



## Features

- Formerly **J. W. Miller**® model
- Available in E12 values
- Inductance as low as 1.2  $\mu\text{H}$
- Current rating to 6.6 amps
- RoHS compliant\*

## Applications

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

# PM127SH Series - Shielded SMD Power Inductors

## Electrical Specifications

| Bourns Part No. | Inductance 100 kHz |            | Q<br>Typ. | Test<br>Frequency<br>(MHz) | SRF<br>Typ.<br>(MHz) | RDC<br>Max.<br>(m $\Omega$ ) | I rms<br>Max.<br>(A) | I sat<br>Typ.<br>(A) |
|-----------------|--------------------|------------|-----------|----------------------------|----------------------|------------------------------|----------------------|----------------------|
|                 | ( $\mu\text{H}$ )  | Tol. %     |           |                            |                      |                              |                      |                      |
| PM127SH-1R2N-RC | 1.2                | -20 to +40 | 28        | 7.96                       | 83                   | 7.0                          | 9.80                 | 10.50                |
| PM127SH-2R4N-RC | 2.4                | -20 to +40 | 20        | 7.96                       | 45                   | 10.0                         | 9.20                 | 10.50                |
| PM127SH-3R5N-RC | 3.5                | -20 to +40 | 20        | 7.96                       | 36                   | 12.0                         | 8.80                 | 9.80                 |
| PM127SH-4R7N-RC | 4.7                | -20 to +40 | 22        | 7.96                       | 30                   | 15.5                         | 8.20                 | 8.80                 |
| PM127SH-6R1N-RC | 6.1                | -20 to +40 | 20        | 7.96                       | 23                   | 18.0                         | 6.60                 | 7.80                 |
| PM127SH-7R6N-RC | 7.6                | -20 to +40 | 15        | 7.96                       | 21                   | 20.0                         | 5.90                 | 6.50                 |
| PM127SH-100M-RC | 10.0               | $\pm 20$   | 24        | 2.52                       | 17                   | 19.5                         | 6.00                 | 6.60                 |
| PM127SH-120M-RC | 12.0               | $\pm 20$   | 26        | 2.52                       | 15                   | 28.0                         | 5.60                 | 6.30                 |
| PM127SH-150M-RC | 15.0               | $\pm 20$   | 26        | 2.52                       | 13                   | 28.5                         | 5.20                 | 5.00                 |
| PM127SH-180M-RC | 18.0               | $\pm 20$   | 24        | 2.52                       | 12                   | 35.0                         | 4.80                 | 4.60                 |
| PM127SH-220M-RC | 22.0               | $\pm 20$   | 20        | 2.52                       | 11                   | 38.6                         | 4.30                 | 4.10                 |
| PM127SH-270M-RC | 27.0               | $\pm 20$   | 26        | 2.52                       | 10                   | 52.0                         | 3.90                 | 3.70                 |
| PM127SH-330M-RC | 33.0               | $\pm 20$   | 28        | 2.52                       | 9.5                  | 57.0                         | 3.50                 | 3.30                 |
| PM127SH-390M-RC | 39.0               | $\pm 20$   | 24        | 2.52                       | 8.5                  | 70.0                         | 3.20                 | 3.10                 |
| PM127SH-470M-RC | 47.0               | $\pm 20$   | 24        | 2.52                       | 7.5                  | 80.0                         | 2.90                 | 2.80                 |
| PM127SH-560M-RC | 56.0               | $\pm 20$   | 24        | 2.52                       | 7.0                  | 100.0                        | 2.60                 | 2.50                 |
| PM127SH-680M-RC | 68.0               | $\pm 20$   | 20        | 2.52                       | 6.5                  | 120.0                        | 2.40                 | 2.30                 |
| PM127SH-820M-RC | 82.0               | $\pm 20$   | 20        | 0.796                      | 5.0                  | 130.0                        | 2.30                 | 2.20                 |
| PM127SH-101M-RC | 100.0              | $\pm 20$   | 18        | 0.796                      | 4.5                  | 150.0                        | 2.10                 | 2.00                 |
| PM127SH-121M-RC | 120.0              | $\pm 20$   | 16        | 0.796                      | 4.3                  | 200.0                        | 1.95                 | 1.95                 |
| PM127SH-151M-RC | 150.0              | $\pm 20$   | 24        | 0.796                      | 4.1                  | 270.0                        | 1.85                 | 1.90                 |
| PM127SH-181M-RC | 180.0              | $\pm 20$   | 24        | 0.796                      | 4.0                  | 300.0                        | 1.75                 | 1.88                 |
| PM127SH-221M-RC | 220.0              | $\pm 20$   | 24        | 0.796                      | 3.4                  | 400.0                        | 1.60                 | 1.70                 |
| PM127SH-271M-RC | 270.0              | $\pm 20$   | 20        | 0.796                      | 3.1                  | 450.0                        | 1.20                 | 1.60                 |
| PM127SH-331M-RC | 330.0              | $\pm 20$   | 18        | 0.796                      | 2.9                  | 600.0                        | 1.10                 | 1.40                 |
| PM127SH-391M-RC | 390.0              | $\pm 20$   | 20        | 0.796                      | 2.7                  | 680.0                        | 1.60                 | 1.40                 |
| PM127SH-471M-RC | 470.0              | $\pm 20$   | 20        | 0.796                      | 2.2                  | 880.0                        | 0.90                 | 1.25                 |
| PM127SH-561M-RC | 560.0              | $\pm 20$   | 20        | 0.796                      | 2.0                  | 960.0                        | 0.80                 | 1.15                 |
| PM127SH-681M-RC | 680.0              | $\pm 20$   | 26        | 0.796                      | 1.7                  | 1300.0                       | 0.75                 | 0.97                 |
| PM127SH-821M-RC | 820.0              | $\pm 20$   | 20        | 0.796                      | 1.4                  | 1500.0                       | 0.70                 | 0.94                 |
| PM127SH-102M-RC | 1000.0             | $\pm 20$   | 40        | 0.252                      | 1.3                  | 1700.0                       | 0.68                 | 0.80                 |

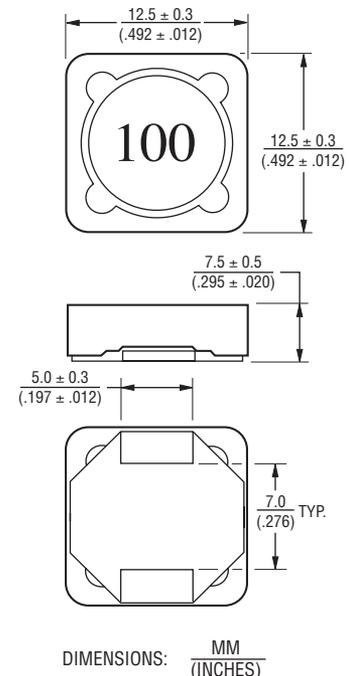
## General Specifications

Test Voltage ..... 0.1 V  
 Operating Temperature ..... -40 °C to +125 °C  
 (Temperature rise included)  
 Storage Temperature ..... -40 °C to +125 °C  
 Moisture Sensitivity Level ..... 1  
 ESD Classification (HBM) ..... N/A

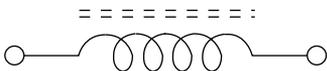
## Materials

Core ..... Ferrite DR and RI  
 Wire ..... Enameled copper wire 130  
 Terminal Finish ..... Sn  
 Temperature Rise ..... 40 °C typ.  
 at rated I rms  
 Inductance drop ..... 25 % typ. at I sat  
 Packaging ..... 400 pcs. per reel

## Product Dimensions



## Electrical Schematic

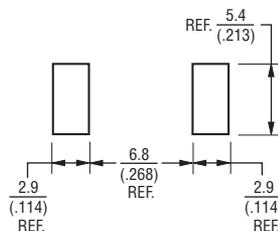


## Additional Information

Click these links for more information:



## Recommended Layout



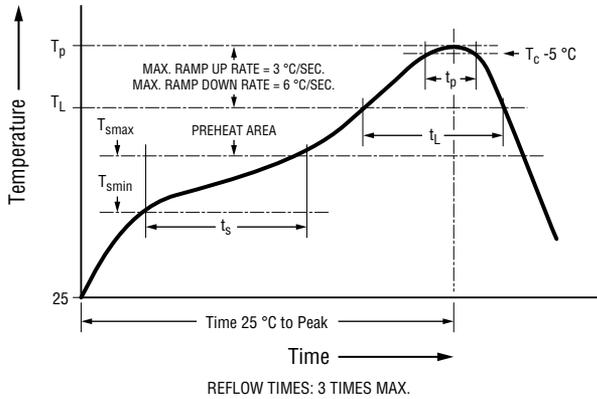
**CALIFORNIA WARNING:** Can expose you to lead, a carcinogen and reproductive toxicant.  
 See [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\*RoHS Directive 2015/863, Mar 31, 2015 and Annex.  
 Specifications are subject to change without notice.  
 Users should verify actual device performance in their specific applications.  
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# PM127SH Series - Shielded SMD Power Inductors

**BOURNS®**

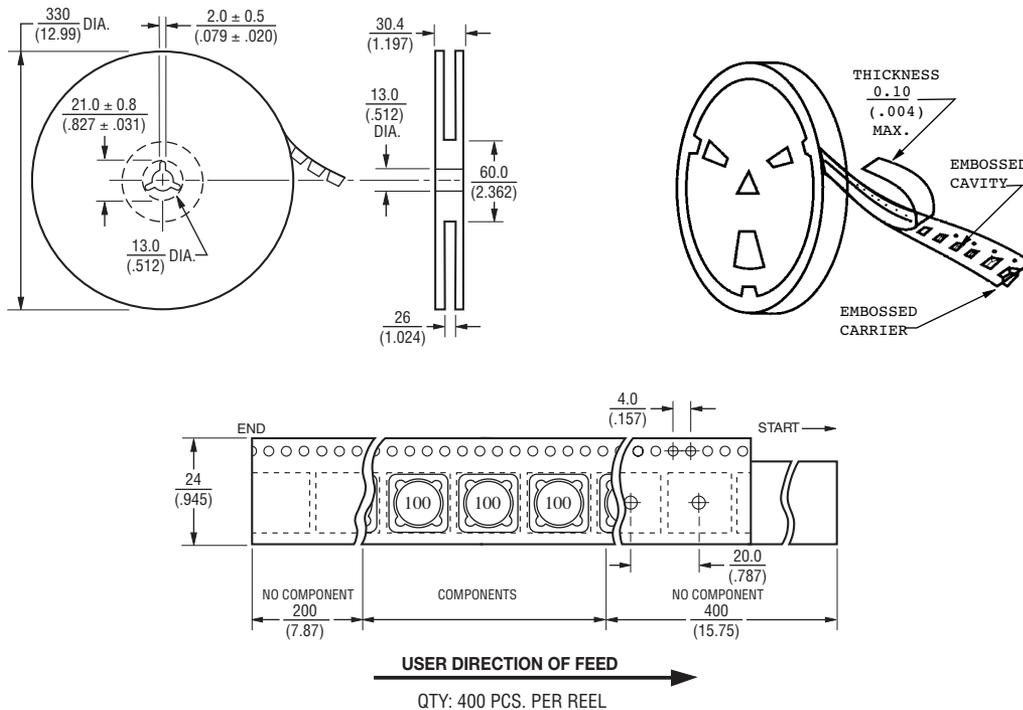
## Soldering Profile



| Profile Feature   | Pb Free Assembly                   |
|---|------------------------------------|
| Preheat <ul style="list-style-type: none"> <li>- Temperature Min. (<math>T_{smin}</math>)</li> <li>- Temperature Max. (<math>T_{smax}</math>)</li> <li>- Time (<math>t_s</math>) from <math>T_{smin}</math> to <math>T_{smax}</math></li> </ul> | 150 °C<br>200 °C<br>60-120 seconds |
| Ramp-up Rate ( $T_L$ to $T_p$ )   | 3 °C/second max.                   |
| Liquidous temperature ( $T_L$ )<br>Time ( $t_l$ ) maintained above $T_L$  | 217 °C<br>60-150 seconds           |
| Classification temperature ( $T_c$ )  | 245 °C                             |
| Time ( $t_p$ ) at $T_c - 5$ °C<br>( $T_p$ should be equal to or less than $T_c$ )   | < 30 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/JEDEC J-STD-020E.

## Packaging Specifications



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

REV. 03/26

Specifications are subject to change without notice.

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