



Features

- Shielded construction – low radiation
- Inductance range: 1.0 to 100 μ H
- 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 (m Ω)		I_{rms1} (A) Typ.	I_{rms2} (A) Typ.	I_{sat} (A) Typ.
	L (μ H)	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:

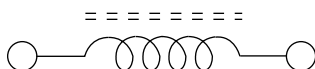
1. I_{rms1} based on temperature rise of 20 °C typ.
2. I_{rms2} based on temperature rise of 40 °C typ.

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_{rms1}
 40 °C typ. at rated I_{rms2}
 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.

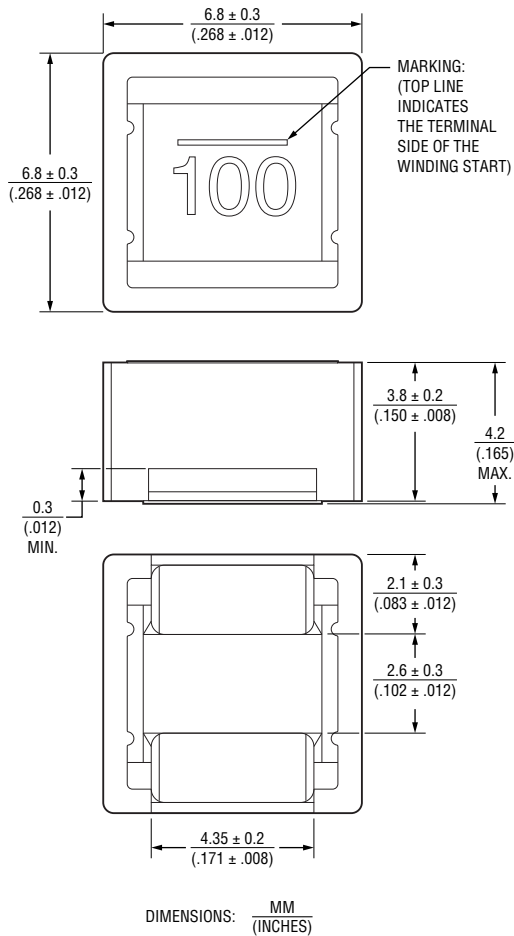
** Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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.

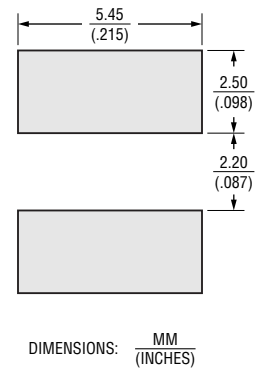
SRR6838A Series – Shielded Power Inductors

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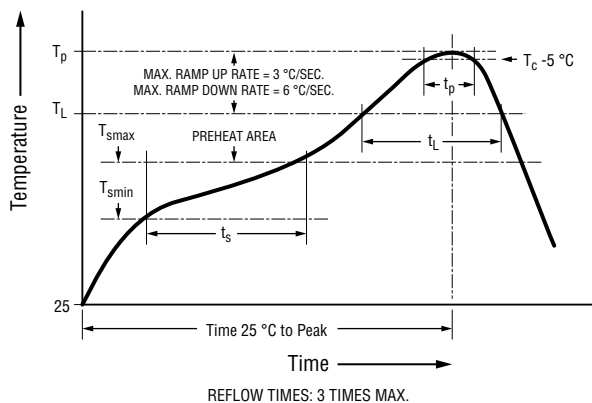
Product Dimensions



Recommended Layout



Soldering Profile



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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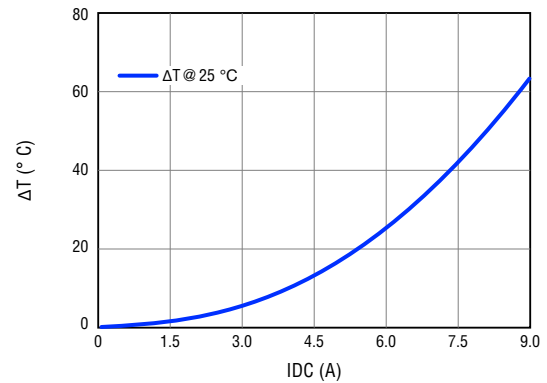
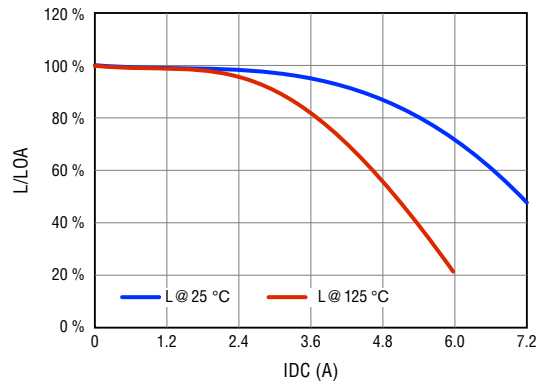
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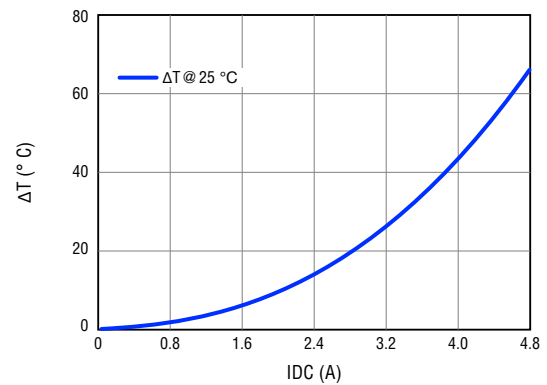
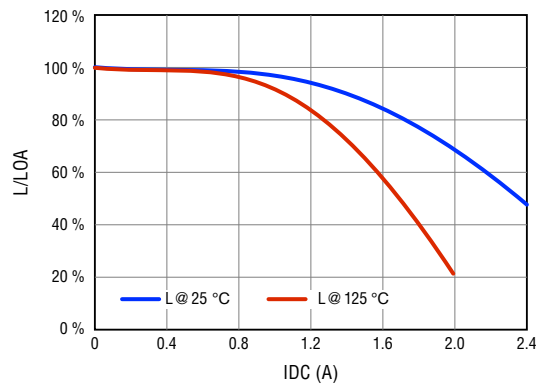
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Typical Current Characteristics

SRR6838A-1R0Y



SRR6838A-100M



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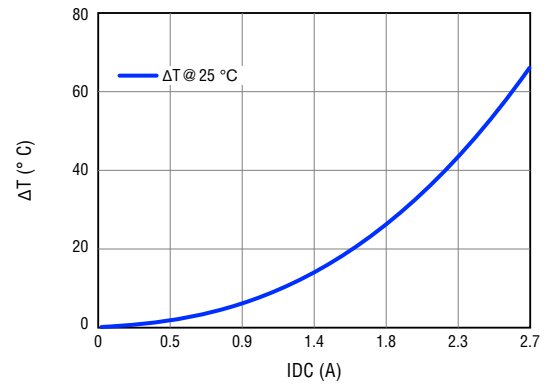
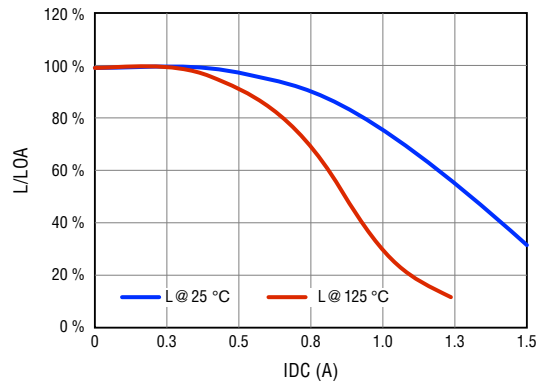
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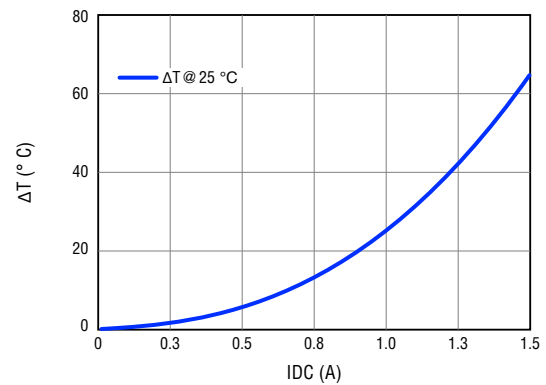
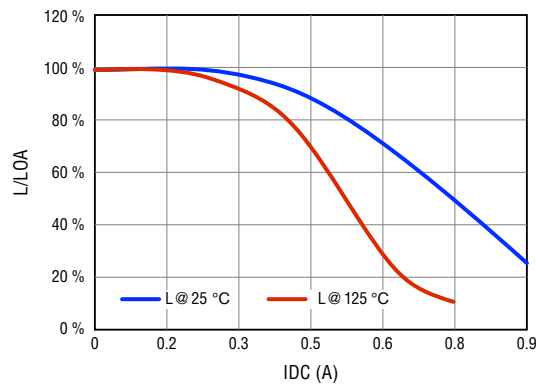
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Typical Current Characteristics

SRR6838A-330M



SRR6838A-101M



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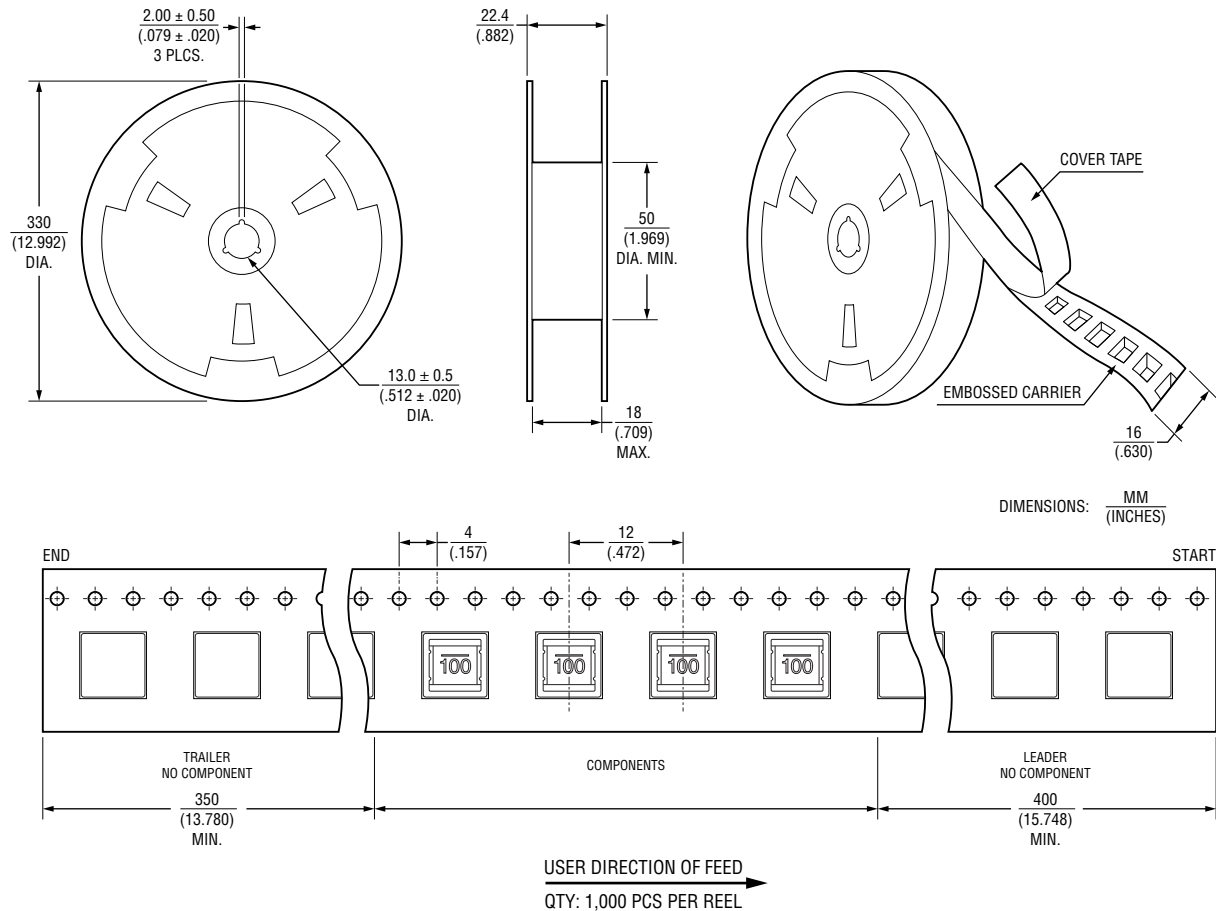
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SRR6838A Series – Shielded Power Inductors

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Packaging Specifications



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

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