



## Features

- High operating temperature up to 150 °C
- High saturation current
- Low profile up to 3.5 mm
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

## Applications

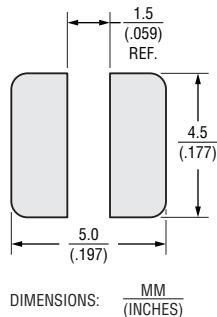
- Noise filters
- DC power lines
- Automotive systems

## SDE0403AT Series – SMD Power Inductors

### Electrical Specifications @ 25 °C

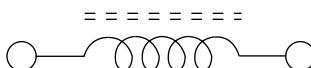
Bourns Part Number	Inductance @ 1 MHz / 1 V		SRF (MHz)	DCR (mΩ)	DCR (mΩ)	Irms (A) Typ.	Isat (A) Typ.
	L (μH)	Tol. (%)		Typ.	Max.		
SDE0403AT-1R0M	1.0	± 20	113	19.3	48	2.70	4.80
SDE0403AT-2R2M	2.2	± 20	76	31.8	71	2.30	3.30
SDE0403AT-3R3M	3.3	± 20	64	46.9	86	2.00	2.50
SDE0403AT-4R7M	4.7	± 20	50	64.5	108	1.65	2.20
SDE0403AT-6R8M	6.8	± 20	41	93.6	126	1.45	1.70
SDE0403AT-8R2M	8.2	± 20	38	106.0	142	1.40	1.60
SDE0403AT-100M	10	± 20	36	127.0	172	1.05	1.40
SDE0403AT-120M	12	± 20	32	146.0	197	1.00	1.30
SDE0403AT-150M	15	± 20	29	192.0	259	0.85	1.20
SDE0403AT-180M	18	± 20	28	237.0	309	0.75	1.10
SDE0403AT-220M	22	± 20	25	270.0	351	0.70	0.95
SDE0403AT-270M	27	± 20	22	322.0	419	0.65	0.85
SDE0403AT-330K	33	± 10	20	373.0	485	0.60	0.80
SDE0403AT-390K	39	± 10	18	449.0	561	0.55	0.70
SDE0403AT-470K	47	± 10	16	505.0	631	0.50	0.65
SDE0403AT-560K	56	± 10	15	736.0	920	0.45	0.60
SDE0403AT-680K	68	± 10	13	822.0	1028	0.40	0.55

### Recommended Layout



DIMENSIONS: MM (INCHES)

### Electrical Schematic



### How to Order

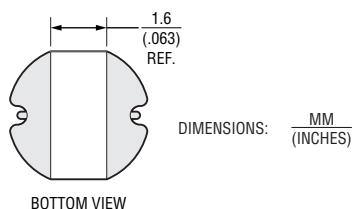
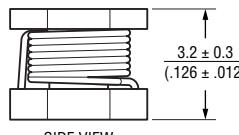
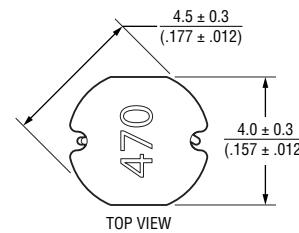
#### SDE0403AT - 1R0 M

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

### Materials

Core..... Ferrite  
Wire..... Enamelled copper  
Terminal Finish..... SnAgCu  
Packaging..... 2000 pcs. per 13-inch reel

### Product Dimensions



DIMENSIONS: MM (INCHES)



**CALIFORNIA WARNING:** Can expose you to lead, a carcinogen and reproductive toxicant.  
See [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\*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. 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).

### Additional Information

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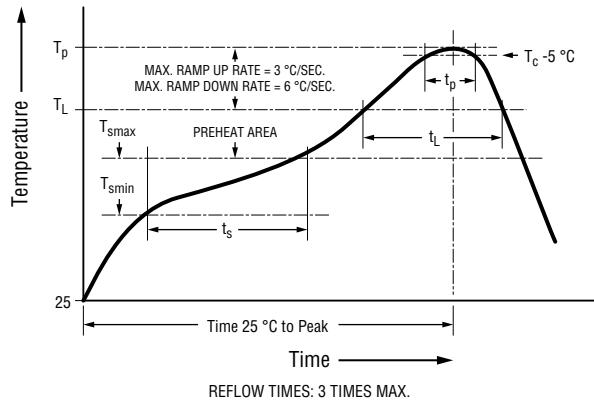


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## SDE0403AT Series – SMD Power Inductors

**BOURNS®**

### Soldering Profile



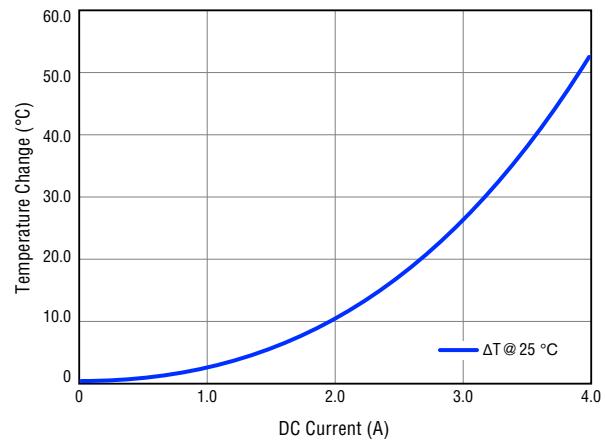
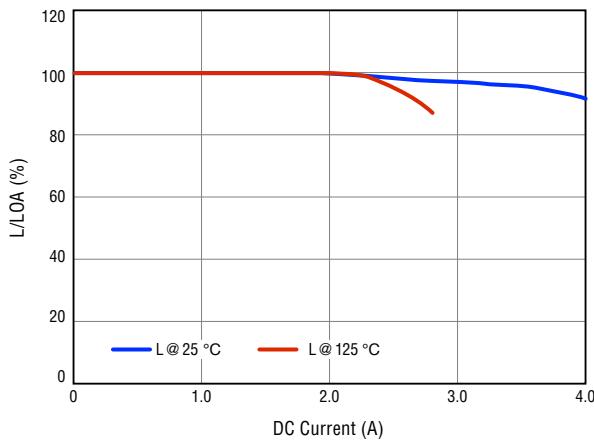
Profile Feature	Pb Free Assembly
Preheat	<ul style="list-style-type: none"> <li>- Temperature Min. (<math>T_{smin}</math>)</li> <li>- Temperature Max. (<math>T_{smax}</math>)</li> <li>- Time(<math>t_s</math>) from <math>T_{smin}</math> to <math>T_{smax}</math></li> </ul>
Ramp-up Rate ( $T_L$ to $T_p$ )	3 °C/second max.
Liquidous temperature ( $T_L$ )	217 °C
Time ( $t_L$ ) maintained above $T_L$	60-150 seconds
Peak package body temperature ( $T_p$ )	250 °C
Time ( $t_p$ ) at $T_c - 5^\circ\text{C}$ ( $T_p$ should be equal to or less than $T_c$ )	< 30 seconds
Ramp-Down Rate ( $T_p$ to $T_L$ )	6 °C/second max.
Time 25 °C to Peak Temperature	8 minutes max.

#### NOTE:

The part has been tested under this reflow condition. Deviations from this, especially with higher temperatures or longer durations, could impact performance.

### Typical Current Characteristics

#### SRF0403AT-2R2M



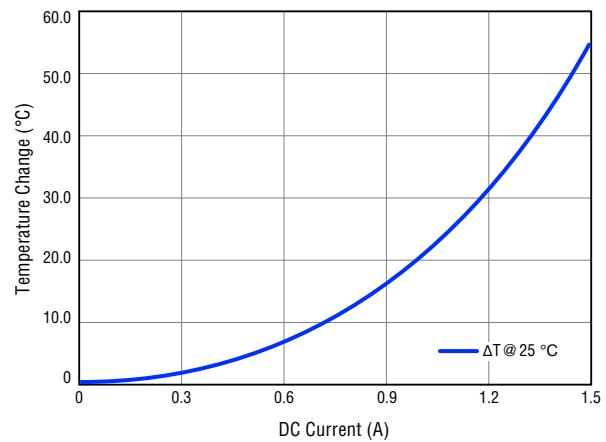
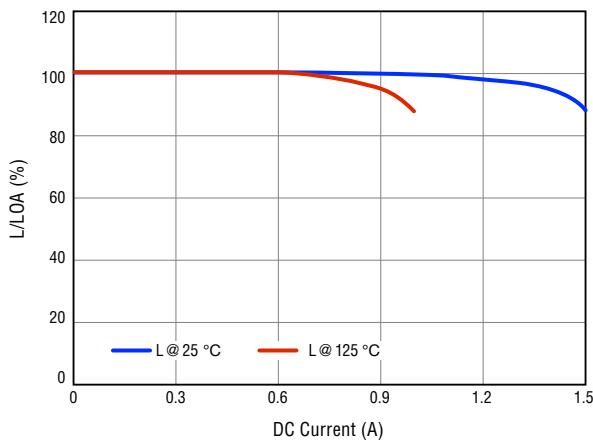
Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

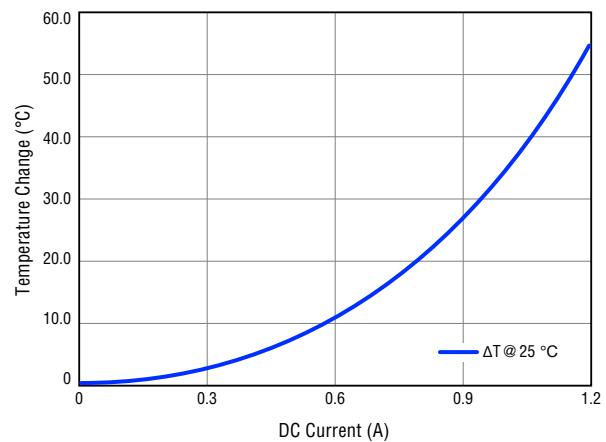
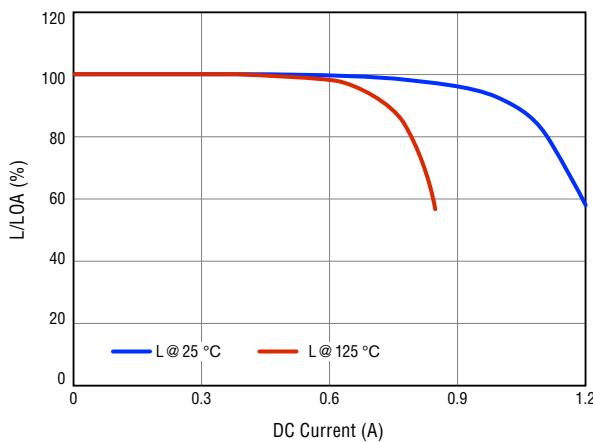
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## Typical Current Characteristics (continued)

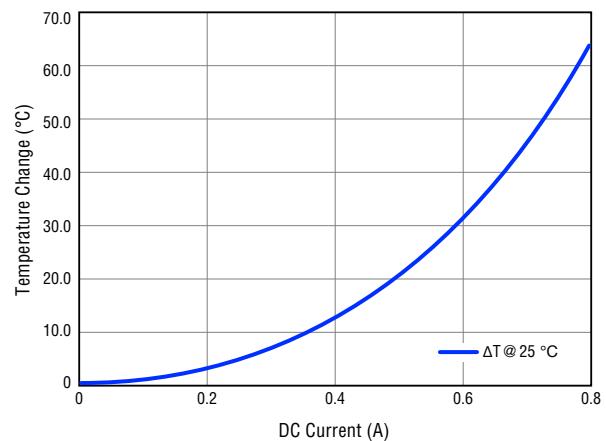
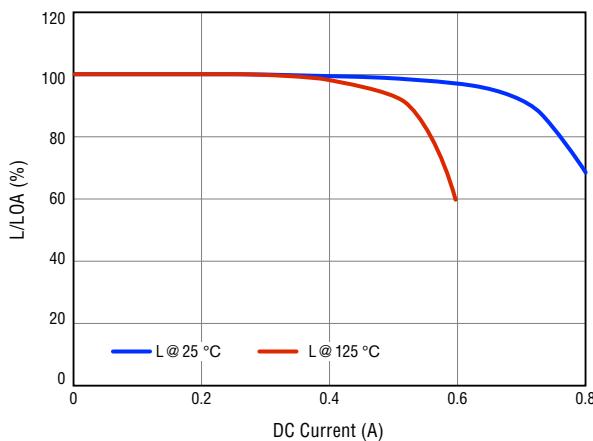
### SRF0403AT-150M



### SRF0403AT-330K



### SRF0403AT-680K



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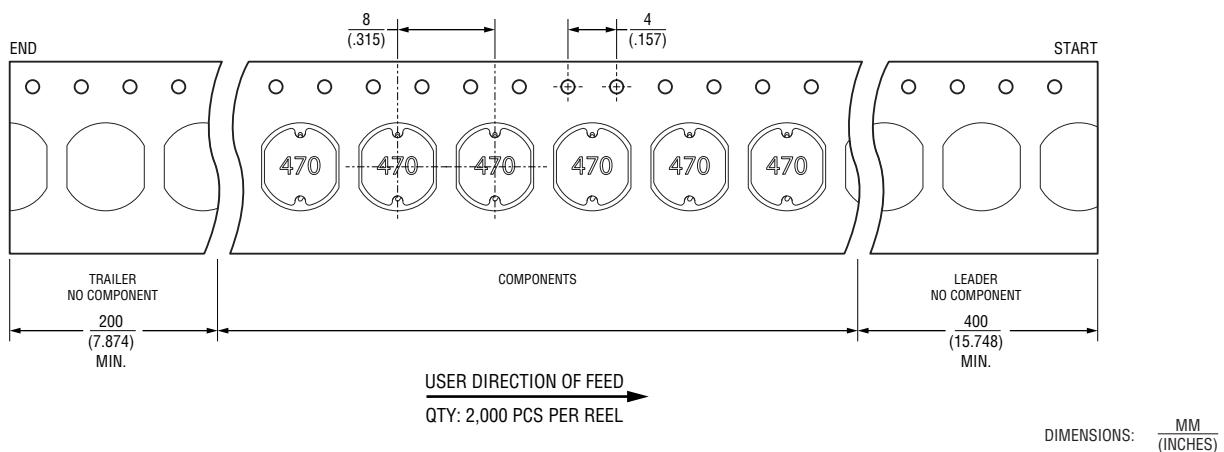
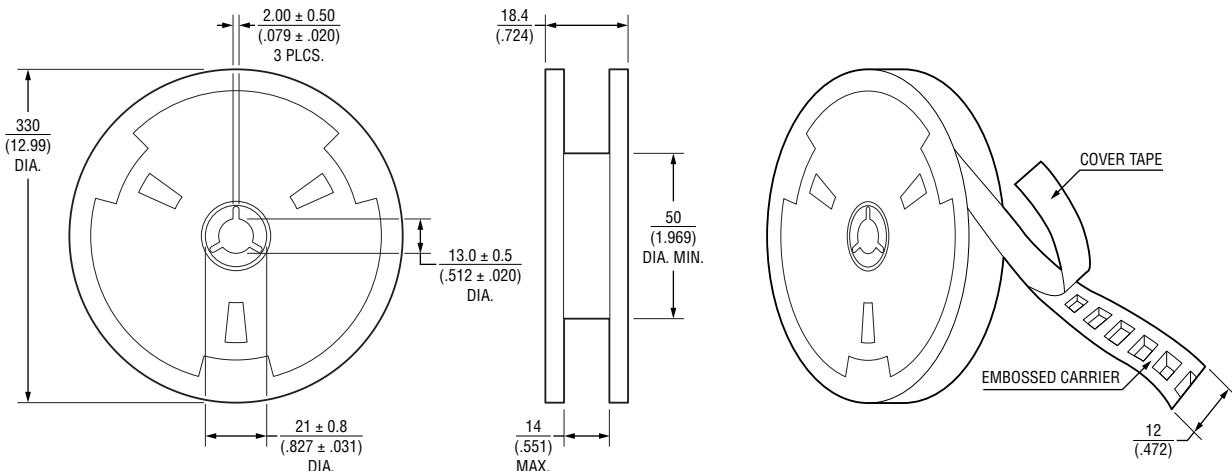
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## SDE0403AT Series – SMD Power Inductors

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### Packaging Specifications



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**Asia:** Tel: +886-2-2562-4117 • Email: [asiacus@bourns.com](mailto:asiacus@bourns.com)

**EMEA:** Tel: +36 88 885 877 • Email: [euocus@bourns.com](mailto:euocus@bourns.com)

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REV. 02/26

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