



Features

- Available in E6 series
- Low profile of only 5.0 mm
- Inductance as low as 0.68 μ H
- RoHS compliant*

Applications

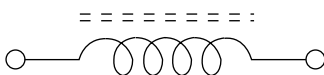
- Input/output of DC/DC converters
- Power supplies for:
 - Portable communications equipment
 - Camcorders
 - LCD TVs
 - Car radios

SDR1005 Series - SMD Power Inductors

Electrical Specifications

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

Electrical Schematic



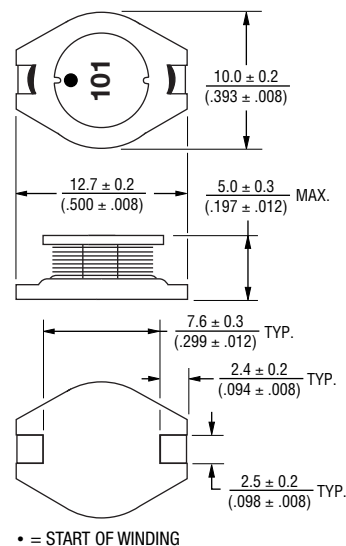
General Specifications

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.

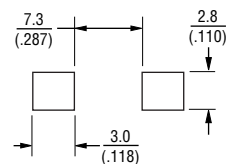
Materials

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



Recommended Layout



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

*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.
 Customers should verify actual device performance in their specific applications.

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The graph illustrates the temperature profile over time for a soldering process. The Y-axis represents Temperature in degrees Celsius (°C), ranging from 0 to 250. The X-axis represents Time in Seconds, ranging from 0 to 250. The profile is divided into four distinct regions:

- Temperature Rising Area:** The initial heating phase with a maximum rate of $+4.0^{\circ}\text{C} / \text{sec. max.}$.
- Preheat Area:** A dwell region with a temperature range of $150\text{--}200^{\circ}\text{C}$ and a duration of $60\text{--}120 \text{ sec.}$.
- Reflow Area:** The peak soldering region with a maximum heating rate of $+3.0^{\circ}\text{C} / \text{sec. max.}$. It includes a dwell time of $60\text{--}150 \text{ sec.}$ and a maximum dwell rate of 60 sec. max. .
- Forced Cooling Area:** The final cooling phase with a maximum rate of $-(1.0\text{--}5.0)^{\circ}\text{C} / \text{sec. max.}$. The peak temperature is noted as 245°C , and the temperature at the end of the cooling phase is 217°C .

330
(12.99)
DIA.

2.0 ± 0.5
(.079 ± .020)

21.0 ± 0.8
(.827 ± .031)

13.0 ± 0.5
(.512 ± .020) DIA.

30.4
(1.20)

13.0 ± 0.5
(.512 ± .020) DIA.

50.0
(1.969)

26
(1.02)

THICKNESS
0.10
(.004)
MAX.

EMBOSSED
CAVITY

EMBOSSED
CARRIER

0.4 ± 0.05
(.016 ± .002)

13.2 ± 0.1
(.520 ± .004)

1.55 ± 0.05
(.061 ± .002) DIA.

4.0 ± 0.1
(.157 ± 0.04)

11.5 ± 0.1
(.453 ± .004)

END

START

24.0 ± 0.3
(.945 ± .012)

5.3 ± 0.1
(.153 ± .004)

10.4 ± 0.1
(.409 ± .004)

1.5
(.059) MIN.

4.4 ± 0.1
(.173 ± .004)

NO COMPONENT
200
(7.874)

COMPONENTS
11200
(440.945)

NO COMPONENT
400
(15.748)

16.0 ± 0.1
(.630 ± .004)

USER DIRECTION OF FEED

QTY: 600 PCS. PER REEL

DIMENSIONS: MM
(INCHES)

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Customers should verify actual device performance in their specific applications.

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