



**THE DATASHEET OF  
SDR1005-680K**





## Features

- Available in E6 series
- Low profile of only 5.0 mm
- Inductance as low as 0.68  $\mu\text{H}$
- RoHS compliant\*

## Applications

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

# SDR1005 Series - SMD Power Inductors

### Electrical Specifications

Bourns Part Number	Inductance 1 kHz		Q Ref.	Test Frequency Q (MHz)	SRF Min. (MHz)	RDC Max. ( $\Omega$ )	I rms Max. (A)	I sat Typ. (A)
	( $\mu\text{H}$ )	Tol. %						
SDR1005-R68ML	0.68	$\pm 20$	26	7.960	160	0.006	8.50	9.50
SDR1005-1R0ML	1	$\pm 20$	55	2.600	137	0.007	7.50	9.00
SDR1005-1R5ML	1.5	$\pm 20$	50	3.000	95	0.009	6.50	8.00
SDR1005-2R2ML	2.2	$\pm 20$	51	2.470	65	0.012	6.10	7.00
SDR1005-2R5ML	2.5	$\pm 20$	49	3.000	56	0.012	5.50	7.00
SDR1005-3R3ML	3.3	$\pm 20$	45	2.520	54	0.015	5.00	6.40
SDR1005-4R7ML	4.7	$\pm 20$	46	2.700	42	0.019	4.50	5.40
SDR1005-6R8ML	6.8	$\pm 20$	56	2.000	31	0.030	3.40	4.50
SDR1005-100ML	10	$\pm 20$	43	4.000	26	0.050	2.90	3.70
SDR1005-150ML	15	$\pm 20$	42	2.700	22	0.060	2.50	3.00
SDR1005-220ML	22	$\pm 20$	29	2.520	18	0.10	2.00	2.50
SDR1005-330KL	33	$\pm 10$	29	2.200	14	0.12	1.80	2.00
SDR1005-470KL	47	$\pm 10$	30	2.200	12	0.19	1.40	1.60
SDR1005-680KL	68	$\pm 10$	24	2.200	11	0.24	1.20	1.40
SDR1005-101KL	100	$\pm 10$	41	0.056	8	0.33	1.00	1.20
SDR1005-151KL	150	$\pm 10$	58	0.087	6	0.59	0.80	1.00
SDR1005-221KL	220	$\pm 10$	50	0.068	5	0.78	0.70	0.80
SDR1005-331KL	330	$\pm 10$	56	0.070	4	1.15	0.55	0.60
SDR1005-471KL	470	$\pm 10$	60	0.081	4	1.70	0.45	0.50
SDR1005-681KL	680	$\pm 10$	72	0.096	3	2.60	0.35	0.40
SDR1005-102KL	1000	$\pm 10$	78	0.122	2	3.90	0.30	0.35
SDR1005-152KL	1500	$\pm 10$	97	0.131	2	6.30	0.25	0.30
SDR1005-222KL	2200	$\pm 10$	85	0.128	2	8.20	0.20	0.24
SDR1005-332KL	3300	$\pm 10$	106	0.128	1	14.00	0.16	0.18
SDR1005-472KL	4700	$\pm 10$	96	0.125	1	17.00	0.15	0.16
SDR1005-682KL	6800	$\pm 10$	105	0.171	1	30.00	0.11	0.12
SDR1005-822KL	8200	$\pm 10$	102	0.145	1	34.00	0.11	0.12
SDR1005-103KL	10000	$\pm 10$	102	0.138	1	39.00	0.10	0.11

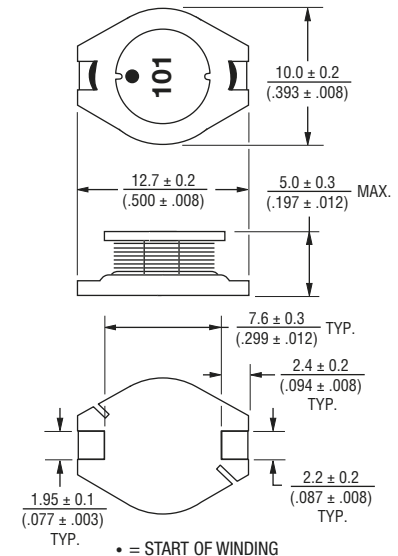
### General Specifications

Test Voltage ..... 0.1 V, 100 KHz  
 Reflow Soldering .. 250 °C, 10 sec. max.  
 (in compliance with JEDEC, J-STD-020C, Table 4-2)  
 Operating Temperature ..... -40 °C to +125 °C  
 (Temperature rise included)  
 Storage Temperature .. -40 °C to +125 °C  
 Resistance to Soldering Heat ..... +250 °C, 10 sec. max.  
 Moisture Sensitivity Level..... 1  
 ESD Classification (HBM)..... N/A

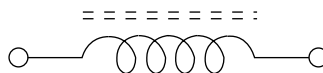
### Materials

Core ..... Ferrite DR  
 Wire ..... Enameled copper  
 Base ..... DAP  
 Terminal ..... Cu/Sn  
 Rated Current ..... Ind. drop 10 % typ. at Isat  
 Temperature Rise ..... 15 °C max. at rated I rms  
 Packaging ..... 600 pcs. per reel

### Product Dimensions



### 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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# SDR1005 Series - SMD Power Inductors

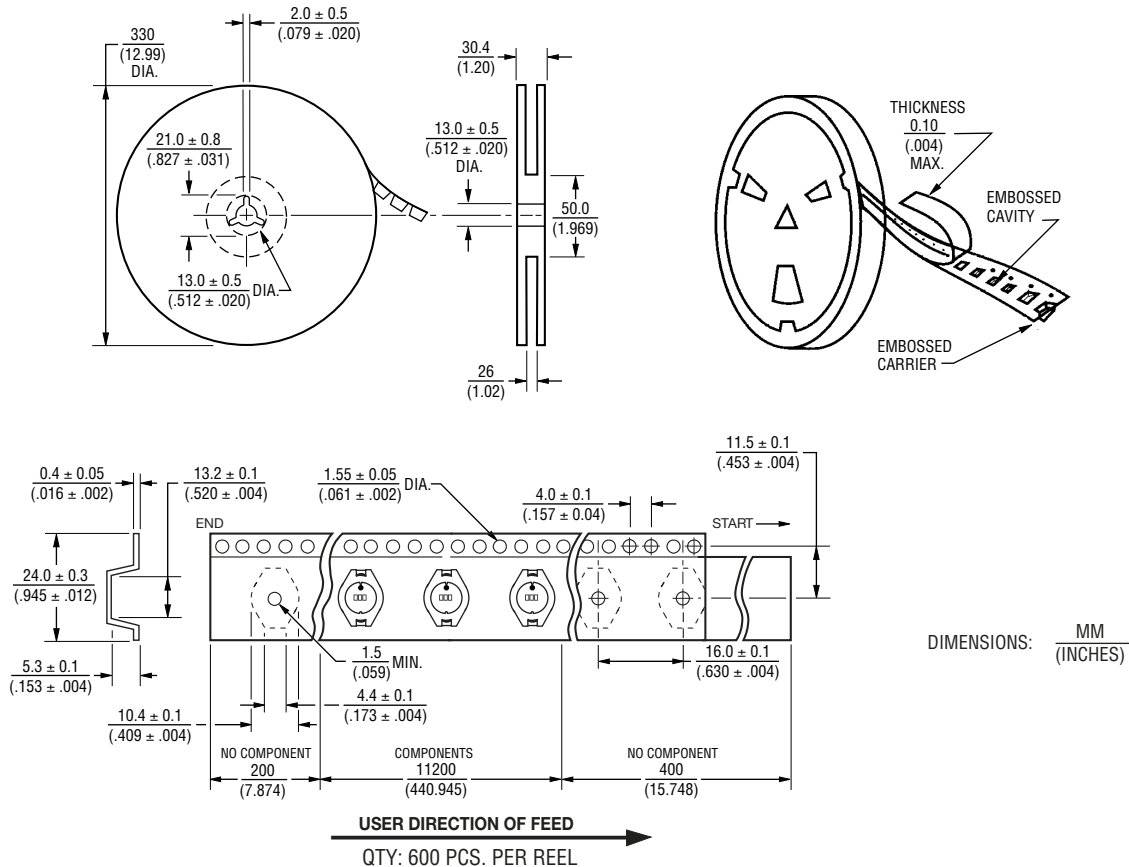
**BOURNS®**

## Soldering Profile



Peak Temperature: 245 °C max.  
 Max. Peak Temperature: -5 °C, 30 sec. max.  
 Max. Time Above 217 °C: 60 ~ 150 sec. max.

## 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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