

Features

- Shielded construction – low radiation
- Inductance range: 1.0 to 100 µH
- Heating current up to 6.8 A
- AEC-Q200 compliant
- RoHS compliant* and halogen free**

Applications

- Automotive systems
- DC-DC converters
- Power supplies

SRR6838A Series – Shielded Power Inductors

Electrical Specifications @ 25 °C

Bourns Part Number	Inductance @ 100 kHz / 0.1 V		SRF (MHz) Typ.	DCR (mΩ)		$I_{rms}1$ (A) Typ.	$I_{rms}2$ (A) Typ.	I_{sat} (A) Typ.
	L (µH)	Tol. (%)		Typ.	Max.			
SRR6838A-1R0Y	1.0	±30	160.0	7.7	15.0	4.50	6.80	5.70
SRR6838A-3R0Y	3.0	±30	93.0	16.9	21.0	3.30	4.80	3.40
SRR6838A-5R0Y	5.0	±30	55.0	22.3	25.0	3.00	4.50	2.63
SRR6838A-7R5Y	7.5	±30	34.0	26.4	34.0	2.55	3.80	2.10
SRR6838A-100M	10.0	±20	28.0	35.3	50.0	2.40	3.50	1.72
SRR6838A-120M	12.0	±20	26.0	38.6	55.0	2.25	3.20	1.60
SRR6838A-150M	15.0	±20	22.0	45.6	60.0	2.10	3.10	1.50
SRR6838A-180M	18.0	±20	20.0	54.6	75.0	1.95	2.90	1.35
SRR6838A-220M	22.0	±20	18.0	68.0	87.0	1.80	2.80	1.25
SRR6838A-270M	27.0	±20	16.0	84.4	105.0	1.60	2.35	1.15
SRR6838A-330M	33.0	±20	14.0	105.5	120.0	1.35	2.00	1.02
SRR6838A-390M	39.0	±20	13.0	115.0	135.0	1.25	1.85	0.94
SRR6838A-470M	47.0	±20	11.0	134.0	160.0	1.15	1.70	0.85
SRR6838A-560M	56.0	±20	10.0	160.0	190.0	1.05	1.55	0.75
SRR6838A-680M	68.0	±20	9.0	183.0	240.0	0.95	1.40	0.70
SRR6838A-820M	82.0	±20	8.0	229.0	290.0	0.85	1.30	0.63
SRR6838A-101M	100.0	±20	7.0	289.0	345.0	0.75	1.10	0.57

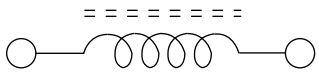
Notes:
1. $I_{rms}1$ based on temperature rise of 20 °C typ.
2. $I_{rms}2$ based on temperature rise of 40 °C typ.

How to Order

SRR6838A - 1R0Y

Model
Value Code (see table)
Tolerance
Y = ±30 %
M = ±20 %

Electrical Schematic



General Specifications

Operating Temperature
..... -55 °C to +150 °C
(Temperature rise included)
Storage Temperature
..... -55 °C to +150 °C
Temperature Rise
.....20 °C typ. at rated $I_{rms}1$
.....40 °C typ. at rated $I_{rms}2$
Inductance Drop .....35 % typ. at I_{sat}
Moisture Sensitivity Level.....1
ESD Classification (HBM)..... N/A

Additional Information

Click these links for more information:

PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

Materials

Core..... Ferrite
Wire .....Enameled copper
Terminal Finish ..... Sn
Packaging..... 1000 pcs. per 13-inch reel

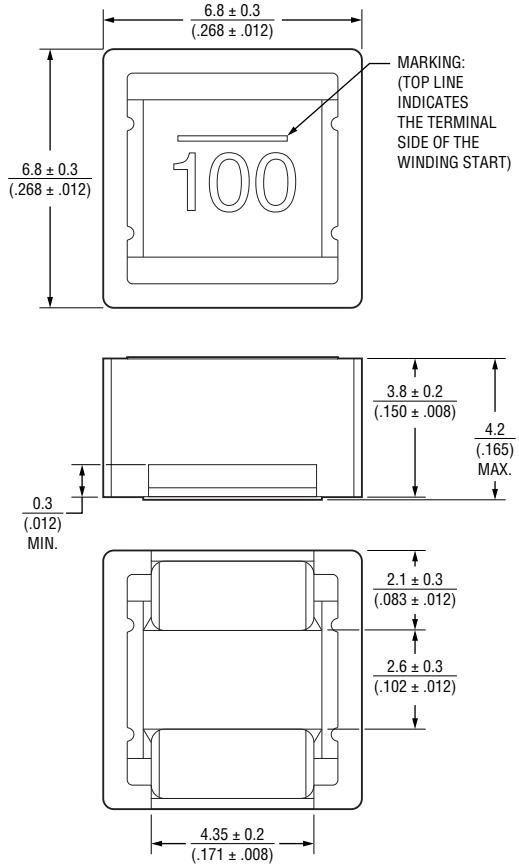
WARNING Cancer and Reproductive Harm www.P65Warnings.ca.gov

* 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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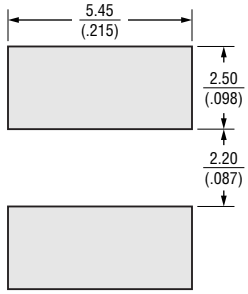
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Product Dimensions



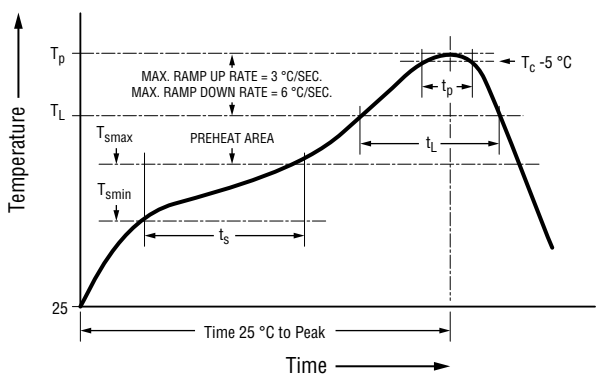
DIMENSIONS: MM (INCHES)

Recommended Layout



DIMENSIONS: MM (INCHES)

Soldering Profile



REFLOW TIMES: 3 TIMES MAX.

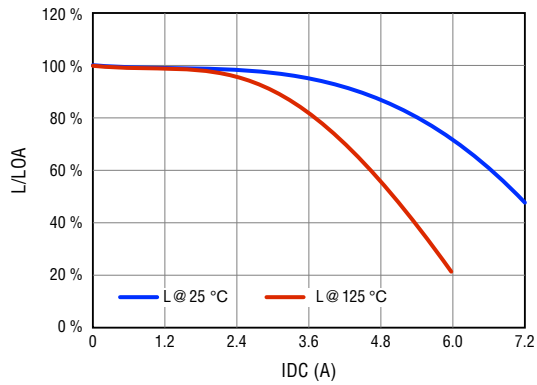
Profile Feature	Pb Free Assembly
Preheat - Temperature Min. (T_{smin}) - Temperature Max. (T_{smax}) - Time(t_s) from T_{smin} to T_{smax}	 150 °C 200 °C 60-120 seconds
Ramp-up Rate (T_L to T_p)	3 °C/second max.
Liquidous temperature (T_L) Time (t_L) maintained above T_L	217 °C 60-150 seconds
Peak package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

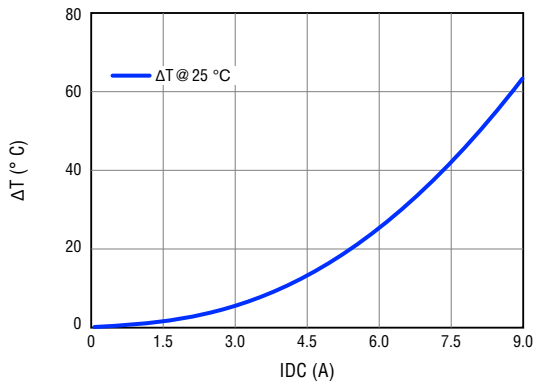
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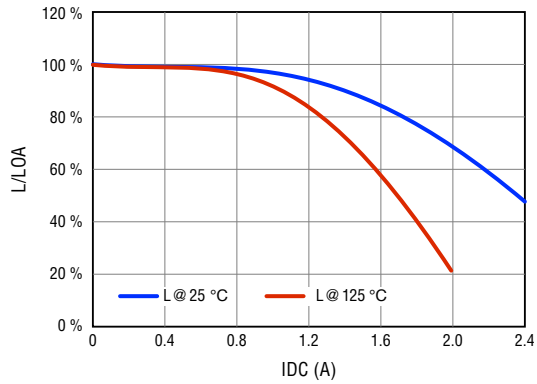
Typical Current Characteristics

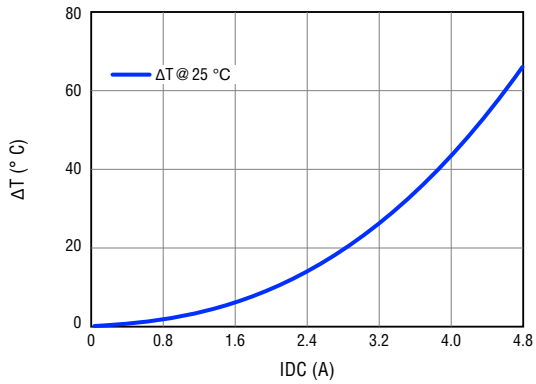
SRR6838A-1R0Y





SRR6838A-100M



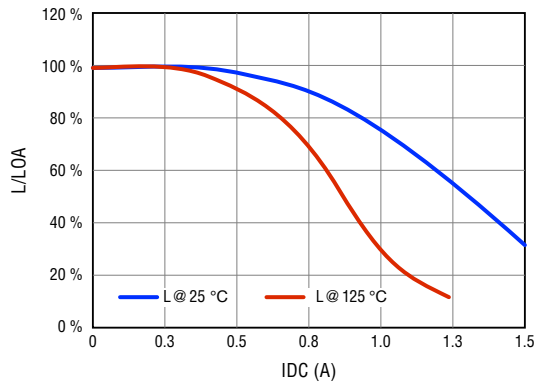


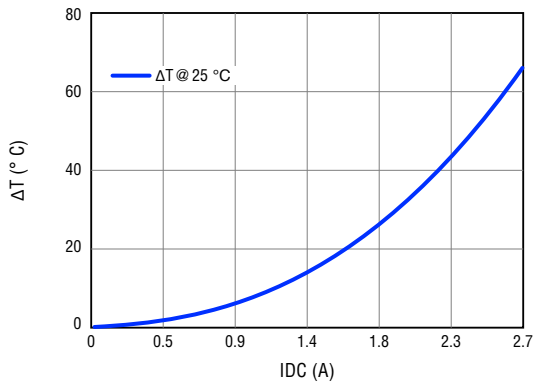
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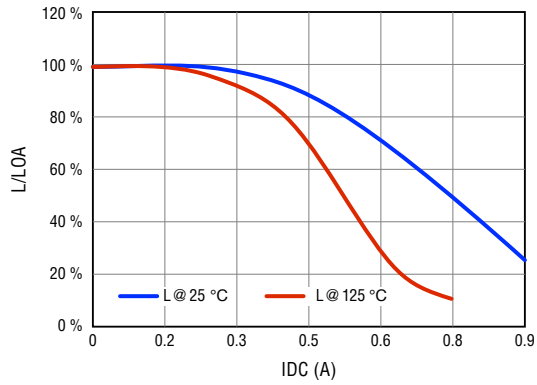
Typical Current Characteristics

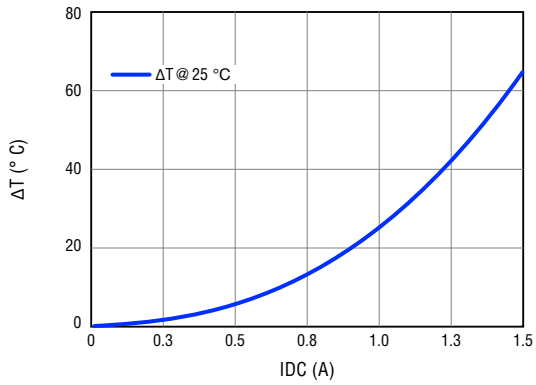
SRR6838A-330M





SRR6838A-101M

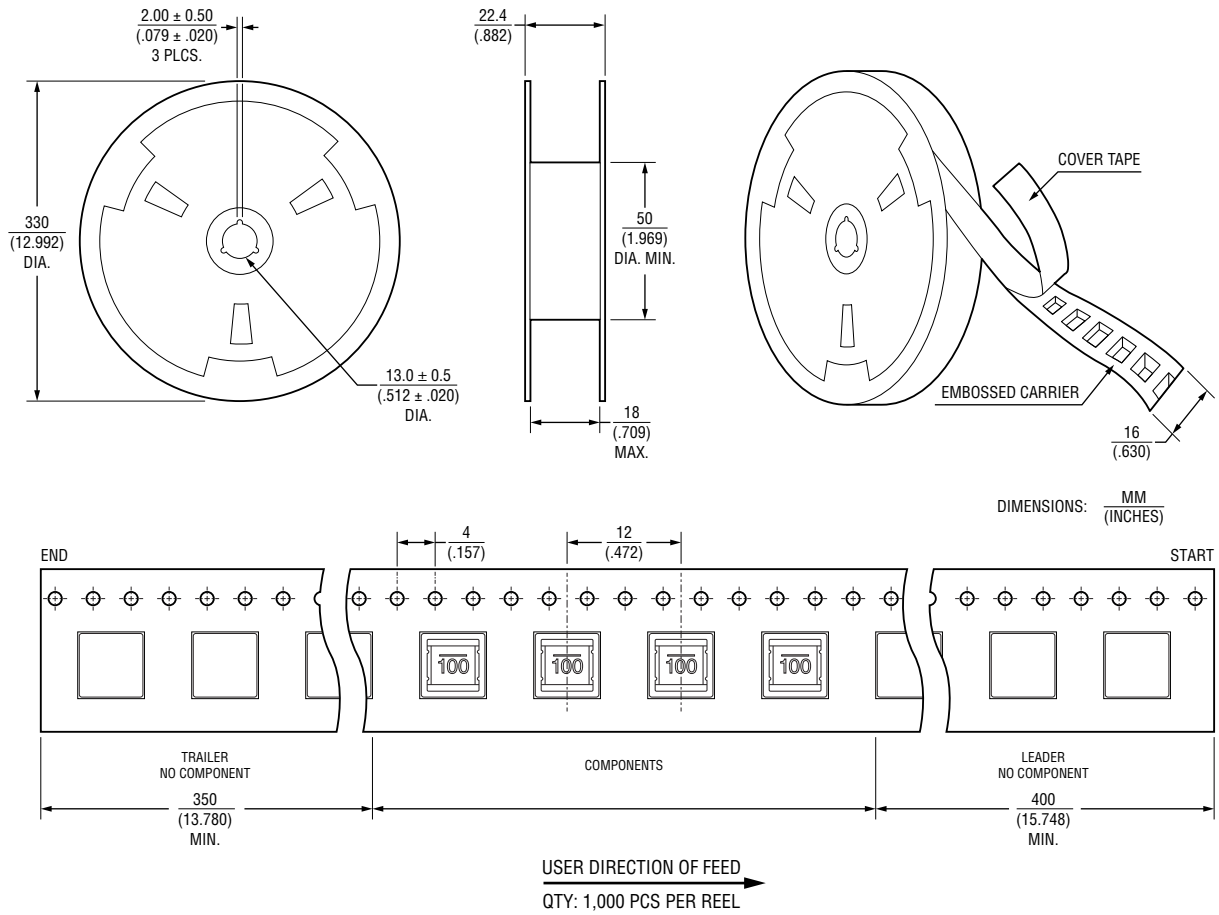




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Packaging Specifications



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Asia: Tel: +886-2-2562-4117 • Email: asiacus@bourns.com
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