BOURNS®

AUTOMOTIVE GRADE

SRP2010PA 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® SRP2010PA 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.	Irms (A) Typ.	Isat (A) Typ.
	L (µH)	Tolerance (%)						
SRP2010PA-R10M	0.10	±20	30	>120	10	12	6.6	9.0
SRP2010PA-R15M	0.15	±20	30	>120	10	16	7.5	10.0
SRP2010PA-R22M	0.22	±20	30	>120	15	19	6.0	7.9
SRP2010PA-R24M	0.24	±20	30	>120	17	20	5.8	6.8
SRP2010PA-R33M	0.33	±20	30	>120	21	26	4.7	6.1
SRP2010PA-R47M	0.47	±20	30	>120	27	33	4.5	5.4
SRP2010PA-R56M	0.56	±20	30	>120	29	35	4.2	5.0
SRP2010PA-R68M	0.68	±20	30	>120	40	47	4.0	4.7
SRP2010PA-1R0M	1.00	±20	30	90	56	65	3.2	3.3
SRP2010PA-1R5M	1.50	±20	30	80	86	99	2.4	3.1
SRP2010PA-2R2M	2.20	±20	30	60	117	140	2.2	2.4

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 Irms
Inductance Drop ... 30 % typ. at Isat
Weight ... 0.019 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.

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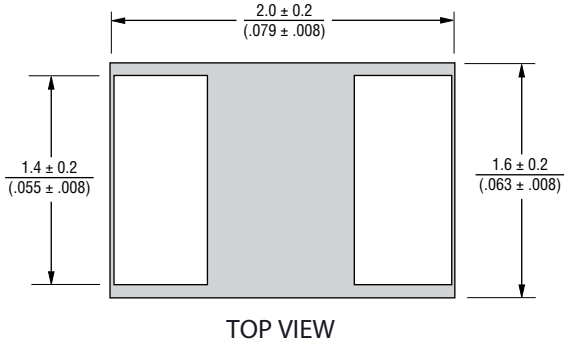
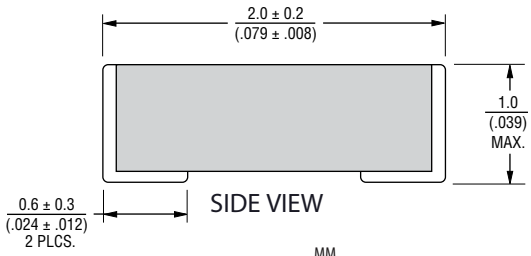
Product Dimensions



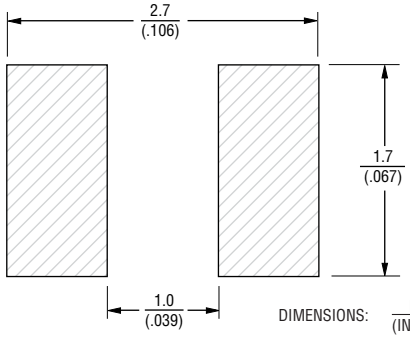
TOP VIEW



SIDE VIEW

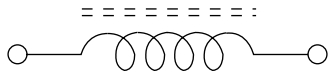
DIMENSIONS: MM / (INCHES)

Recommended Layout



DIMENSIONS: MM / (INCHES)

Electrical Schematic



How to Order

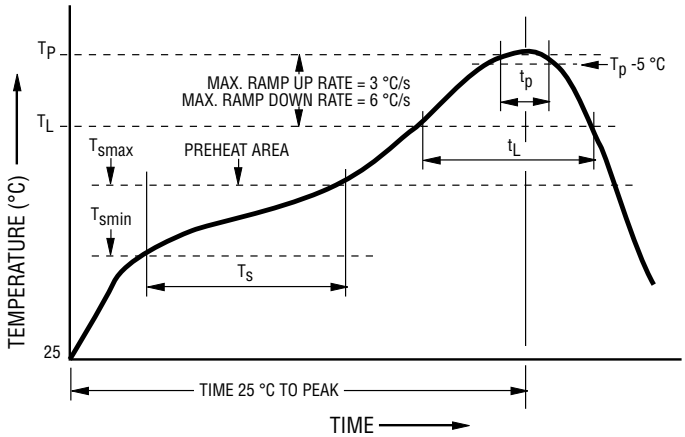
SRP2010PA - R10 M

Series

Value Code

Tolerance
M = ±20 %

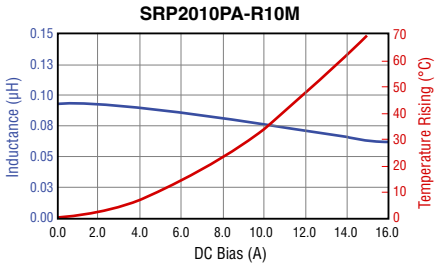
Soldering Profile

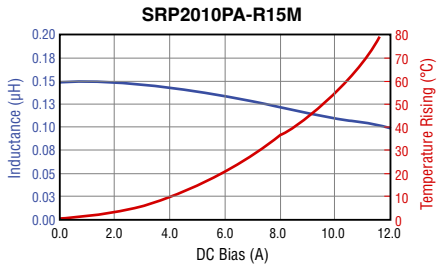


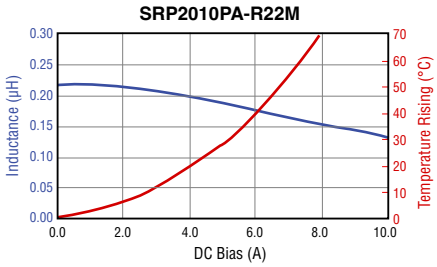
Profile Feature	Pb-Free Assembly
Preheat / Soak: Temperature Min. (T_{smin}) Temperature Max. (T_{smax}) Time (t_s) from (T_{smin} to T_{smax})	 150 °C 200 °C 60~120 seconds
Ramp Up Rate (T_L to T_p)	3 °C / second max.
Liquidous Temperature (T_L) Time (t_L) maintained above T_L	217 °C 60~150 seconds
Peak Package Body Temperature (T_p)	260 °C
Time (t_p) within 5 °C of the Peak Temperature (T_p)	< 30 seconds
Ramp Down Rate (T_p to T_L)	6 °C / second max.
Time 25 °C to Peak Temperature	8 minutes max.

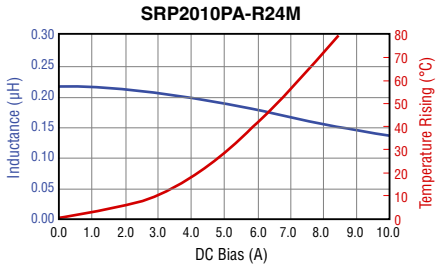
NOTE: The product has been tested under this reflow condition. Deviations from this, especially higher temperatures or longer durations, could impact performance.

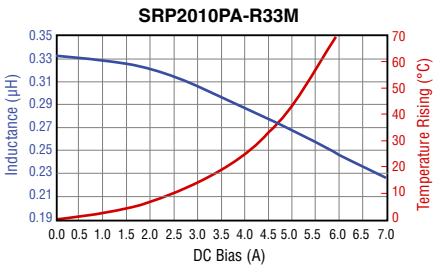
Characteristic Changes vs. IDC

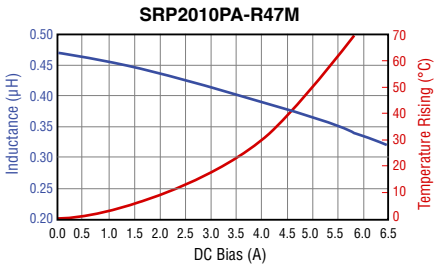


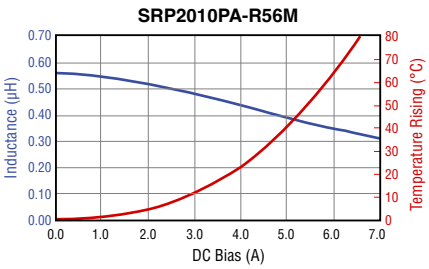


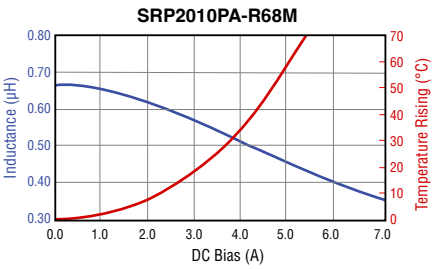


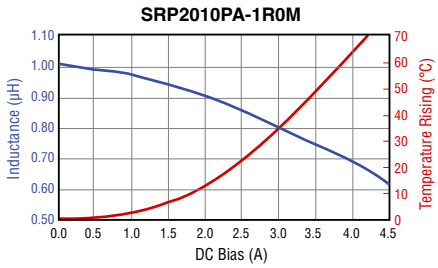


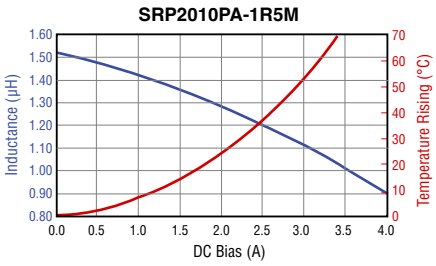


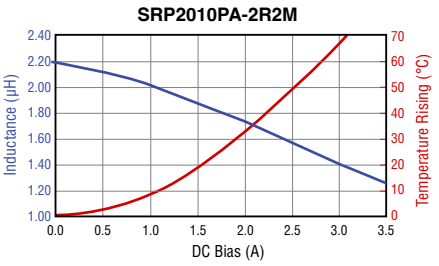












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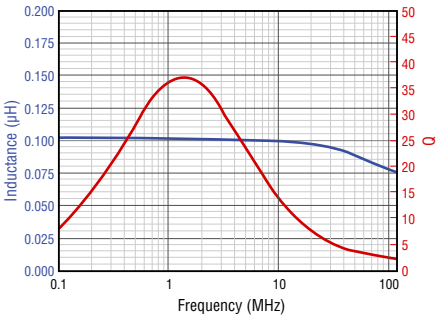
Characteristic Changes vs. Frequency

SRP2010PA-R10M



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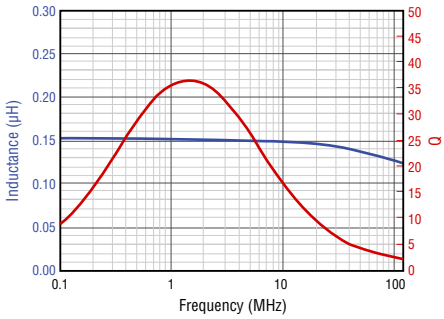

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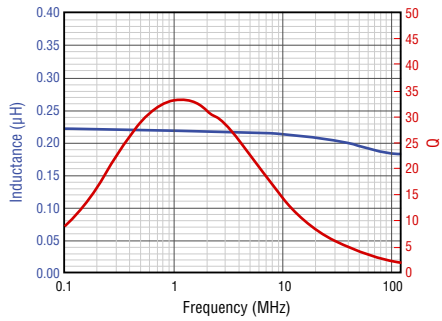

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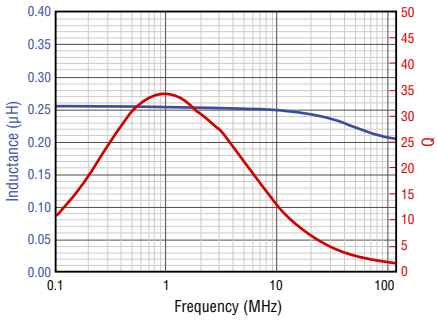

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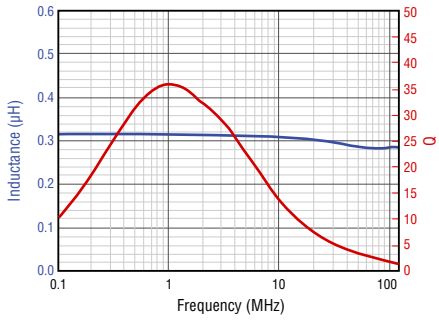

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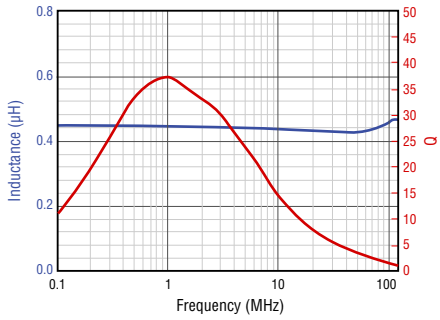
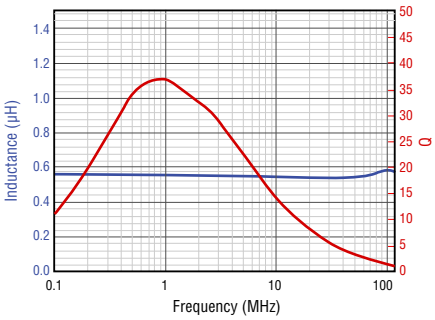


SRP2010PA-R56M



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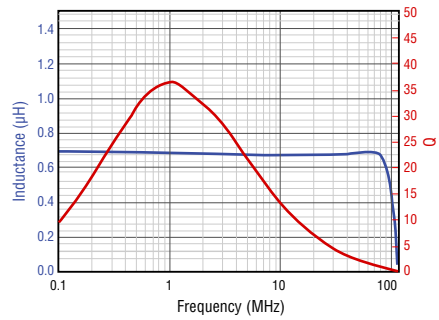

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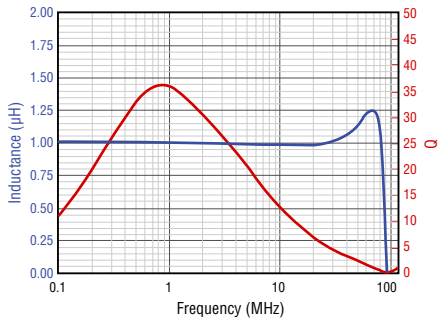

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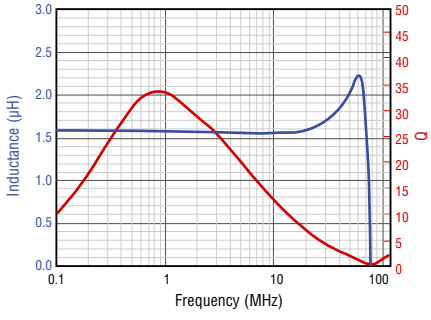
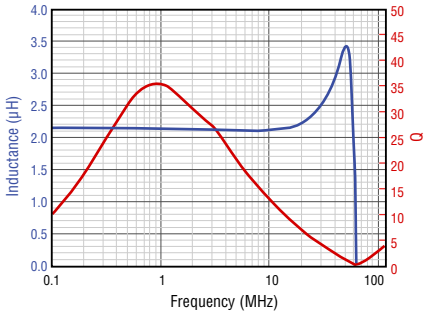


SRP2010PA-2R2M



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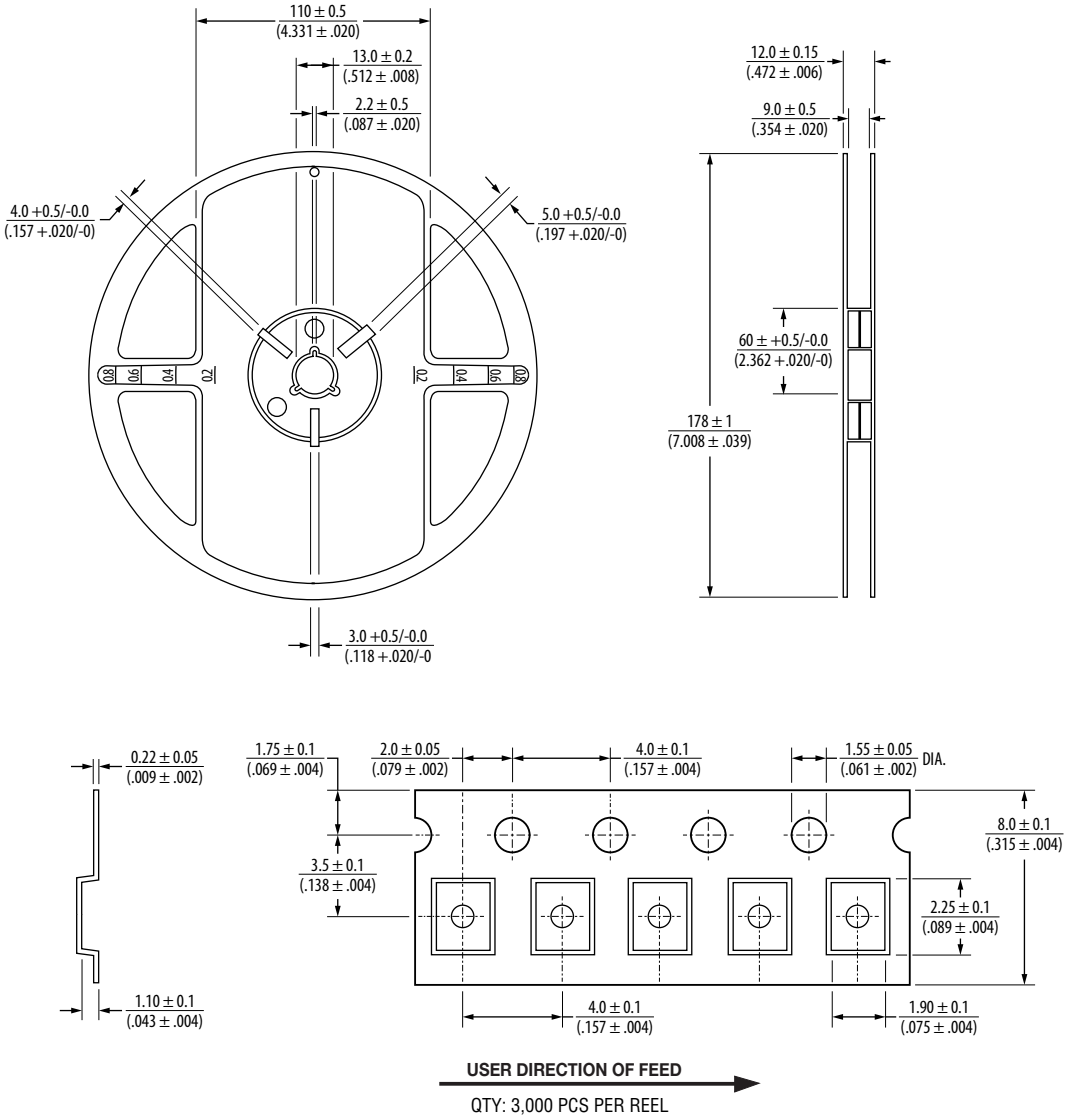
Packaging Specifications



DIMENSIONS: MM / (INCHES)

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K2540 05/26R

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