



## Features

- Formerly J. W. Miller® model
- Height of 4.0 mm max.
- Current rating up to 3.5 A
- RoHS compliant\*

## Applications

- Input/output of DC/DC converters
- Power supplies for:
  - Portable communication equipment
  - Camcorders
  - LCD TVs

# PM638S Series - Shielded SMD Power Inductor

## Electrical Specifications

| Bourns Part No. | Inductance 100 kHz |        | Q Ref. | Test Frequency (MHz) | SRF Typ. (MHz) | DCR Max. (mΩ) | Irms (A) | Isat (A) |
|-----------------|--------------------|--------|--------|----------------------|----------------|---------------|----------|----------|
|                 | (μH)               | Tol. % |        |                      |                |               |          |          |
| PM638S-3R3-RC   | 3.3                | ±30    | 9.8    | 7.96                 | 75.9           | 20            | 3.50     | 3.60     |
| PM638S-5R0-RC   | 5.0                | ±30    | 8.9    | 7.96                 | 42.6           | 24            | 2.90     | 2.95     |
| PM638S-6R2-RC   | 6.2                | ±30    | 9.0    | 7.96                 | 42.3           | 27            | 2.50     | 2.60     |
| PM638S-7R4-RC   | 7.4                | ±30    | 7.5    | 7.96                 | 32.9           | 31            | 2.30     | 2.55     |
| PM638S-8R2-RC   | 8.2                | ±30    | 7.4    | 7.96                 | 29.6           | 34            | 2.20     | 2.45     |
| PM638S-8R7-RC   | 8.7                | ±30    | 7.3    | 7.96                 | 27.5           | 34            | 2.20     | 2.35     |
| PM638S-100-RC   | 10                 | ±30    | 8.8    | 2.52                 | 24.9           | 38            | 2.00     | 2.05     |
| PM638S-120-RC   | 12                 | ±30    | 8.3    | 2.52                 | 17.9           | 53            | 1.70     | 1.95     |
| PM638S-150-RC   | 15                 | ±30    | 8.6    | 2.52                 | 18.0           | 57            | 1.60     | 1.90     |
| PM638S-180-RC   | 18                 | ±30    | 8.0    | 2.52                 | 13.8           | 92            | 1.50     | 1.70     |
| PM638S-220-RC   | 22                 | ±30    | 8.8    | 2.52                 | 13.9           | 96            | 1.30     | 1.60     |
| PM638S-270-RC   | 27                 | ±30    | 7.7    | 2.52                 | 12.5           | 109           | 1.20     | 1.30     |
| PM638S-330-RC   | 33                 | ±30    | 8.6    | 2.52                 | 12.5           | 124           | 1.10     | 1.20     |
| PM638S-390-RC   | 39                 | ±30    | 8.3    | 2.52                 | 11.8           | 138           | 1.00     | 1.10     |
| PM638S-470-RC   | 47                 | ±30    | 8.5    | 2.52                 | 10.4           | 155           | 0.95     | 1.00     |
| PM638S-560-RC   | 56                 | ±30    | 8.2    | 2.52                 | 8.8            | 202           | 0.85     | 0.90     |
| PM638S-680-RC   | 68                 | ±30    | 7.4    | 2.52                 | 7.5            | 234           | 0.75     | 0.87     |
| PM638S-820-RC   | 82                 | ±30    | 7.6    | 2.52                 | 7.6            | 324           | 0.70     | 0.75     |
| PM638S-101-RC   | 100                | ±30    | 6.7    | 0.796                | 6.2            | 358           | 0.65     | 0.68     |

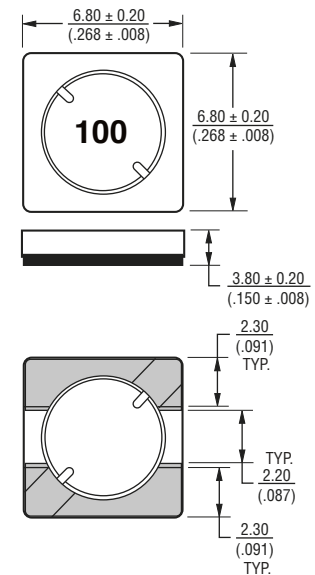
## General Specifications

Test Voltage ..... 0.1 V, 100 KHz  
 Reflow Soldering .... 230 °C; 50 sec max.  
 Operating Temp. .... -40 °C to +125 °C  
 (Temperature rise included)  
 Storage Temperature .. -40 °C to +125 °C  
 Resistance to Soldering Heat  
 ..... 260 °C for 10 sec.  
 Moisture Sensitivity Level ..... 2  
 ESD Classification (HBM) ..... N/A

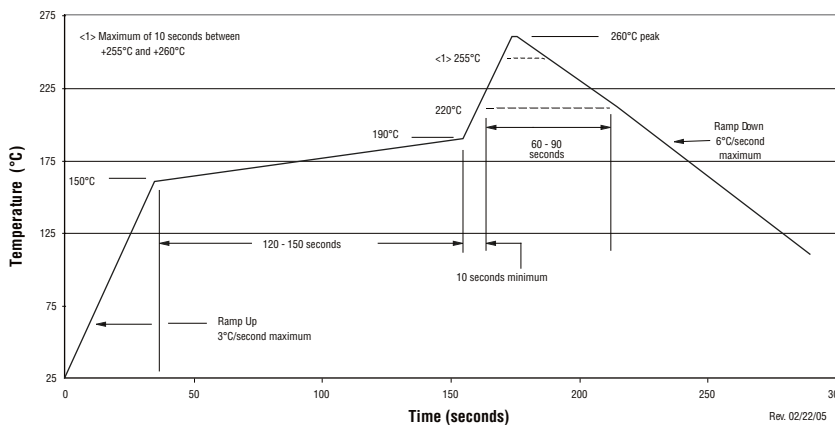
## Materials

Core Material ..... Ferrite  
 Wire ..... Enamelled Copper  
 Adhesive ..... Epoxy Resin  
 Terminal ..... Ag/Ni/Sn  
 Rated Current ..... Ind. drop of 35 % typ.  
 at Isat  
 Temperature Rise ..... 30 °C typ. at Irms  
 Packaging ..... 1000 pcs. per reel

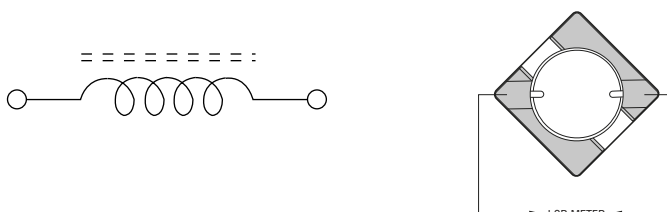
## Product Dimensions



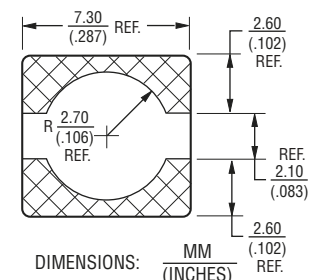
## Soldering Profile



## Electrical Schematic



## Recommended Layout



**WARNING Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)**

\* RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

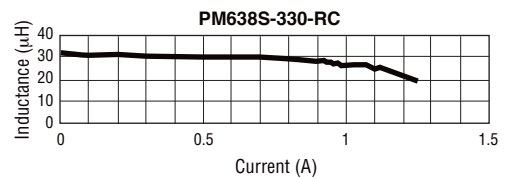
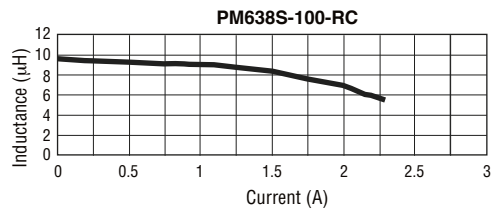
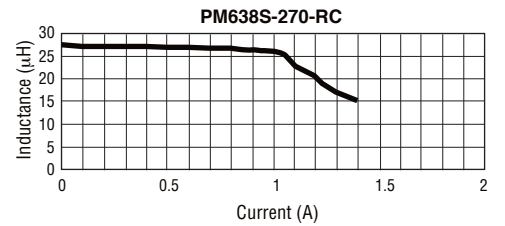
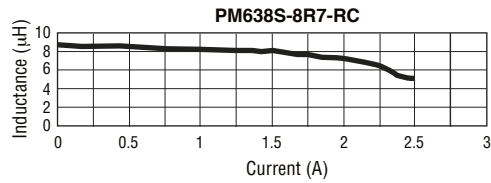
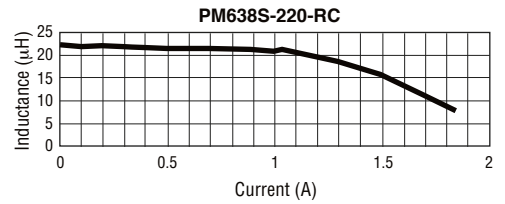
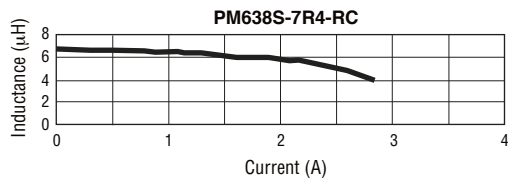
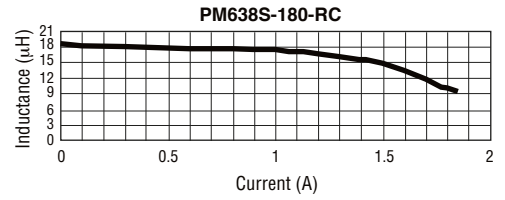
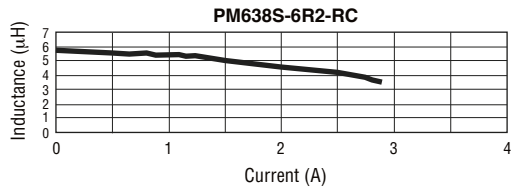
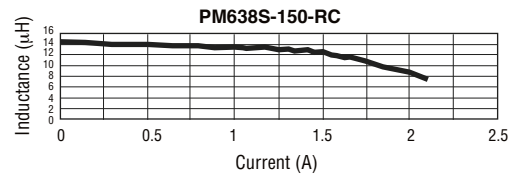
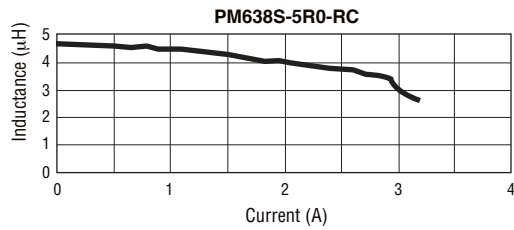
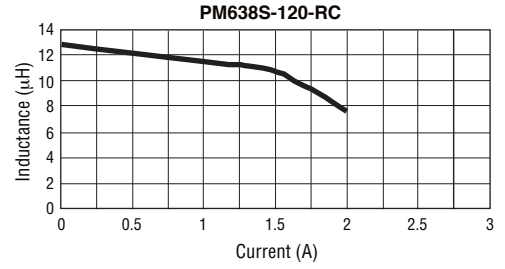
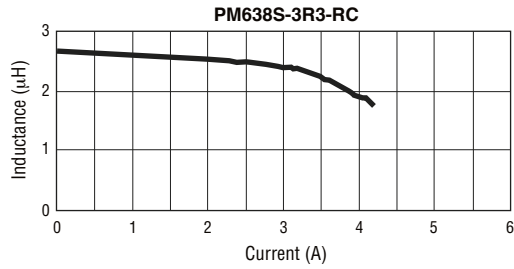
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# PM638S Series - Shielded SMD Power Inductor

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## Inductance vs. Current



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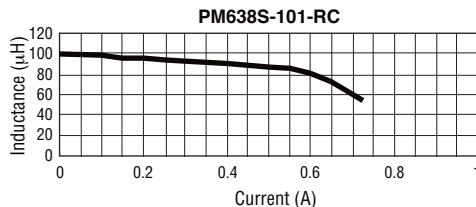
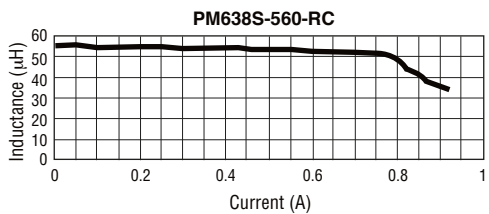
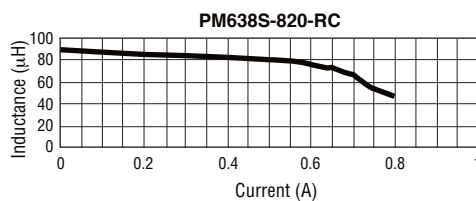
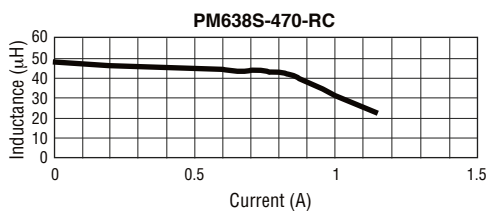
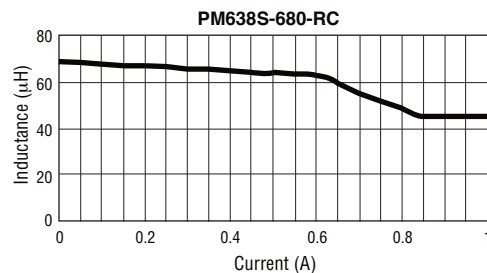
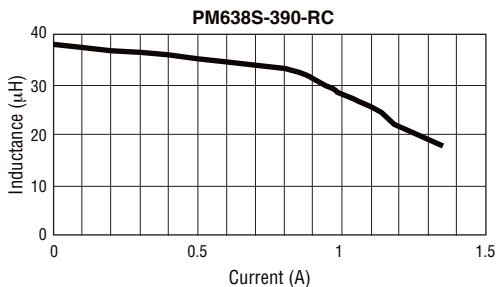
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# PM638S Series - Shielded SMD Power Inductor

**BOURNS®**

## Inductance vs. Current



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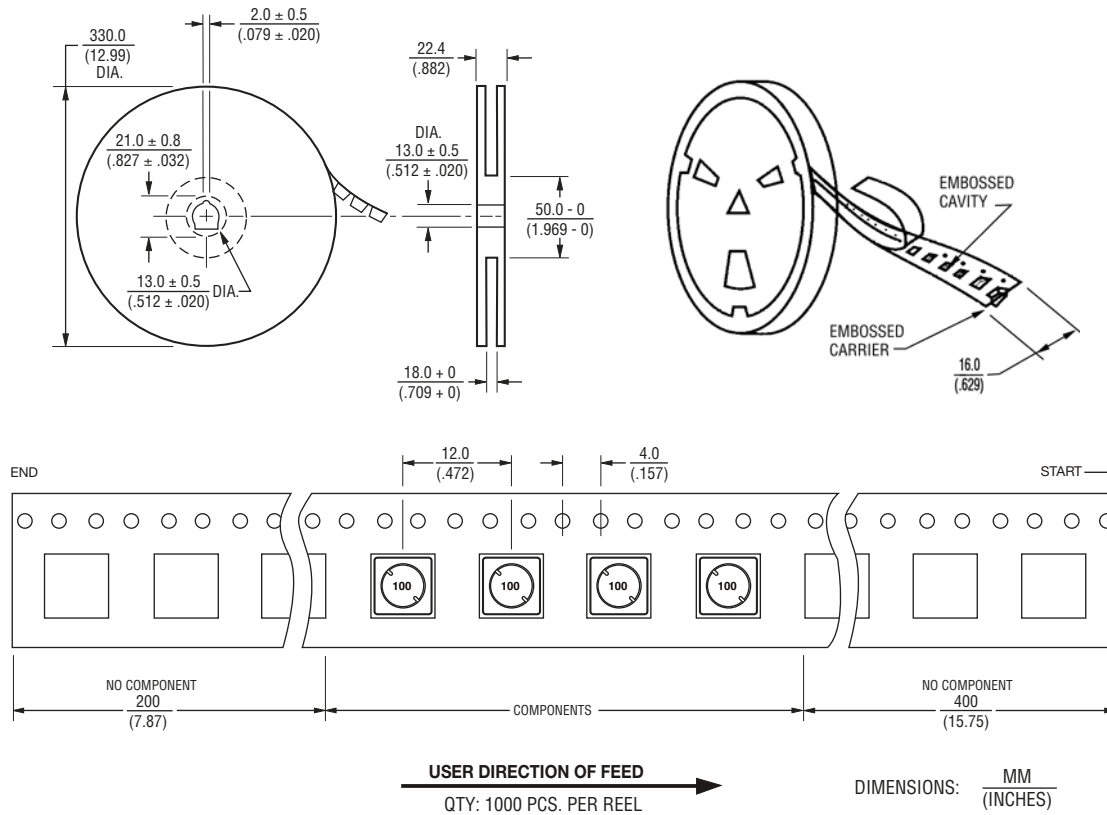
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# PM638S Series - Shielded SMD Power Inductor

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