

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

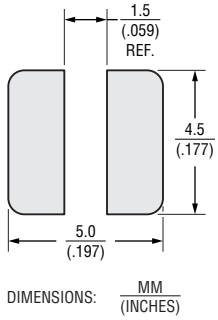
- Noise filters
- DC power lines
- Automotive systems

SDE0403AT Series – SMD Power Inductors

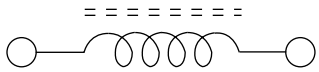
Electrical Specifications @ 25 °C

Bourns Part Number	Inductance @ 1 MHz / 1 V		SRF (MHz)	DCR (mΩ)	DCR (mΩ)	Irms (A)	Isat (A)
	L (μH)	Tol. (%)		Typ.	Max.	Typ.	Typ.
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



Electrical Schematic



How to Order

SDE0403AT - 1R0 M

Model
Value Code (see table)
Tolerance

Additional Information

Click these links for more information:

PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

General Specifications

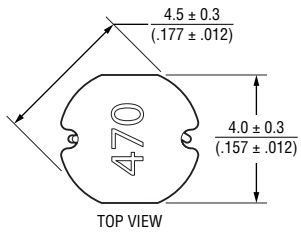
Operating Temperature ..... -55 °C to +150 °C
Storage Temperature ..... -55 °C to +150 °C
Temperature Rise ..... 40 °C at rated Irms[1]
Inductance Drop ..... 10 % typ. at Isat
Moisture Sensitivity Level 1
ESD Classification (HBM) ..... N/A

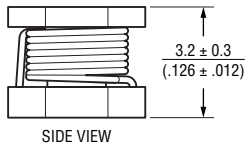
[1]Circuit design, component, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

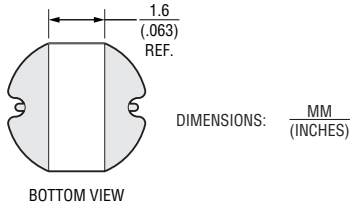
Materials

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

Product Dimensions







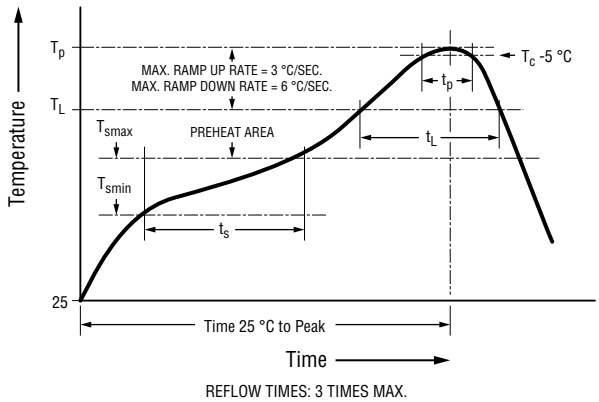
CALIFORNIA WARNING: Can expose you to lead, a carcinogen and reproductive toxicant. See www.P65Warnings.ca.gov

*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.

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Soldering Profile



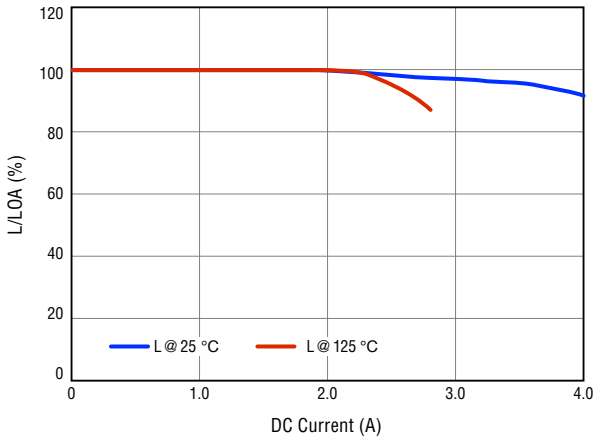
REFLOW TIMES: 3 TIMES MAX.

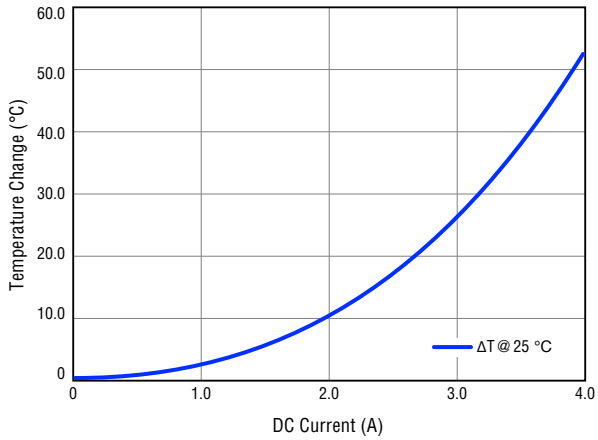
Profile Feature	Pb Free Assembly
Preheat - Temperature Min. (T_{smin}) - Temperature Max. (T_{smax}) - Time(t_s) from T_{smin} to T_{smax}	 150 °C 200 °C 60-120 seconds
Ramp-up Rate (T_L to T_p)	3 °C/second max.
Liquidous temperature (T_L) Time (t_L) maintained above T_L	217 °C 60-150 seconds
Peak package body temperature (T_p)	250 °C
Time (t_p) at T_c - 5 °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



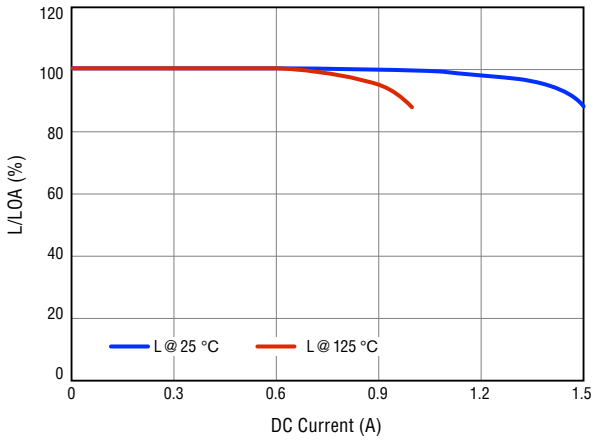


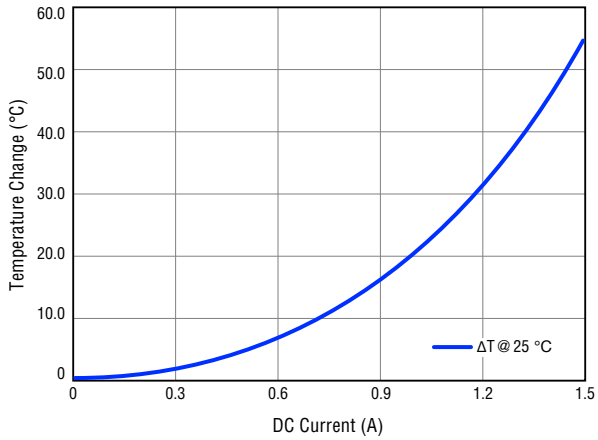
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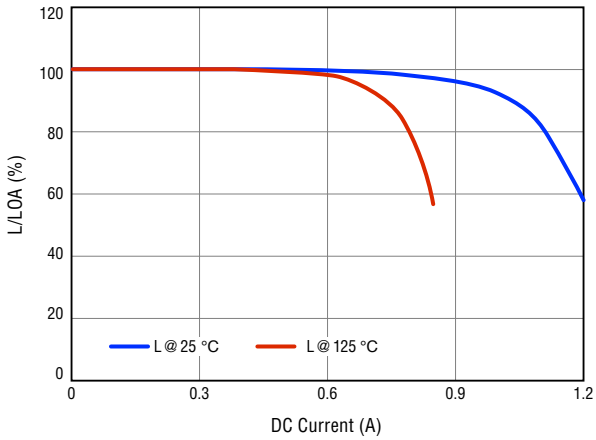
Typical Current Characteristics (continued)

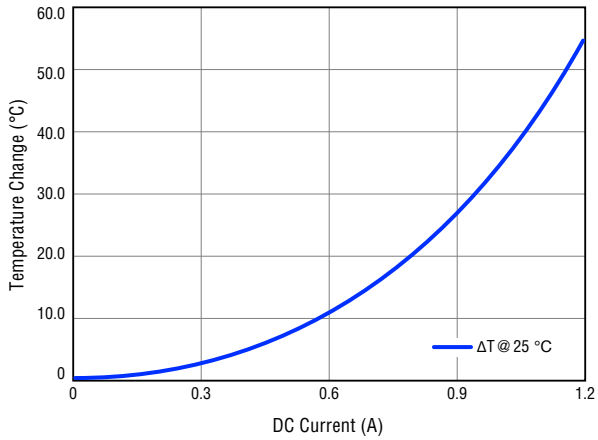
SRF0403AT-150M



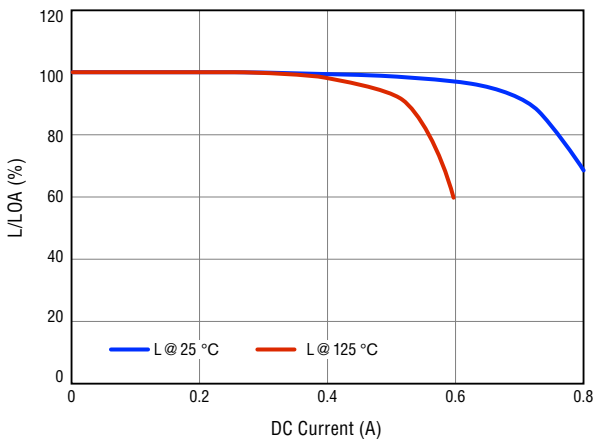


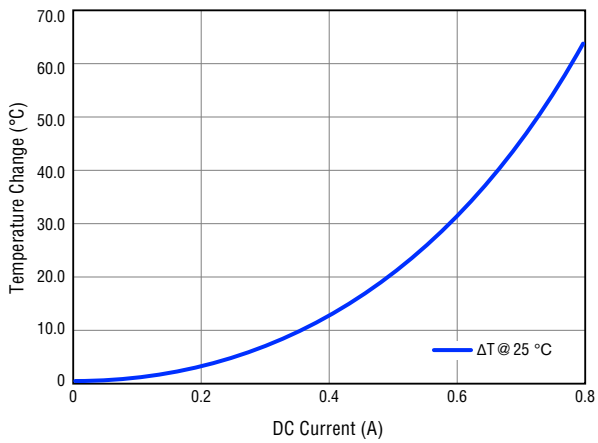
SRF0403AT-330K





SRF0403AT-680K

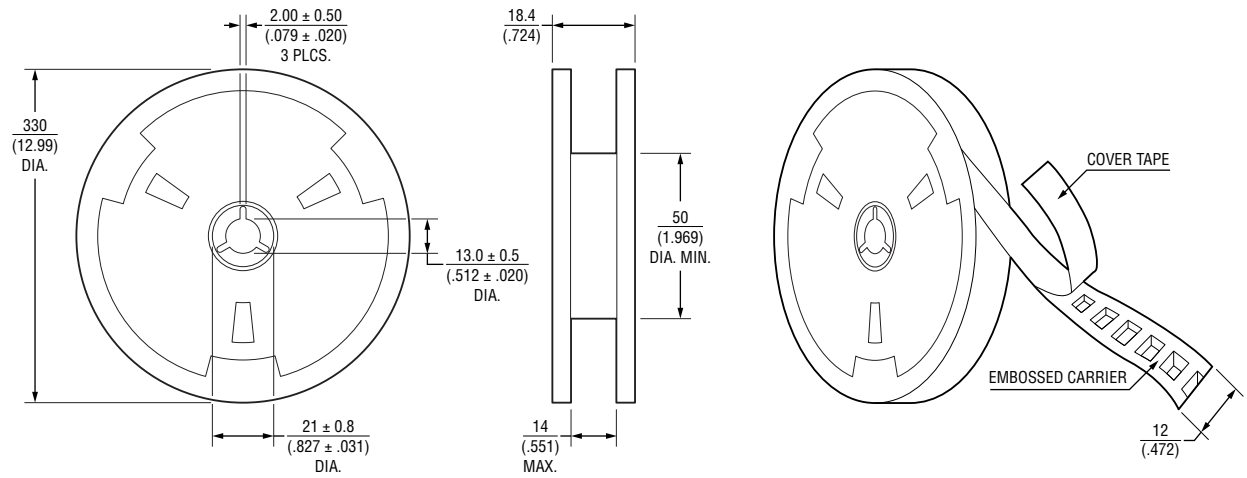


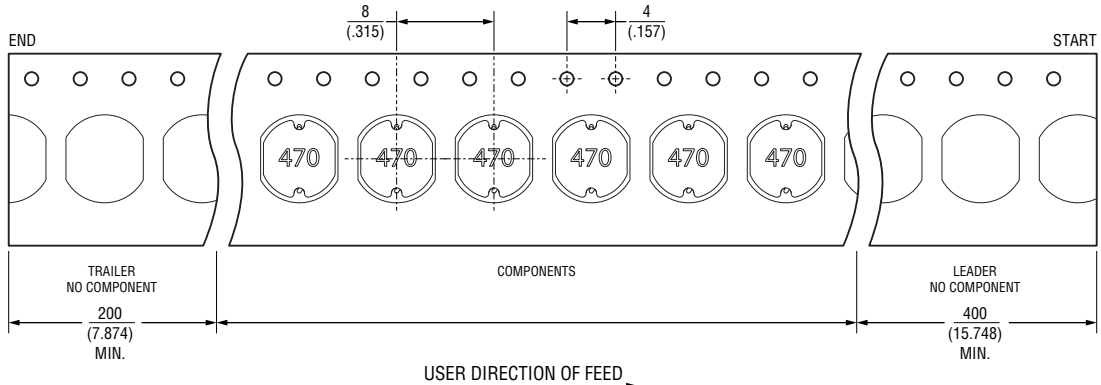


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Packaging Specifications





DIMENSIONS: MM (INCHES)

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REV. 02/26

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