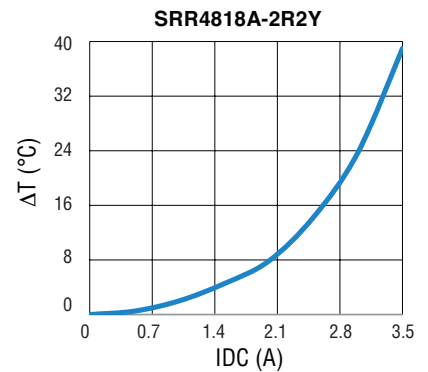
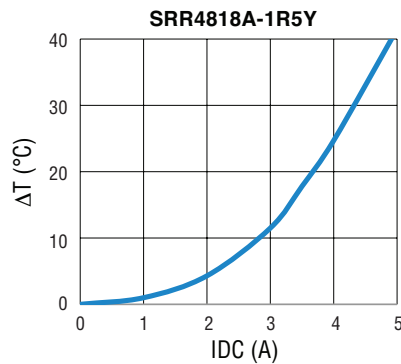
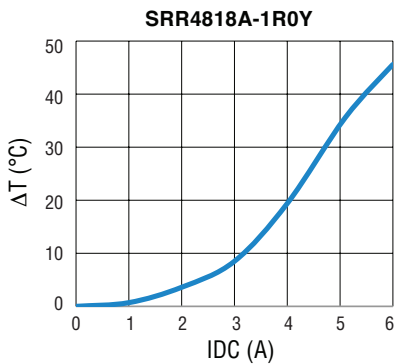
# SRR4818A Series - Shielded Power Inductors

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## Inductance vs. IDC (Continued)



## Temperature vs. IDC

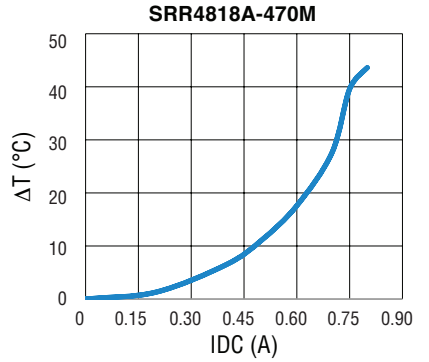
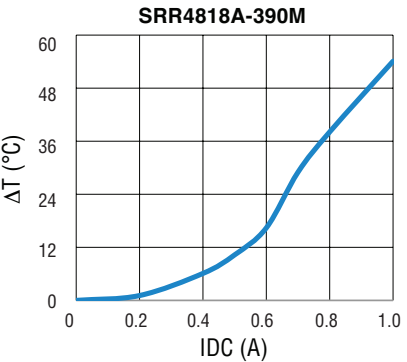
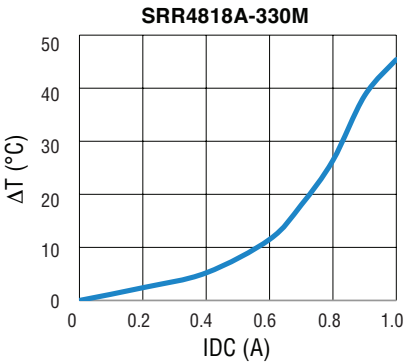
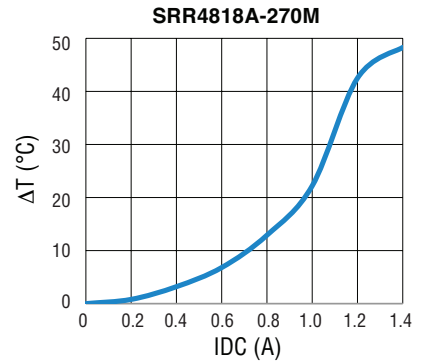
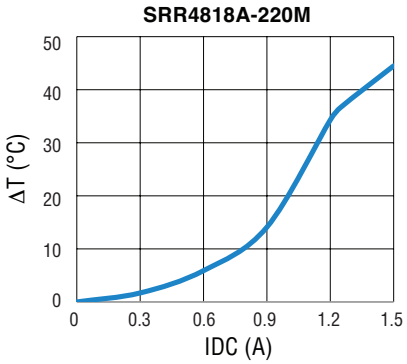
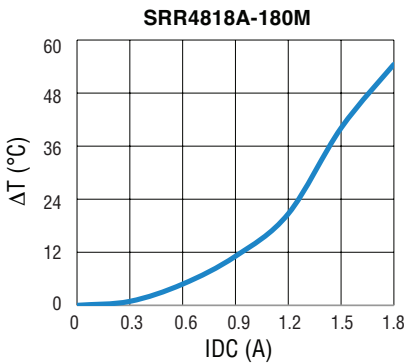
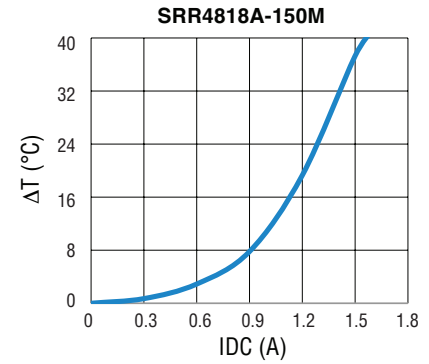
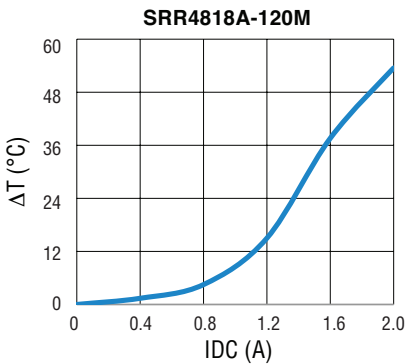
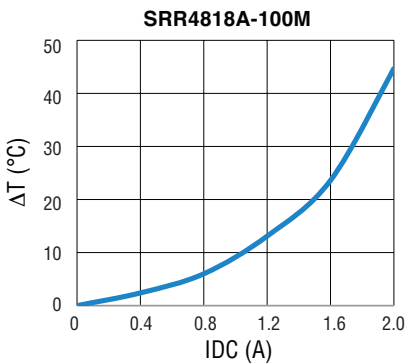
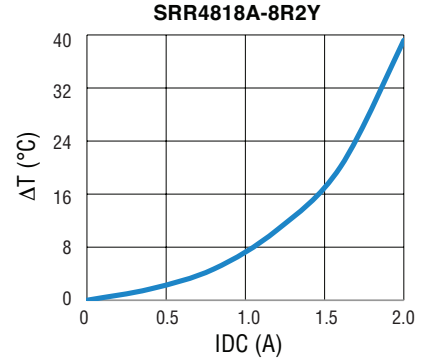
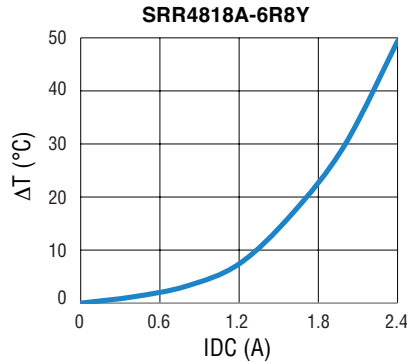
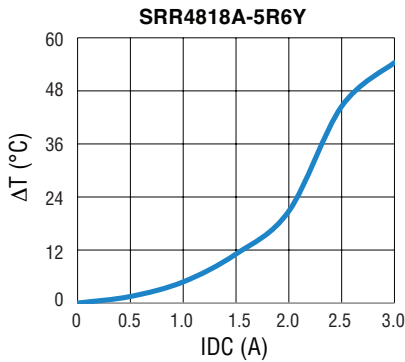


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## Temperature vs. IDC (Continued)

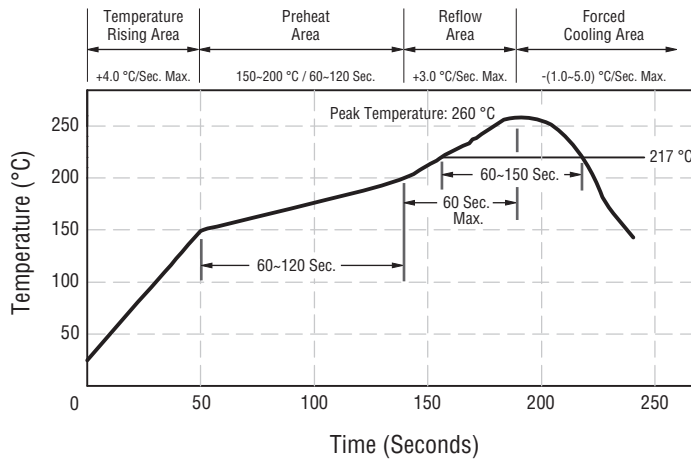


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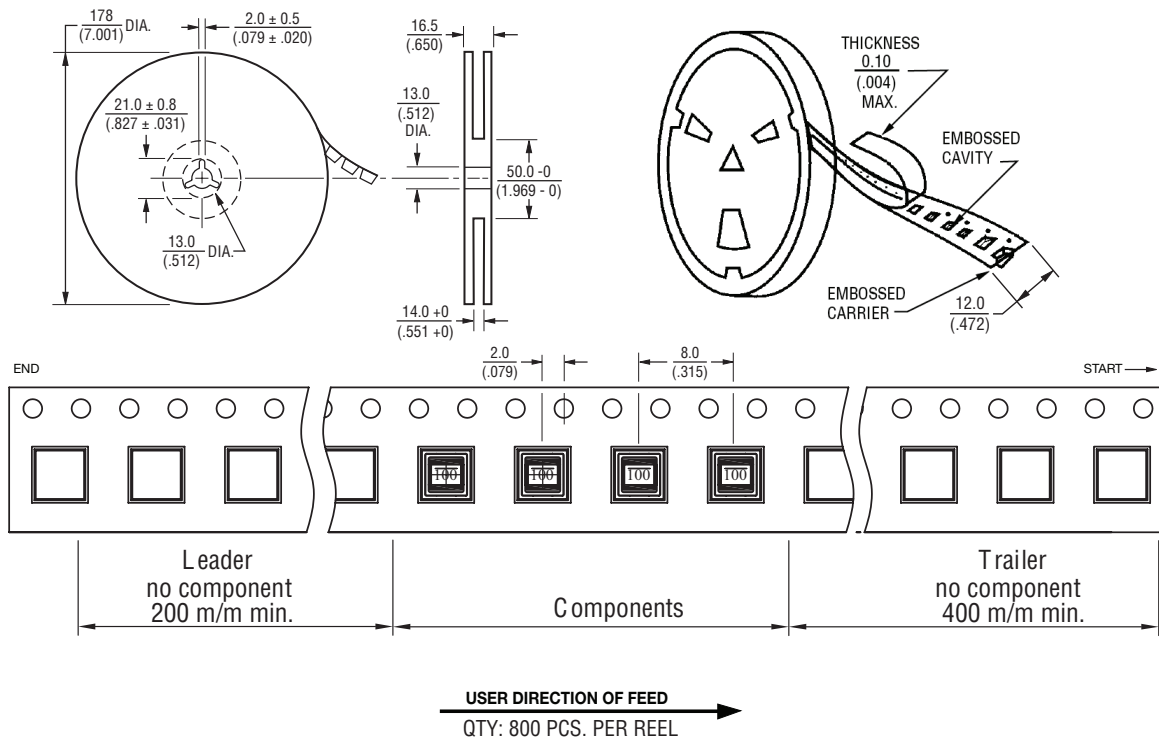
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## Soldering Profile



Peak Temperature: 260 °C max.  
 Max. Peak Temperature -5 °C: 30 sec. max.  
 Max. Time Above 217 °C: 60-150 sec. max.

## Packaging Specifications



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

REV. 08/17

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