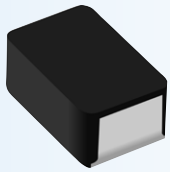
BOURNS®

SRP201210V Series

Shielded Power Inductors



*RoHS COMPLIANT & **HALOGEN FREE

Features

- Magnetically-shielded construction provides low radiation
- High current
- Low DC resistance
- Low profile
- RoHS compliant* and halogen free**

Applications

- Wearable devices
- Smartphones / tablets
- IoT modules
- Portable / battery-powered electronics
- Solid state drives

Sustainability

- Small size reduces material use
- Recyclable ESD-safe packaging
- ISO 14001, low-impact energy
- Responsibly sourced and produced
- Meets EU 94/62/EC standards

Product Overview

The SRP201210V Series Shielded Power Inductors feature a compact, low profile design with a maximum height of 1.0 mm, making them ideal for space-constrained applications. The series utilizes a metal-alloy powder core to deliver high current capability, while its shielded construction helps reduce magnetic field radiation.

This series offers a wide operating temperature range from -55 °C to +125 °C. With its compact footprint and low-profile design, the SRP201210V Series is well suited for wearable devices, smartphones and tablets, IoT modules, portable and battery-powered electronics, and SSD applications.

Electrical Specifications @ 25 °C

Bourns Part Number	Inductance @ 1 MHz / 1 V		Q Typ.	SRF (MHz) Typ.	ACR (mΩ) @ 1 MHz / 1 V Max.	DCR (mΩ) Typ.	DCR (mΩ) Max.	I_{rms} (A) Typ.	I_{rms} (A) Max.	I_{sat} (A) Typ.	I_{sat} (A) Max.
	L (µH)	Tol. %									
SRP201210V-R24M	0.24	±20	25	>120	80	13	17	5.9	5.2	7.6	7.0
SRP201210V-R33M	0.33	±20	25	>120	115	18	20	5.3	4.7	6.5	6.0
SRP201210V-R47M	0.47	±20	25	120	170	21	24	4.7	4.2	5.5	5.0

Notes:
1. The part temperature (ambient + temp. rise) should not exceed 125 °C under worst case operating conditions. PCB land pattern, trace size - thick, circuit design and proximity to other components are all factors will affect the temperature performance of the device. Therefore, it should be approved in application conditions and end product.
2. Rated voltage: 20 VDC max.

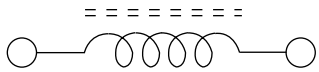
General Specifications

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

Materials

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

Electrical Schematic



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.

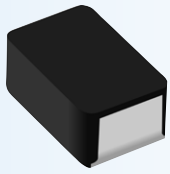
Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.

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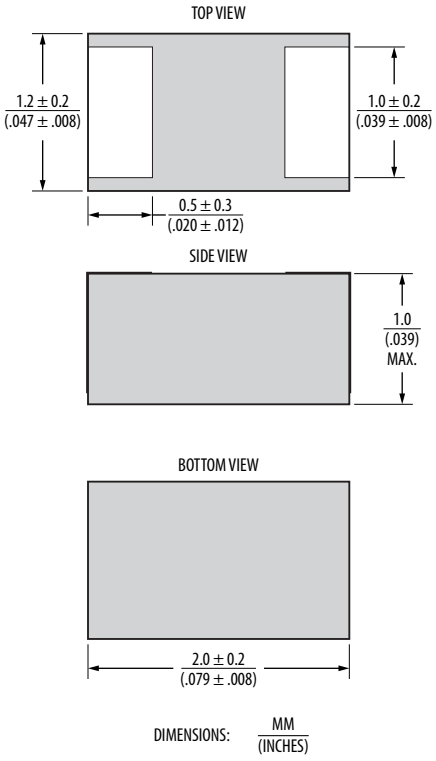
SRP201210V Series

Shielded Power Inductors

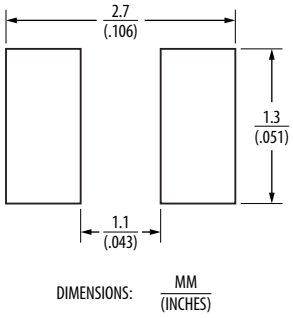


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Product Dimensions



Recommended Layout



How to Order

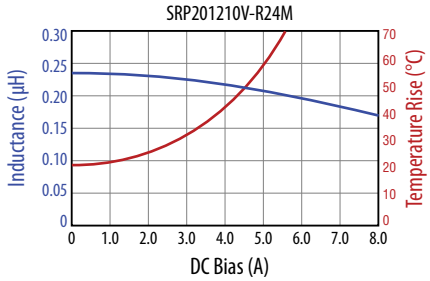
SRP201210V - R24 M

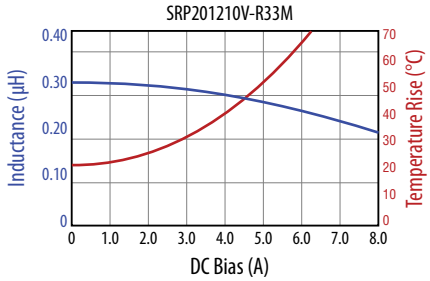
Model

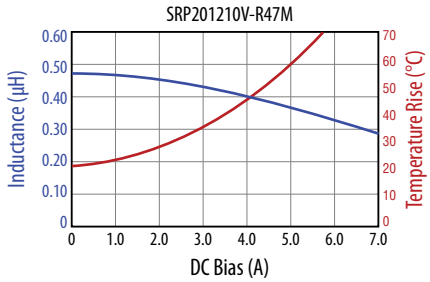
Value Code

Tolerance
M = ±20 %

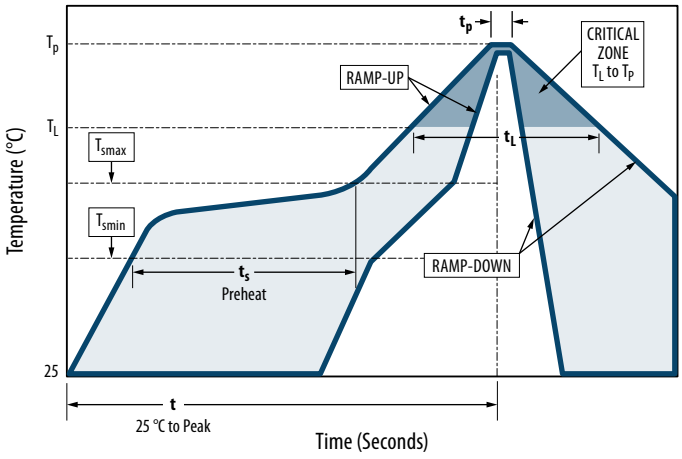
Typical Current Characteristics







Soldering Profile



Note:
The part 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 - 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.
Liquidus temperature (T_L)	217 °C
Time (t_L) maintained above T_L	60-150 seconds
Classification temperature (T_c)	260 +0/-5 °C
Time (t_p) at T_c - 5 °C (T_p should be equal to or less than T_c)	20 ~ 40 seconds
Ramp-Down Rate (T_p to T_L)	6 °C/second max.
Time 25 °C to Peak Temperature	8 minutes max.

Refer to IPC-020c-5-1

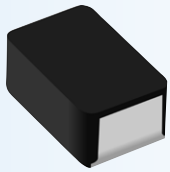
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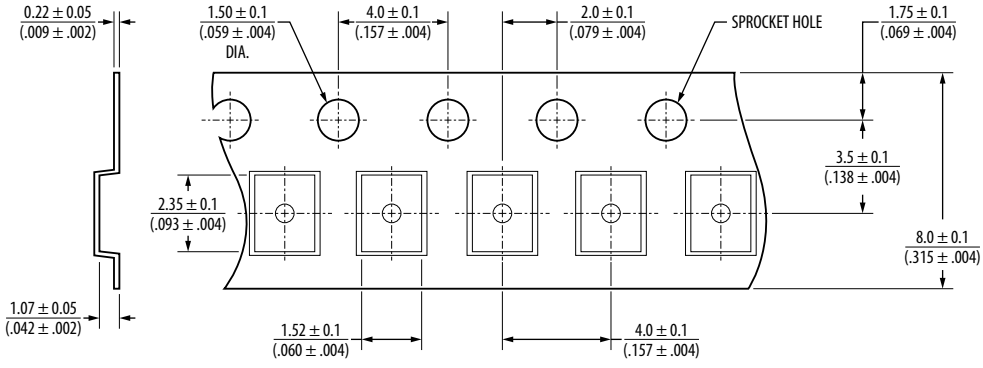
SRP201210V Series

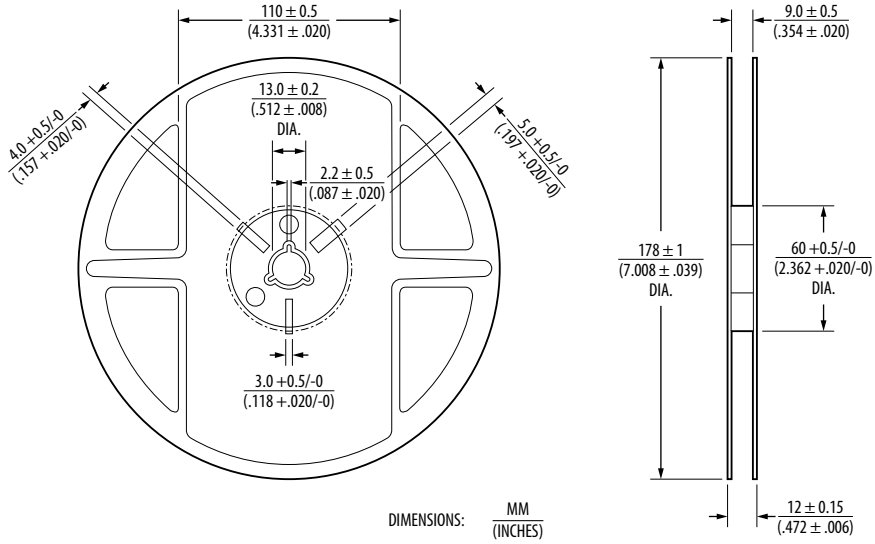
Shielded Power Inductors



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Packaging Specifications





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