



## Features

- Available in E12 series
- Low profile of only 3.2 mm
- Low inductance values
- RoHS compliant\*

## Applications

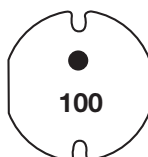
- Input/output of DC/DC converters
- Power supplies for:
  - Portable communication equipment
  - Camcorders
  - LCD TVs
  - Car radios

# SDR0403 Series - SMD Power Inductors

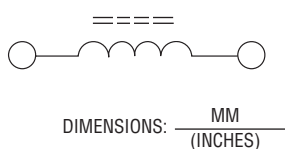
## Electrical Specifications

| Bourns Part No. | Inductance 1kHz |          | Q Ref. | Test Frequency (MHz) | SRF Min. (MHz) | RDC Max. ( $\Omega$ ) | I rms Max. (A) | I sat Typ. (A) |
|-----------------|-----------------|----------|--------|----------------------|----------------|-----------------------|----------------|----------------|
|                 | ( $\mu$ H)      | Tol. %   |        |                      |                |                       |                |                |
| SDR0403-1R0ML   | 1.0             | $\pm 20$ | 28     | 7.96                 | 150            | 0.033                 | 3.80           | 5.50           |
| SDR0403-1R4ML   | 1.4             | $\pm 20$ | 28     | 7.96                 | 110            | 0.038                 | 3.30           | 5.10           |
| SDR0403-1R8ML   | 1.8             | $\pm 20$ | 28     | 7.96                 | 90             | 0.042                 | 2.91           | 4.40           |
| SDR0403-2R2ML   | 2.2             | $\pm 20$ | 28     | 7.96                 | 80             | 0.047                 | 2.60           | 3.90           |
| SDR0403-2R7ML   | 2.7             | $\pm 20$ | 28     | 7.96                 | 75             | 0.052                 | 2.43           | 3.50           |
| SDR0403-3R3ML   | 3.3             | $\pm 20$ | 28     | 7.96                 | 65             | 0.058                 | 2.15           | 3.00           |
| SDR0403-3R9ML   | 3.9             | $\pm 20$ | 28     | 7.96                 | 55             | 0.076                 | 1.98           | 2.70           |
| SDR0403-4R7ML   | 4.7             | $\pm 20$ | 28     | 7.96                 | 50             | 0.094                 | 1.70           | 2.60           |
| SDR0403-5R6ML   | 5.6             | $\pm 20$ | 28     | 7.96                 | 45             | 0.10                  | 1.60           | 2.40           |
| SDR0403-6R8ML   | 6.8             | $\pm 20$ | 28     | 7.96                 | 40             | 0.12                  | 1.41           | 2.10           |
| SDR0403-8R2ML   | 8.2             | $\pm 20$ | 28     | 7.96                 | 36             | 0.13                  | 1.26           | 1.90           |
| SDR0403-100ML   | 10              | $\pm 20$ | 28     | 2.52                 | 33             | 0.18                  | 1.15           | 1.70           |
| SDR0403-120ML   | 12              | $\pm 20$ | 28     | 2.52                 | 30             | 0.21                  | 1.05           | 1.60           |
| SDR0403-150ML   | 15              | $\pm 20$ | 28     | 2.52                 | 28             | 0.24                  | 0.92           | 1.40           |
| SDR0403-180ML   | 18              | $\pm 20$ | 25     | 2.52                 | 23             | 0.34                  | 0.84           | 1.30           |
| SDR0403-220ML   | 22              | $\pm 20$ | 25     | 2.52                 | 20             | 0.38                  | 0.76           | 1.20           |
| SDR0403-270KL   | 27              | $\pm 10$ | 23     | 2.52                 | 17             | 0.52                  | 0.71           | 1.00           |
| SDR0403-330KL   | 33              | $\pm 10$ | 23     | 2.52                 | 15             | 0.54                  | 0.64           | 0.99           |
| SDR0403-390KL   | 39              | $\pm 10$ | 20     | 2.52                 | 14             | 0.59                  | 0.59           | 0.92           |
| SDR0403-470KL   | 47              | $\pm 10$ | 20     | 2.52                 | 13             | 0.84                  | 0.54           | 0.78           |
| SDR0403-560KL   | 56              | $\pm 10$ | 20     | 2.52                 | 12             | 0.94                  | 0.50           | 0.74           |
| SDR0403-680KL   | 68              | $\pm 10$ | 20     | 2.52                 | 11             | 1.12                  | 0.46           | 0.68           |
| SDR0403-820KL   | 82              | $\pm 10$ | 25     | 2.52                 | 10             | 1.27                  | 0.42           | 0.58           |
| SDR0403-101KL   | 100             | $\pm 10$ | 35     | 0.796                | 9              | 1.90                  | 0.35           | 0.51           |
| SDR0403-121KL   | 120             | $\pm 10$ | 50     | 0.796                | 8              | 2.20                  | 0.32           | 0.44           |
| SDR0403-151KL   | 150             | $\pm 10$ | 50     | 0.796                | 8              | 3.40                  | 0.26           | 0.40           |
| SDR0403-181KL   | 180             | $\pm 10$ | 50     | 0.796                | 5              | 3.90                  | 0.24           | 0.39           |
| SDR0403-221KL   | 220             | $\pm 10$ | 50     | 0.796                | 4              | 4.40                  | 0.22           | 0.33           |
| SDR0403-271KL   | 270             | $\pm 10$ | 45     | 0.796                | 3              | 5.00                  | 0.20           | 0.30           |
| SDR0403-331KL   | 330             | $\pm 10$ | 40     | 0.796                | 4              | 6.00                  | 0.17           | 0.25           |
| SDR0403-391KL   | 390             | $\pm 10$ | 40     | 0.796                | 3.5            | 6.40                  | 0.15           | 0.22           |
| SDR0403-471KL   | 470             | $\pm 10$ | 50     | 0.796                | 3              | 7.00                  | 0.13           | 0.19           |
| SDR0403-561KL   | 560             | $\pm 10$ | 50     | 0.796                | 2.8            | 7.80                  | 0.12           | 0.18           |
| SDR0403-681KL   | 680             | $\pm 10$ | 40     | 0.796                | 2.8            | 8.60                  | 0.11           | 0.16           |
| SDR0403-821KL   | 820             | $\pm 10$ | 38     | 0.796                | 2.5            | 12.00                 | 0.10           | 0.15           |
| SDR0403-102KL   | 1000            | $\pm 10$ | 38     | 0.252                | 2              | 14.00                 | 0.09           | 0.13           |

## Typical Part Marking



## Electrical Schematic



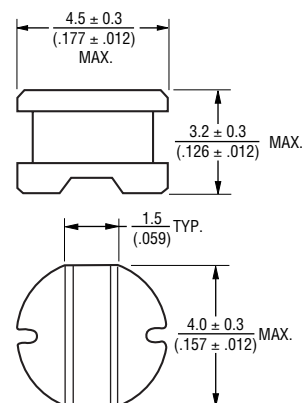
## General Specifications

Test Voltage.....1 V  
 Reflow Soldering...230 °C, 50 sec. max.  
 Operating Temperature...-40 °C to +125 °C  
 (Temperature rise included)  
 Storage Temperature...-40 °C to +125 °C  
 Resistance to Soldering Heat  
 .....260 °C for 5 sec.

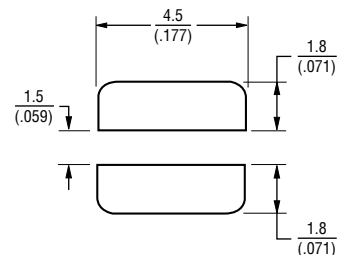
## Materials

Core .....Ferrite DR  
 Wire .....Enamelled copper wire 130  
 Terminal.....Ag/Ni/Sn  
 Rated Current  
 .....Ind. drop 10 % typ. at Isat  
 Temperature Rise .....40 °C max.  
 at rated I rms  
 Packaging .....2000 pcs. per reel

## Product Dimensions



## Recommended Layout



**BOURNS®**

Technical drawing of a 1000 Series 100 Micron Thick Carrier. The drawing includes a top view, a side view, and a cross-sectional view.

**Top View Dimensions:**

- Overall width:  $330.0$  (12.992) DIA.
- Inner hole diameter:  $21.0 \pm 0.8$  (.827  $\pm$  .031)
- Inner hole diameter:  $13.0 \pm 0.5$  (.512  $\pm$  .020)
- Inner hole diameter:  $18.4$  (.724)
- Inner hole diameter:  $13.0 \pm 0.5$  (.512  $\pm$  .020)
- Inner hole diameter:  $14.0$  (.551)
- Inner hole diameter:  $50.0$  (1.969)

**Side View Dimensions:**

- Thickness:  $0.10$  (.004) MAX.
- Embossed cavity: EMBOSSED CAVITY
- Embossed carrier: EMBOSSED CARRIER

**Cross-sectional View Dimensions:**

- Overall width:  $12$  (.472)
- Inner hole diameter:  $3.4$  (.134)

**Carrier Dimensions:**

- END
- START
- 100
- 1.5 (.059) DIA.
- 8.0 (.315)
- NO COMPONENT 160 (6.299)
- COMPONENTS 3200 (125.984)
- NO COMPONENT 400 (15.748)

**USER DIRECTION OF FEED**

QTY: 2000 PCS. PER REEL

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

**USER DIRECTION OF FEED**

QTY: 2000 PCS. PER REEL

# Mouser Electronics

Authorized Distributor

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## Bourns:

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