




**THE DATASHEET OF  
SDE6603-680M**





## 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.

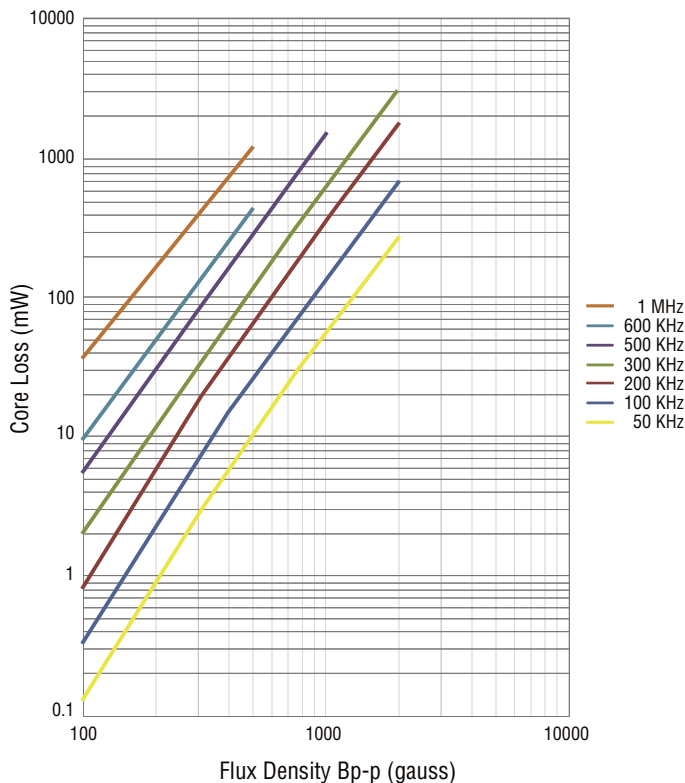
## SDE6603 Series - SMD Power Inductors

### Electrical Characteristics

Bourns Part No.	Inductance @ 100KHz L ( $\mu$ H) $\pm$ 20 %	SRF (MHz) Typ.	DCR ( $\Omega$ ) Max.	I rms (A)	I sat (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 x L( $\mu$ H) x  $\Delta$  I (peak-to-peak ripple current, A), determine core loss from *Core Loss vs. Flux Density* plot.

### Core Loss vs. Flux Density



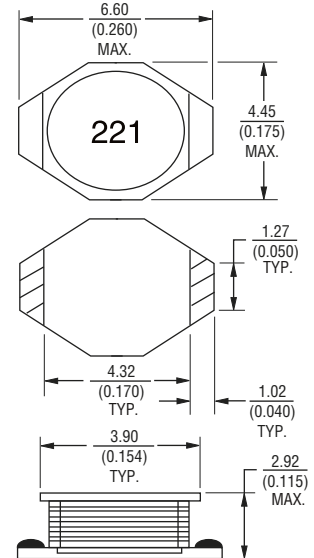
### General Specifications

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

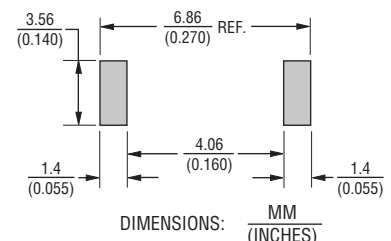
### Materials

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



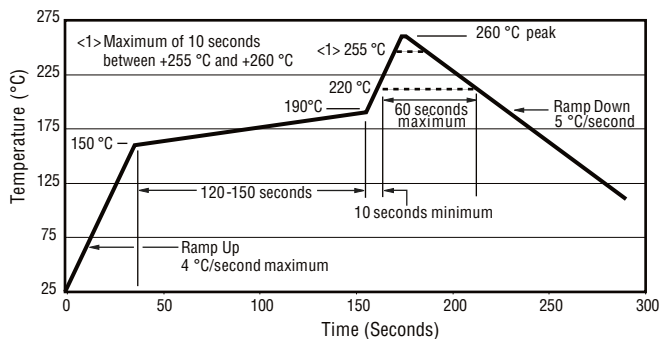
**WARNING Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.  
 Specifications are subject to change without notice. Users should verify actual device performance in their specific applications. The products described herein and this docs are subject to specific legal disclaimers as set forth on the last page of this document, and at [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf).

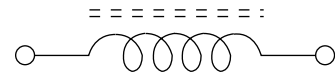
# SDE6603 Series - SMD Power Inductors

**BOURNS®**

## Soldering Profile



## Schematic

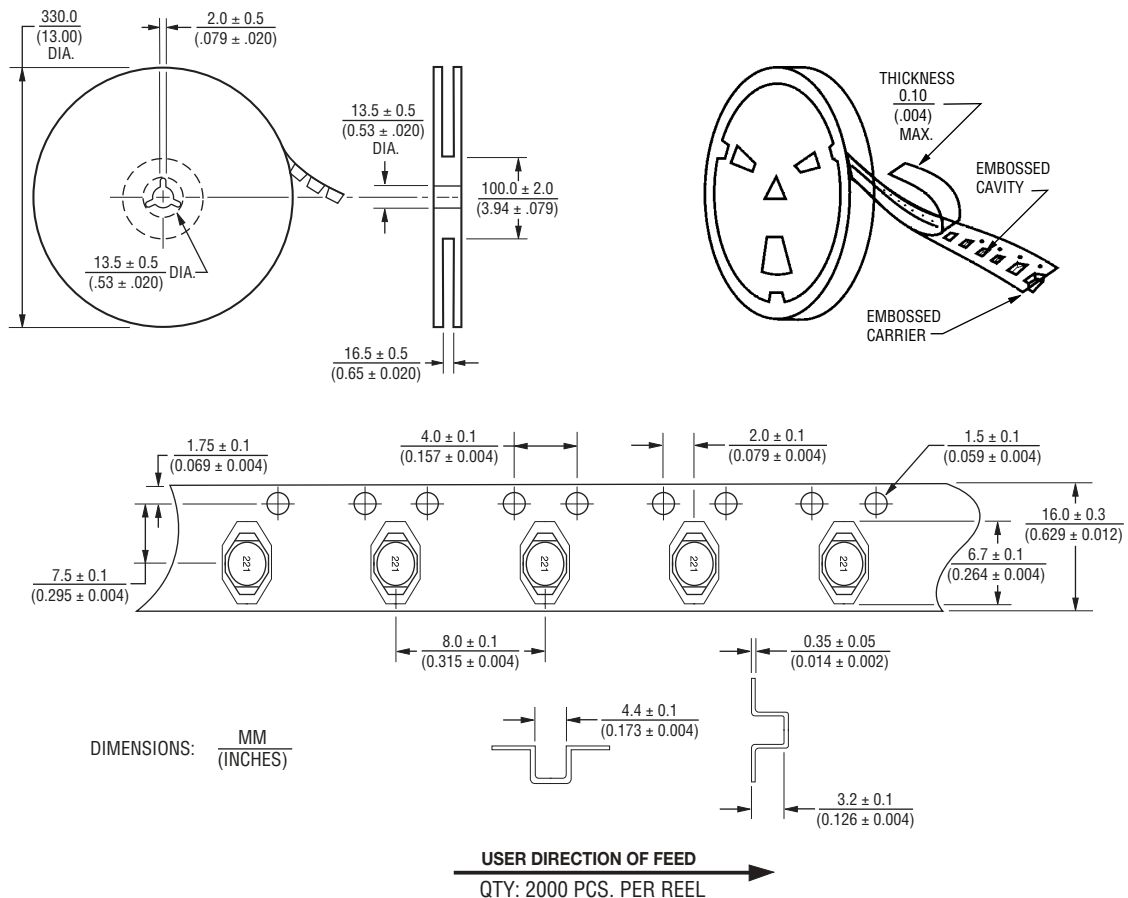


## How to Order

**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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