

## Features

- Shielded construction for low radiation
- Metal alloy powder core for high saturation current
- Developed for use with Texas Instruments' Model BQ25638
- RoHS compliant\* and halogen free\*\*

## Applications

- Wearable devices
- Laptops
- Smartphones

# SRP3212 Series - Shielded Power Inductors

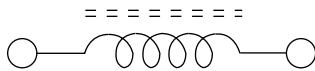
### Electrical Specifications @ 25 °C

Bourns Part No.	Inductance @ 100 kHz / 1 V		Q Typ. @ 100 kHz	SRF (MHz) Typ.	DCR (mΩ) Typ.	DCR (mΩ) Max.	I <sub>rms</sub> (A) Typ.	I <sub>sat</sub> (A) Typ.
	L (μH)	Tol. %						
SRP3212-R33M	0.33	20	3	132	10	13	8.5	9.1
SRP3212-R47M	0.47	20	3	100	16	19.2	7.0	8.2
SRP3212-R68M	0.68	20	5	83	20	24	6.2	7.3
SRP3212-1R0M	1.0	20	5	63	26	32	5.5	6.5
SRP3212-1R5M	1.5	20	5	43	44	53	4.4	5.0
SRP3212-2R2M	2.2	20	5	41	61	73	4.0	4.8
SRP3212-3R3M	3.3	20	5	28	87	101	3.1	3.4
SRP3212-4R7M	4.7	20	5	25	122	146	2.2	2.8

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	L (μH)	Tol. %						
SRP3212-1R0MR21 <sup>1</sup>	1.0	20	15	50	19	21	5.5	7.7

<sup>1</sup>IC reference design TI BQ25638

### Electrical Schematic



### How to Order

**SRP3212 - R33M**

Model \_\_\_\_\_  
Value Code (see table) \_\_\_\_\_

### Additional Information

Click these links for more information:



### General Specifications

Operating Temperature

..... -40 °C to +125 °C  
(Temperature rise included)

Storage Temperature (Component)

..... -40 °C to +125 °C

Temperature Rise ... 40 °C at rated I<sub>rms</sub><sup>1</sup>  
Rated Current

..... Inductance drops 30 % at I<sub>sat</sub>

Moisture Sensitivity Level..... 1

ESD Classification (HBM)..... N/A

<sup>1</sup> Circuit design, component, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

### Materials

Core.....Metal alloy powder

Wire .....Enameled copper

Terminal Finish .....Ag/Ni/Sn

Packaging..... 2000 pcs. per 7-inch reel



**WARNING Cancer and Reproductive Harm**

[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

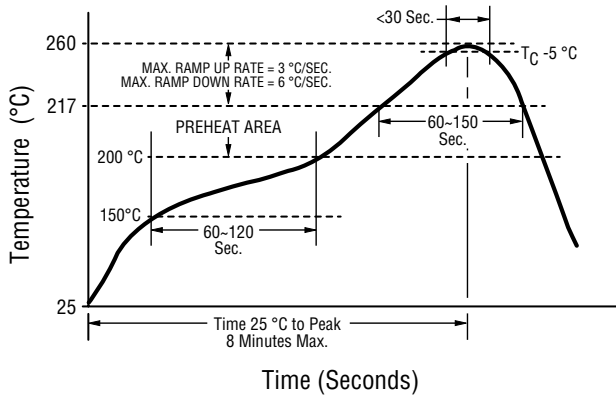
\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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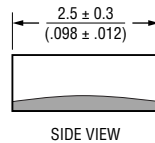
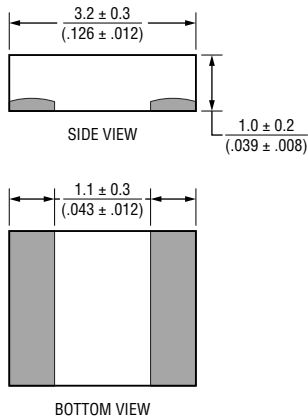


## Soldering Profile



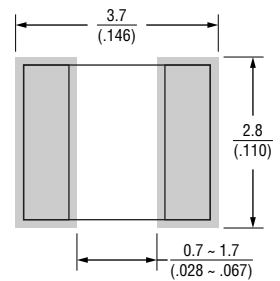
Profile Feature	Pb Free Assembly
Preheat	
- Temperature Min. ( $T_{smin}$ )	150 °C
- Temperature Max. ( $T_{smax}$ )	200 °C
- Time( $t_s$ ) from $T_{smin}$ to $T_{smax}$	60-120 seconds
Ramp-up Rate ( $T_L$ to $T_p$ )	3 °C/second max.
Liquidous temperature ( $T_L$ )	217 °C
Time ( $t_L$ ) maintained above $T_L$	60-150 seconds
Peak package body temperature ( $T_p$ )	260 °C
Time within 5 °C of Actual 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.

## Product Dimensions



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

## Recommended Layout



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

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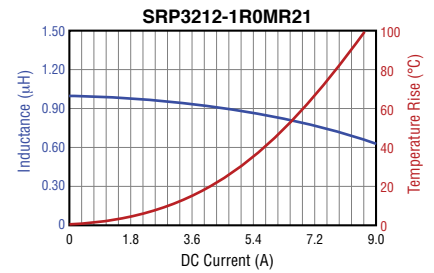
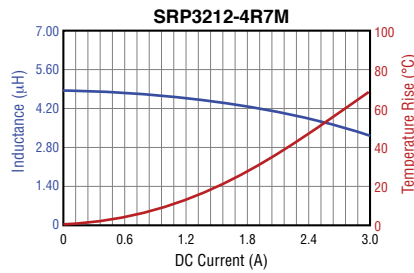
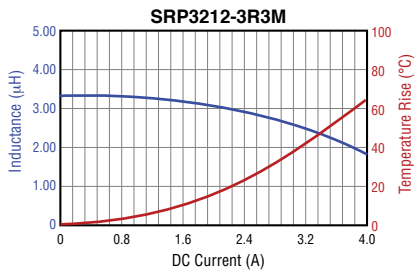
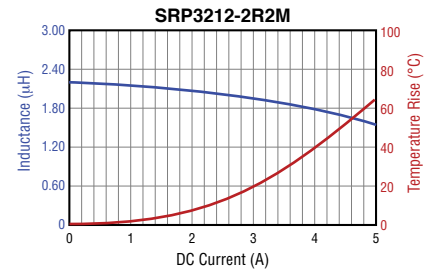
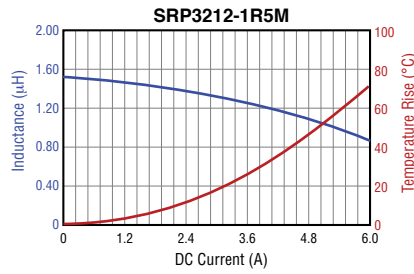
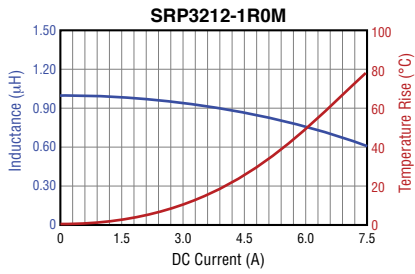
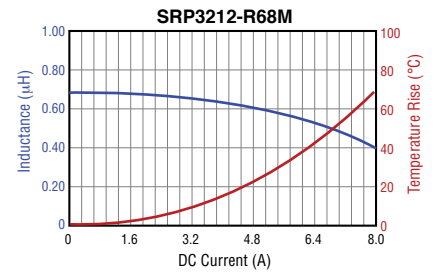
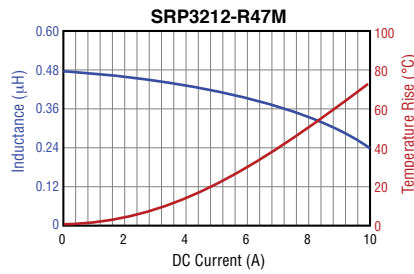
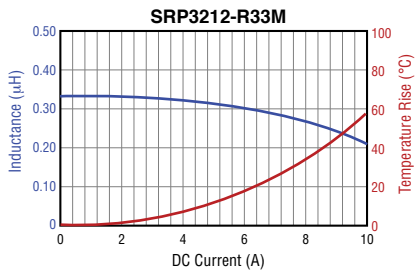
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## L vs. I Charts



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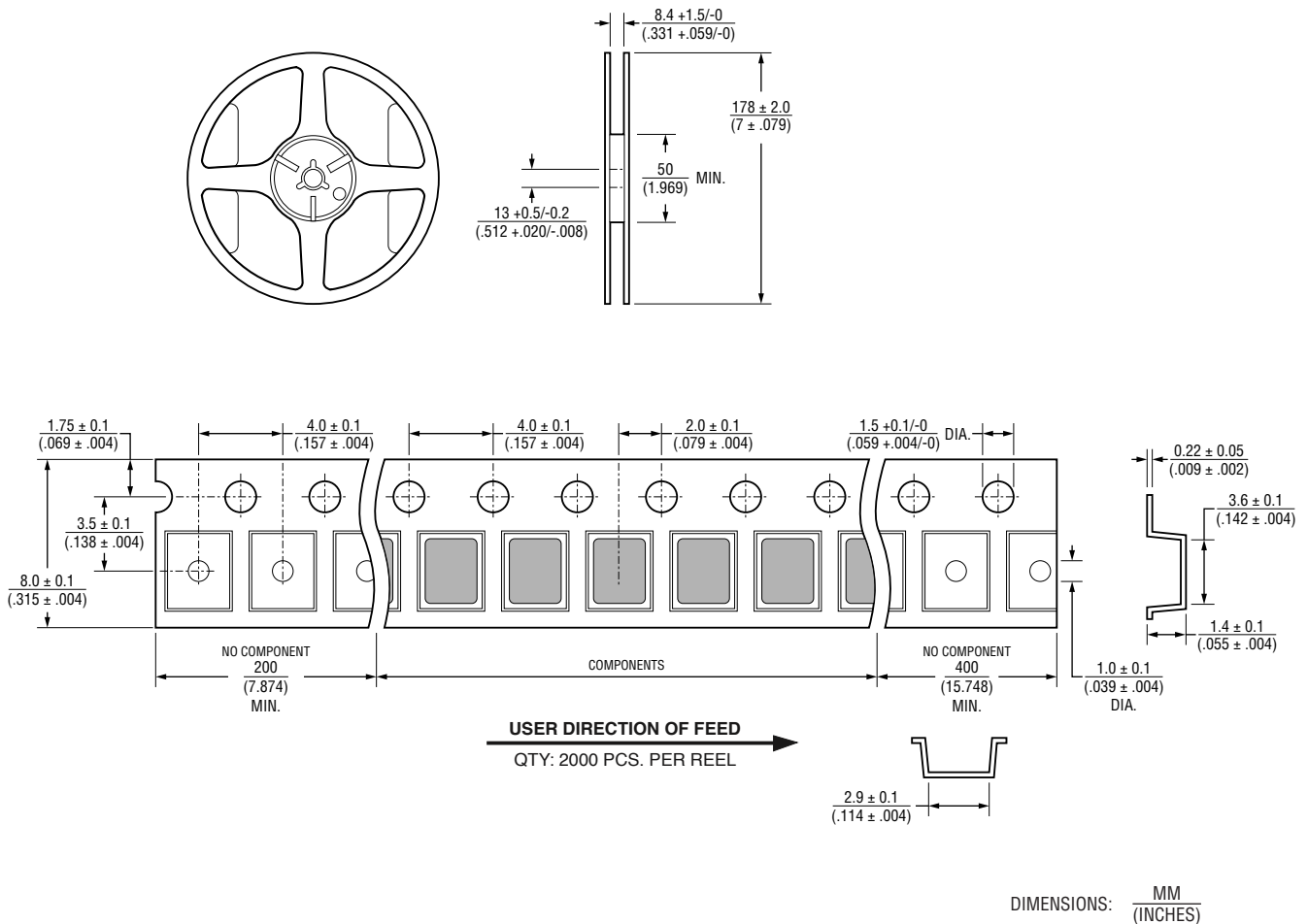
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# SRP3212 Series - Shielded Power Inductors

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## Packaging Specifications



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Asia-Pacific: Tel: +886-2 2562-4117 • Email: [asiacus@bourns.com](mailto:asiacus@bourns.com)

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