



SRP2510PA SERIES

Shielded Power Inductors



*RoHS COMPLIANT
AEC-Q200 COMPLIANT &
**HALOGEN FREE

Features

- Shielded construction for low radiation
- Metal alloy powder core
- High saturation current
- Low profile
- AEC-Q200 compliant
- RoHS compliant* and halogen free**

Applications

- Automotive systems
- DC-DC converters
- Miniature electronic devices

Sustainability

- ISO 14001, low-impact energy
- Responsibly sourced and produced
- Meets EU 94/62/EC standards

Product Overview

The Bourns® SRP2510PA Series Shielded Power Inductors feature a metal alloy powder core and shielded construction to minimize magnetic field radiation while supporting tight component placement on densely packed automotive

PCBs. These power inductors deliver saturation currents up to 9 A in a low profile design and operate across a -40 to +145 °C temperature range.

Electrical Specifications (@ T_A = 25 °C Unless Otherwise Noted)

Bourns Part Number	Inductance @ 1 MHz/1 V		Q Typ.	SRF (MHz) Typ.	DCR (mΩ) Typ.	DCR (mΩ) Max.	I _{rms} (A) Typ.	I _{sat} (A) Typ.
	L (μH)	Tolerance (%)						
SRP2510PA-R22M	0.22	±20	30	>120	10	13.5	6.3	9.0
SRP2510PA-R24M	0.24	±20	30	>120	11.5	14.5	6.2	7.1
SRP2510PA-R33M	0.33	±20	30	>120	17	22	5.6	7.8
SRP2510PA-R47M	0.47	±20	30	>120	23	29	5.2	6.6
SRP2510PA-R68M	0.68	±20	30	90	30	36	4.3	5.5
SRP2510PA-1R0M	1.00	±20	30	70	41	52	3.4	4.4
SRP2510PA-1R5M	1.50	±20	30	60	62	72	2.9	3.8
SRP2510PA-2R2M	2.20	±20	30	50	88	110	2.4	3.3
SRP2510PA-3R3M	3.30	±20	30	40	140	160	1.9	2.5

General Specifications

Operating Temperature... -40 °C to +145 °C (Temperature rise included)
 Storage Temperature... -50 °C to +145 °C (On-board)
 Temperature Rise... 40 °C at rated I_{rms}
 Inductance Drop... 30 % typ. at I_{sat}
 Weight... 0.0290 g
 Moisture Sensitivity Level... 1
 ESD Classification (HBM)... N/A

Materials

Core Metal alloy powder
 Wire Enameled Copper
 Terminal Finish Cu/Ni/Sn
 Packaging 3,000 pcs. per 7-inch reel

Contact Information

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* 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.

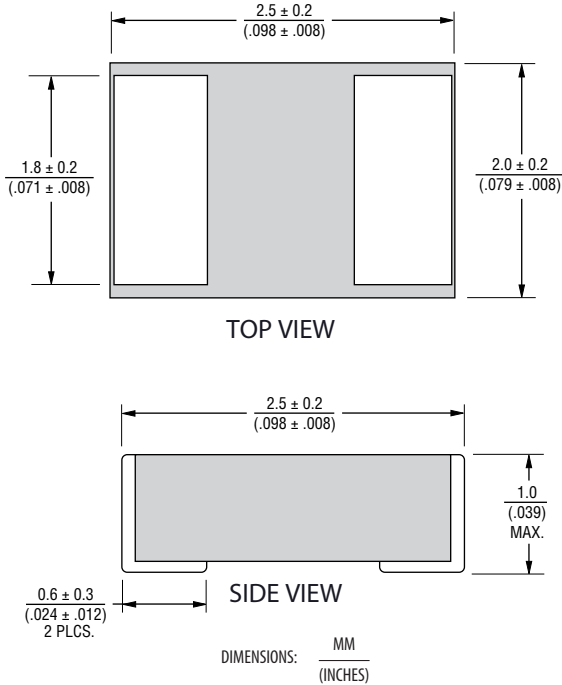
Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

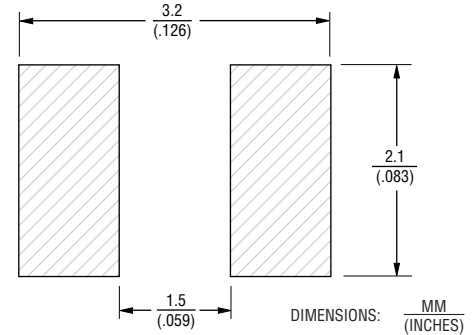
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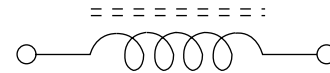
Product Dimensions



Recommended Layout



Electrical Schematic

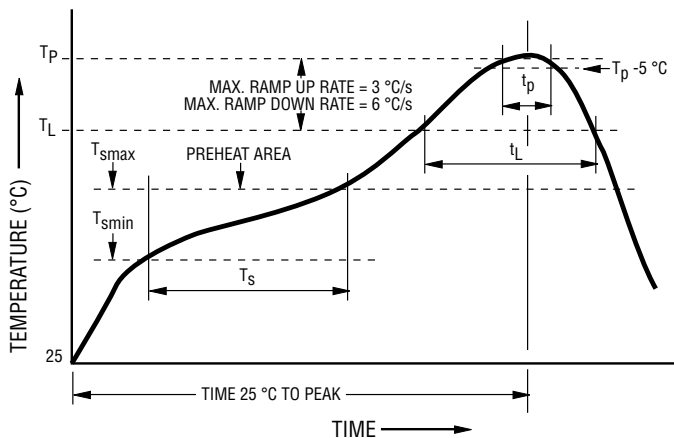


How to Order

SRP2510PA - R22 M

Series _____
Value Code _____
Tolerance _____
M = $\pm 20\%$

Soldering Profile

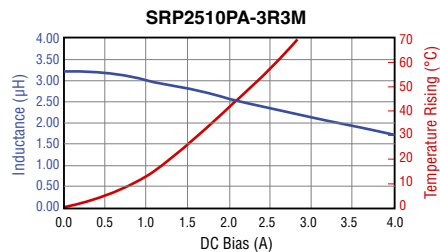
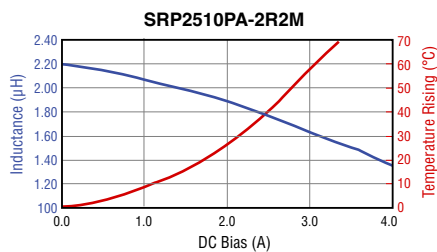
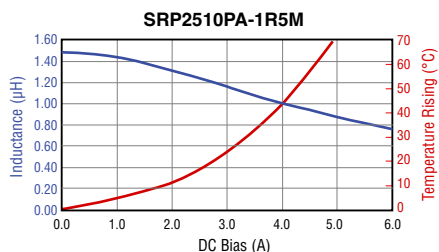
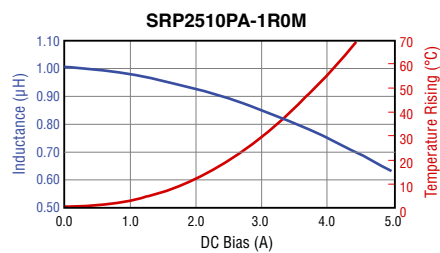
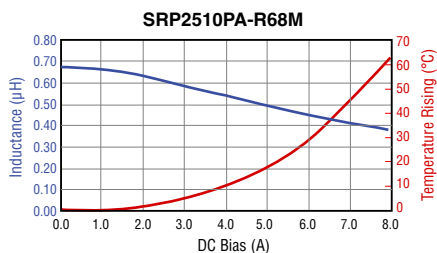
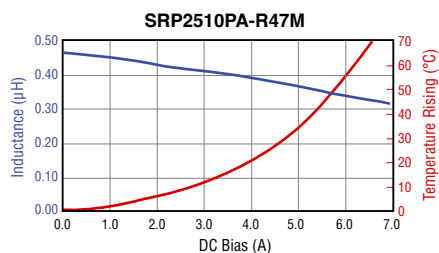
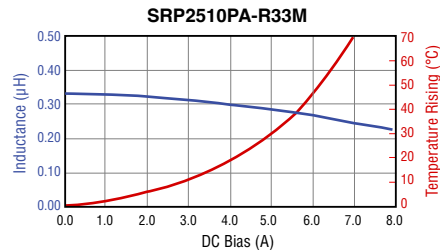
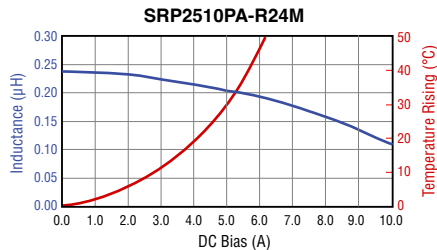
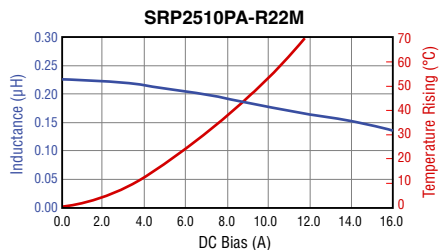


NOTE: The product has been tested under this reflow condition. Deviations from this, especially higher temperatures or longer durations, could impact performance.

Profile Feature	Pb-Free Assembly
Preheat / Soak: 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)	$3^\circ\text{C} / \text{second max.}$
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) within 5°C of the Peak Temperature (T_P)	< 30 seconds
Ramp Down Rate (T_P to T_L)	$6^\circ\text{C} / \text{second max.}$
Time 25 °C to Peak Temperature	8 minutes max.



Characteristic Changes vs. IDC

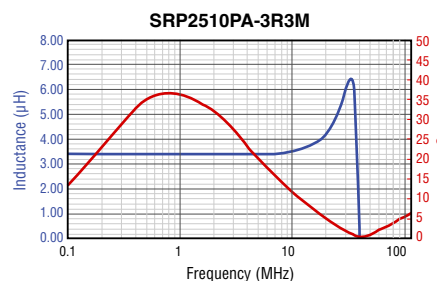
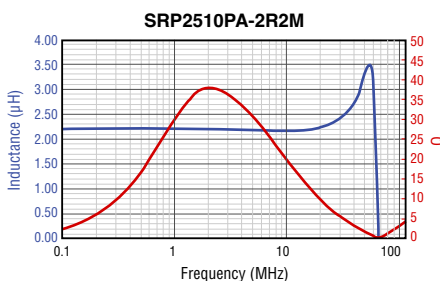
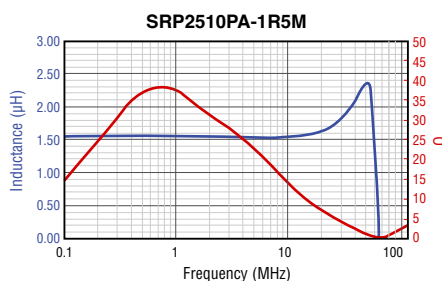
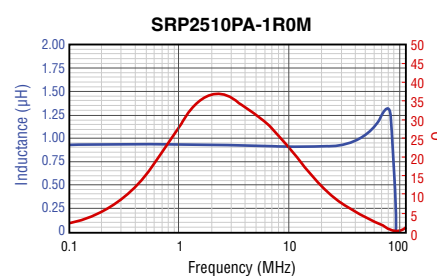
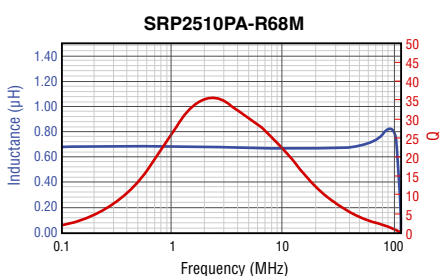
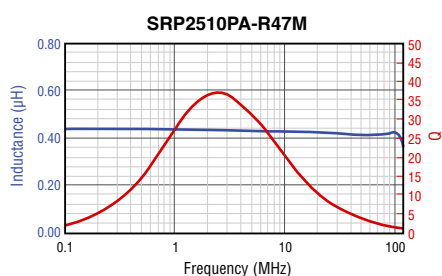
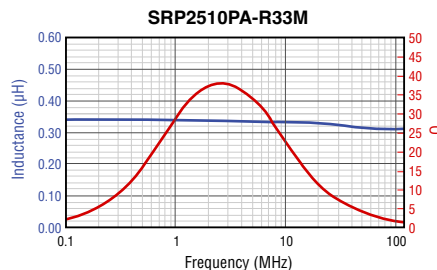
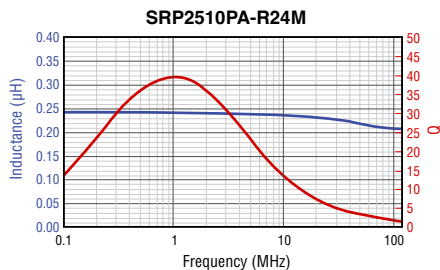
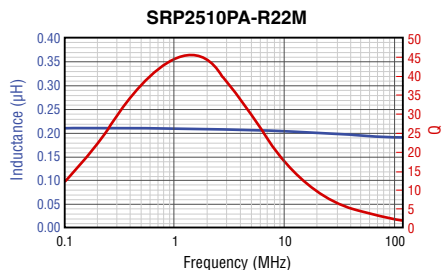


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Users should verify actual device performance in their specific applications.

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Characteristic Changes vs. Frequency



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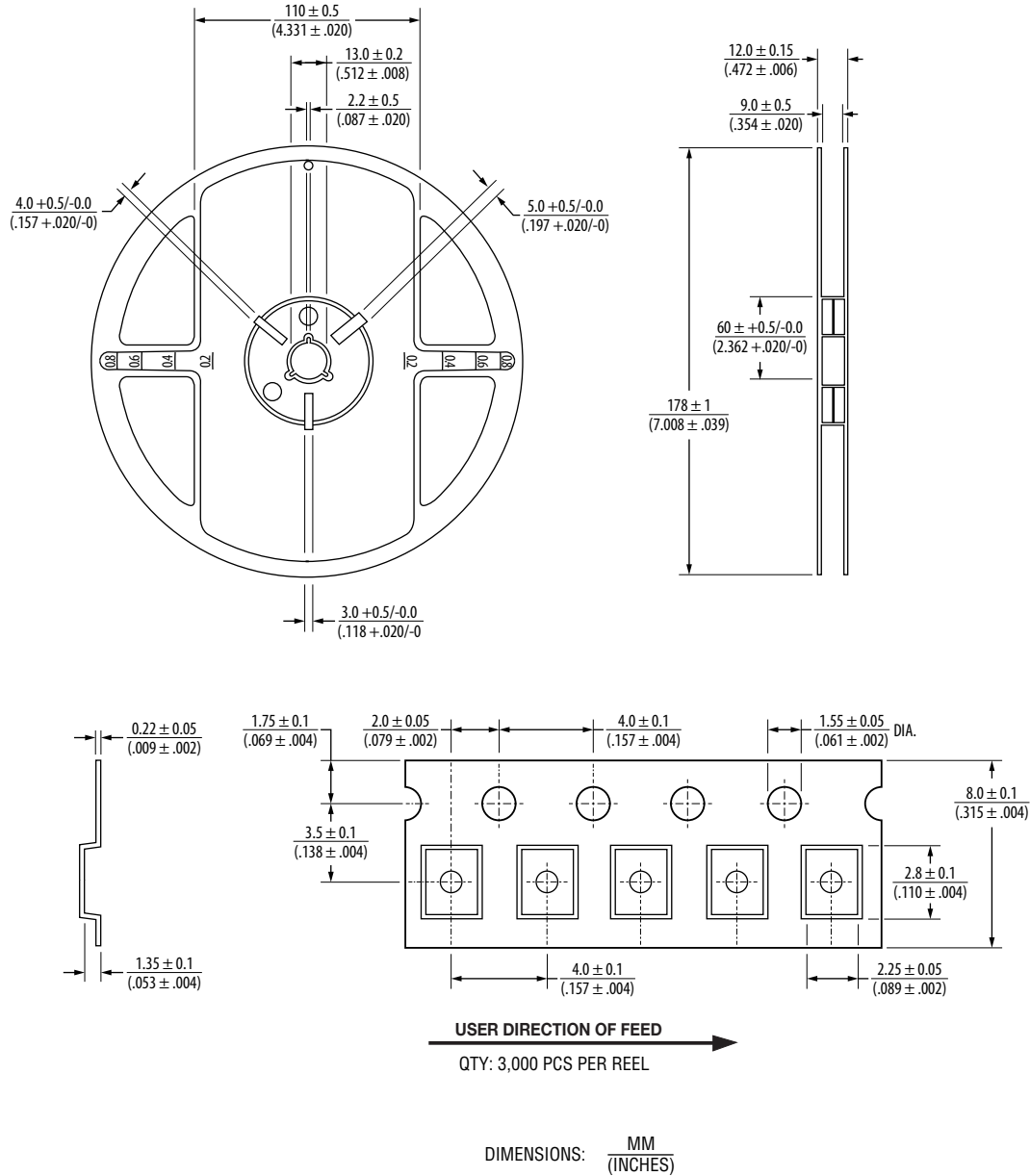
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Packaging Specifications



REV. 06/26

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