



## Features

- Unit height of 2.9 mm
- Inductance range: 1 to 1000  $\mu$ H
- Rated current up to 2.9 A
- RoHS compliant\*



This series is currently available but not recommended for new designs. The [SDR6603 Series](#) is a possible replacement - see [Product Obsolescence Memo](#) for more info.

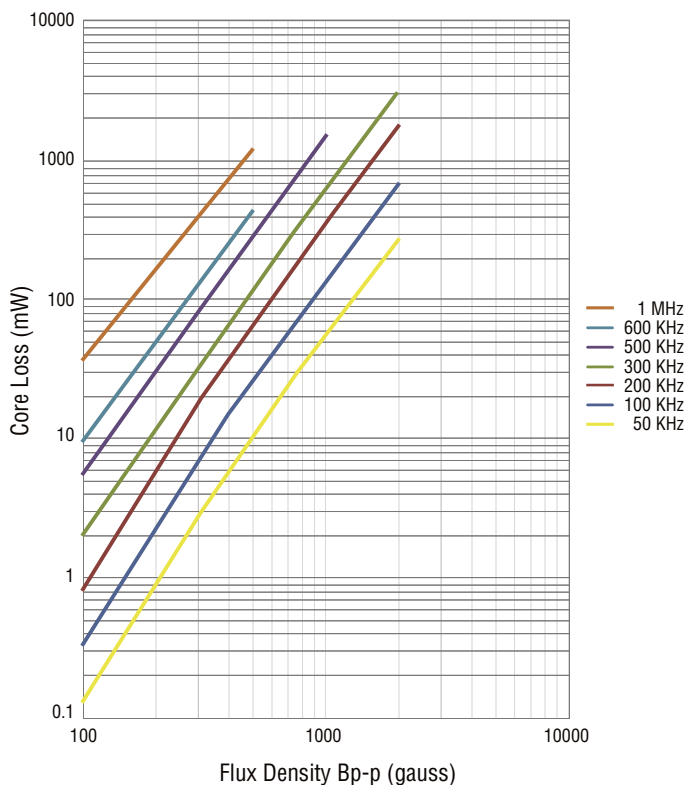
## SDE6603 Series - SMD Power Inductors

### Electrical Characteristics

| Bourns Part No. | Inductance<br>@ 100KHz<br>L ( $\mu$ H) $\pm 20$ % | SRF<br>(MHz)<br>Typ. | DCR<br>( $\Omega$ )<br>Max. | I rms<br>(A) | I sat<br>(A) | **K-Factor |
|-----------------|---------------------------------------------------|----------------------|-----------------------------|--------------|--------------|------------|
| SDE6603-1R0M    | 1.0                                               | 130                  | 0.05                        | 2.9          | 2.9          | 1000       |
| SDE6603-1R5M    | 1.5                                               | 115                  | 0.06                        | 2.8          | 2.6          | 867        |
| SDE6603-2R2M    | 2.2                                               | 90                   | 0.07                        | 2.4          | 2.3          | 684        |
| SDE6603-3R3M    | 3.3                                               | 70                   | 0.08                        | 2.0          | 2.0          | 520        |
| SDE6603-4R7M    | 4.7                                               | 50                   | 0.09                        | 1.5          | 1.5          | 448        |
| SDE6603-6R8M    | 6.8                                               | 45                   | 0.13                        | 1.4          | 1.2          | 371        |
| SDE6603-100M    | 10                                                | 35                   | 0.16                        | 1.1          | 1.1          | 302        |
| SDE6603-150M    | 15                                                | 30                   | 0.23                        | 1.0          | 0.9          | 245        |
| SDE6603-220M    | 22                                                | 20                   | 0.37                        | 0.8          | 0.7          | 200        |
| SDE6603-330M    | 33                                                | 15                   | 0.51                        | 0.6          | 0.58         | 160        |
| SDE6603-470M    | 47                                                | 14                   | 0.64                        | 0.5          | 0.5          | 137        |
| SDE6603-680M    | 68                                                | 11                   | 0.86                        | 0.4          | 0.4          | 70         |
| SDE6603-101M    | 100                                               | 9                    | 1.27                        | 0.3          | 0.31         | 57         |
| SDE6603-151M    | 150                                               | 6                    | 2.0                         | 0.25         | 0.27         | 45         |
| SDE6603-221M    | 220                                               | 5.5                  | 3.11                        | 0.2          | 0.22         | 38         |
| SDE6603-331M    | 330                                               | 5                    | 3.8                         | 0.16         | 0.18         | 30         |
| SDE6603-471M    | 470                                               | 4                    | 5.06                        | 0.15         | 0.16         | 26         |
| SDE6603-681M    | 680                                               | 3                    | 9.2                         | 0.12         | 0.14         | 22         |
| SDE6603-102M    | 1000                                              | 2                    | 13.8                        | 0.07         | 0.1          | 18         |

\*\*K-Factor: To calculate core flux density, Bp-p (gauss) =  $K \times L(\mu H) \times \Delta I$  (peak-to-peak ripple current, A), determine core loss from *Core Loss vs. Flux Density* plot.

### Core Loss vs. Flux Density



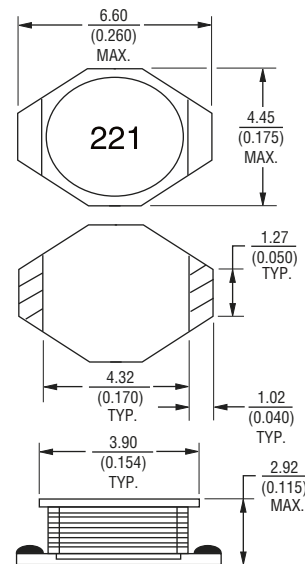
### General Specifications

Test Voltage ..... 0.1 V  
 Reflow Soldering ..... 230 °C, 50 sec max.  
 Operating Temperature... -25 °C to +105 °C  
 (Temperature rise included)  
 Storage Temperature ..... -40 °C to +125 °C  
 Resistance to Soldering Heat  
 ..... 260 °C for 10 sec.  
 Moisture Sensitivity Level ..... 1  
 ESD Classification (HBM) ..... N/A

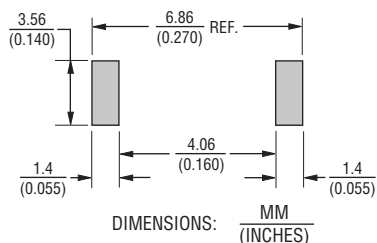
### Materials

Core ..... Ferrite  
 Wire ..... Enameled copper  
 Base ..... Ceramic  
 Adhesive ..... Epoxy resin  
 Terminal ..... Ag/Ni/Au  
 Rated Current... Ind. drop of 10 % typ. at Isat  
 Temperature Rise ..... 40 °C typical at Irms  
 Packaging ..... 2000 pcs. per 13-inch reel

### Product Dimensions



### Recommended Layout



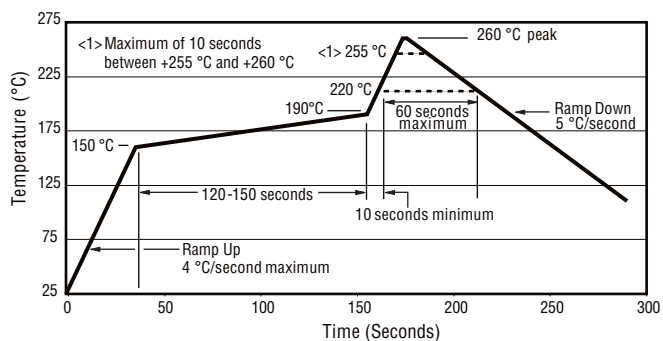
**WARNING Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.  
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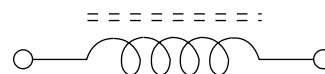
# SDE6603 Series - SMD Power Inductors

**BOURNS®**

## Soldering Profile



## Schematic



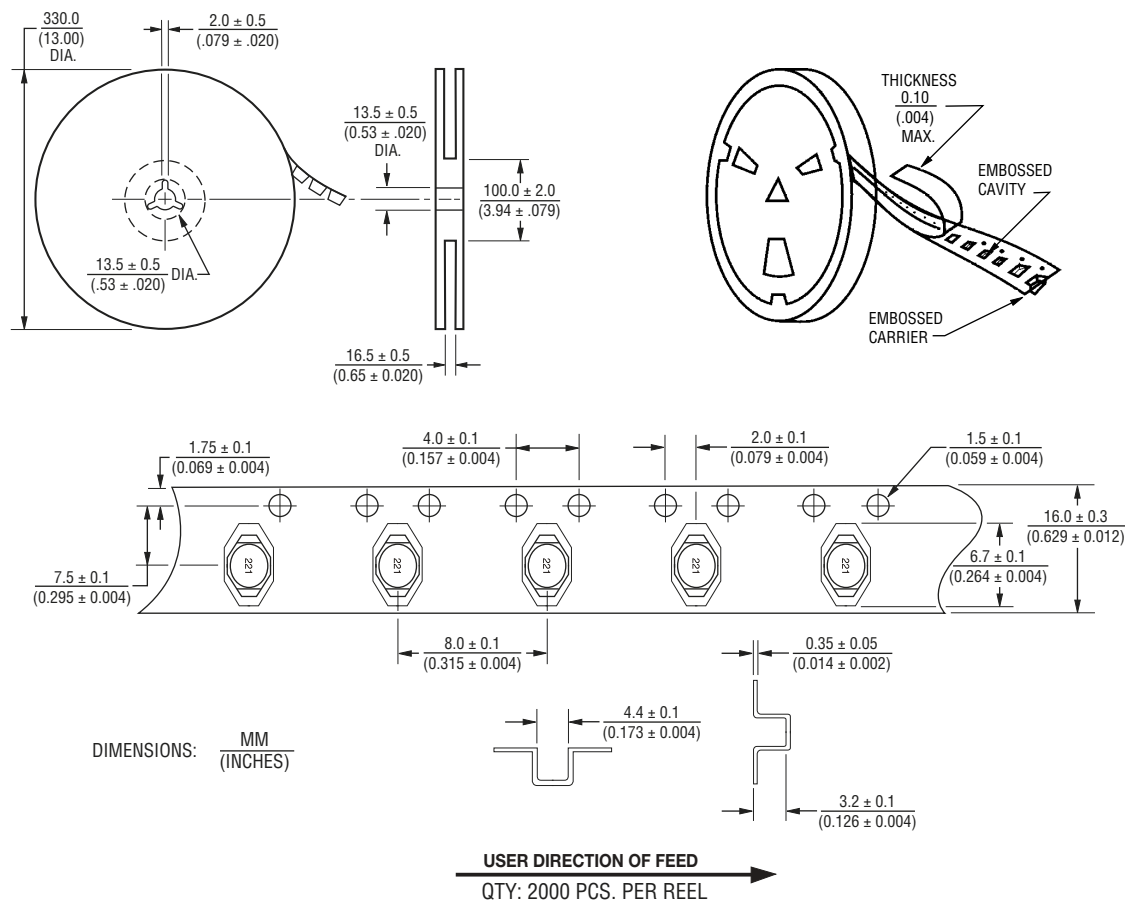
## How to Order

**SDE6603 - 100M**

Model \_\_\_\_\_

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

## Packaging Specifications



REV. 03/18

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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