



Features

- Semi-shielded construction
- Polarity control for EMI optimization
- High current
- AEC-Q200 compliant
- RoHS compliant* and halogen free**

Applications

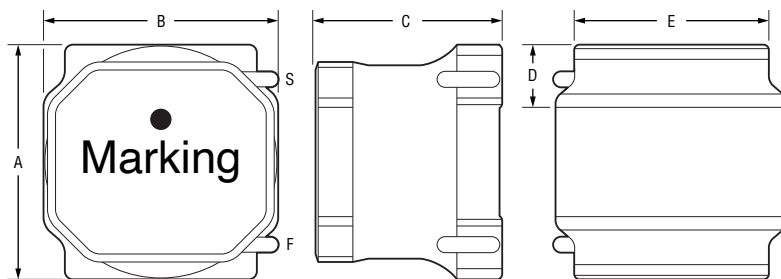
- DC/DC converters
- Power supplies
- Automotive systems

SRN5040TA-P Series – Semi-shielded Power Inductors

Electrical Specifications @ 25 °C

Bourns Part No.	Inductance @ 100 kHz / 1 V		DCR (mΩ) ±20 %	I _{rms} (A) Typ.	I _{sat} (A) Typ.
	L (μH)	Tol. %			
SRN5040TA-R60MP	0.60	±20	8	8.00	11.00
SRN5040TA-1R0MP	1.00	±20	12	5.00	7.50
SRN5040TA-1R5MP	1.50	±20	15	4.50	6.50
SRN5040TA-1R8MP	1.80	±20	18	4.20	6.10
SRN5040TA-2R2MP	2.20	±20	21	3.80	5.70
SRN5040TA-3R3MP	3.30	±20	24	3.50	4.40
SRN5040TA-4R7MP	4.70	±20	32	3.20	3.90
SRN5040TA-6R8MP	6.80	±20	43	2.50	3.30
SRN5040TA-100MP	10.0	±20	56	2.20	2.52
SRN5040TA-150MP	15.0	±20	80	1.80	2.00
SRN5040TA-220MP	22.0	±20	123	1.50	1.62
SRN5040TA-330MP	33.0	±20	180	1.20	1.30
SRN5040TA-470MP	47.0	±20	270	1.00	1.10
SRN5040TA-680MP	68.0	±20	400	0.80	0.90
SRN5040TA-820MP	82.0	±20	490	0.75	0.78
SRN5040TA-101MP	100	±20	560	0.72	0.75

Product Dimensions



Inductance	A	B	C	D	E
≤10 μH	$\frac{4.95 \pm 0.2}{(.195 \pm .008)}$	$\frac{4.95 \pm 0.2}{(.195 \pm .008)}$	$\frac{3.9 \pm 0.2}{(.154 \pm .008)}$	$\frac{1.3 \pm 0.3}{(.051 \pm .012)}$	$\frac{4.2 \pm 0.2}{(.165 \pm .008)}$
>10 μH			$\frac{3.8 \pm 0.2}{(.150 \pm .008)}$		

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

Additional Information

Click these links for more information:



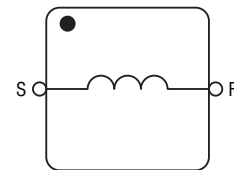
General Specifications

Operating Temperature -55 °C to +125 °C
 Storage Temperature -55 °C to +125 °C
 Temperature Rise 40 °C at rated I_{rms}
 Inductance Drop 30 % typ. at I_{sat}
 Moisture Sensitivity Level 1
 ESD Classification (HBM) N/A

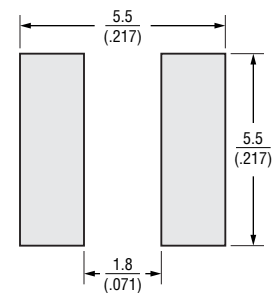
Materials

Core Ferrite
 Wire Enameled copper
 Terminal Finish SnCu
 Packaging 1500 pcs. per 13-inch reel

Electrical Schematic



Recommended Layout



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

*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.



CALIFORNIA WARNING:

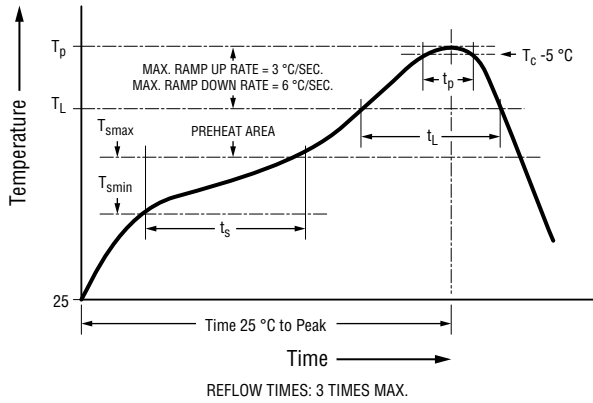
Can expose you to lead, a carcinogen and reproductive toxicant.

See www.P65Warnings.ca.gov

SRN5040TA-P Series – Semi-shielded Power Inductors



Soldering Profile



Profile Feature	Pb Free Assembly
Preheat <ul style="list-style-type: none"> - 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)	260 °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:

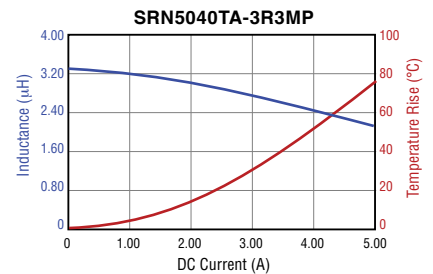
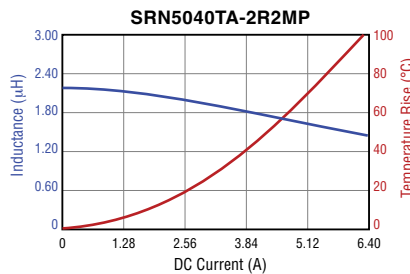
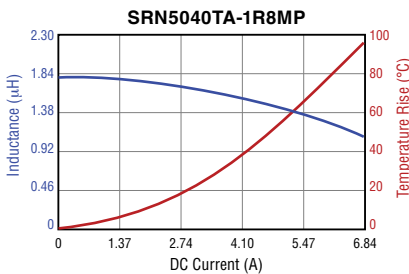
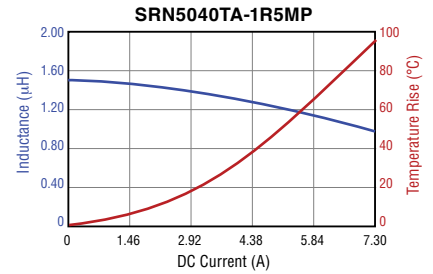
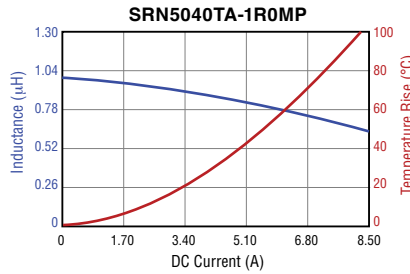
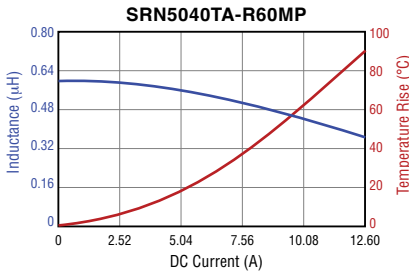
The part has been tested under this reflow condition. Deviations from this, especially with higher temperatures or longer durations, could impact performance.

How to Order

SRN5040TA - R60 M P

Model _____
 Value Code (see table) _____
 Tolerance _____
 Polarity _____

Inductance vs. Current



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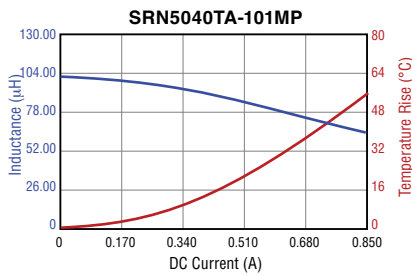
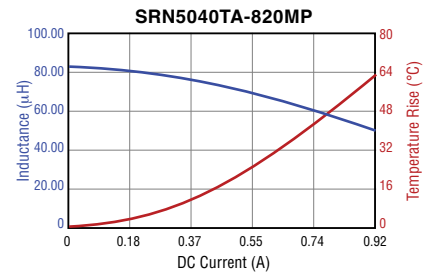
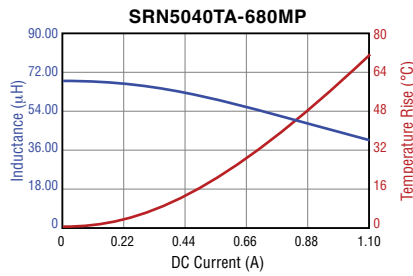
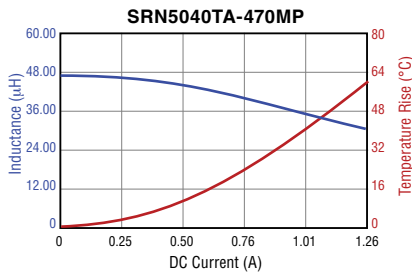
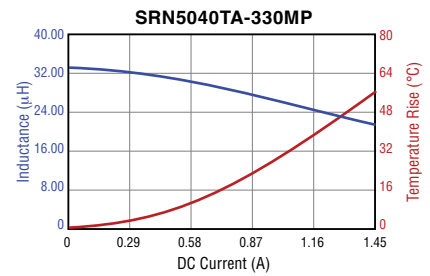
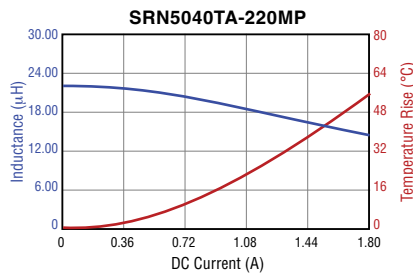
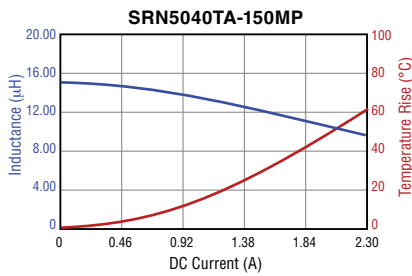
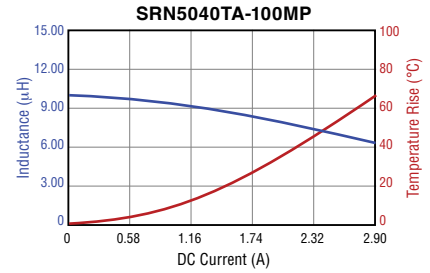
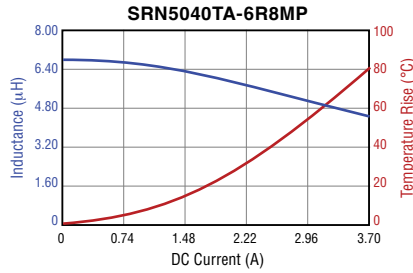
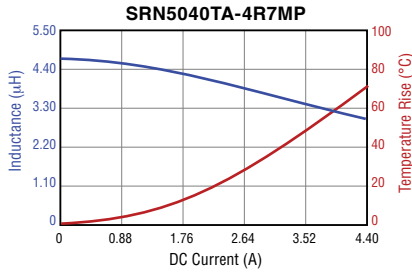
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SRN5040TA-P Series – Semi-shielded Power Inductors



Inductance vs. Current (continued)



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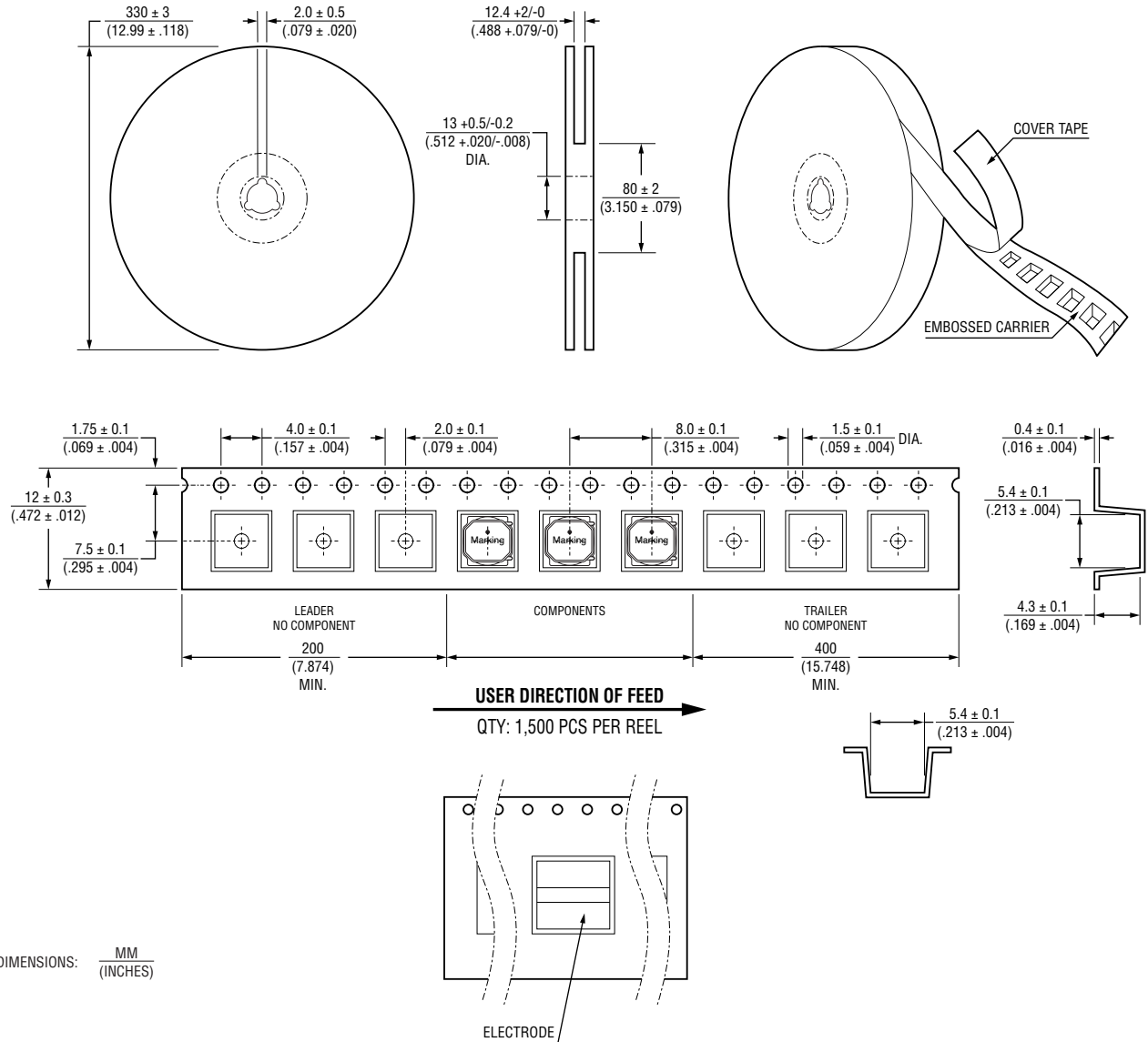
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SRN5040TA-P Series – Semi-shielded Power Inductors

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Packaging Specifications



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