Data Sheet

Customer:	
Product:	**DIP Power Inductor—DRGR Series**
Sizes.:	**664/875/110**
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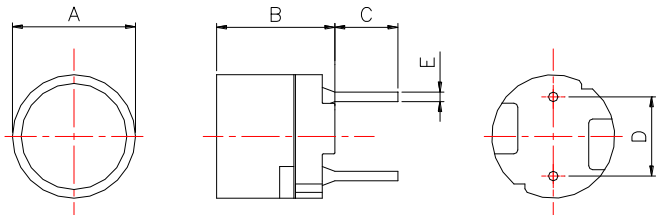
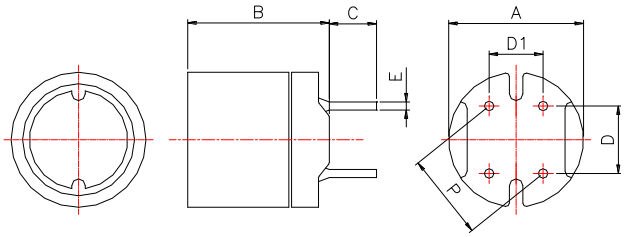
DIP Power Inductor

DRGR 664 / 875



DRGR 110



■Dimensions

Unit: mm

Type	A	B	C	D	D1	E	P
DRGR664	6.0±0.5	6.5 max.	4.0±1.0	4.0±0.3	–	0.50±0.1	–
DRGR875	7.8±0.5	7.5 max.	5.0±1.0	5.0±0.3	–	0.65±0.1	–
DRGR110	10.5±0.5	10.5±0.5	3.5±1.0	5.0±0.3	4.0±0.3	0.80±0.1	6.40±0.5

■Features

- Magnetically shielded & DIP type
- Comparatively range rated current and high inductance
- Low radiation and high dip stability

■Inductance and rated current ranges

- DRGR664 22～1000μH 0.96～0.14A
- DRGR875 22～10000μH 1.60～0.074A
- DRGR110 10～1000μH 3.51～0.35A
- Test equipment:
  L&Q: HP4284A LCR meter
  DCR: Milli-ohm meter
- Electrical specifications at 25°C

■Applications

- Personal Computers
- Variety of Battery Power Equipment
- DC Power Supply Circuits

■Characteristics

- Rated DC Current: The current when the inductance becomes 10% lower than its initial value. (Ta=25°C)
- Operating temperature range -40～125°C

■Product Identification

DRGR	664	M	B	100
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	664: 6.0x6.5x4.0 875: 7.8x7.5x5.0 110: 10.5x10.5x3.5	M: ±20%	B: Bulk	100: 10μH 101: 100μH 102: 1000μH

■Electrical Characteristics

DRGR664 Type:

Part No	L (μH)	Tolerance	Test Condition	DCR (Ω) max	IDC (A) max.
DRGR664MB220	22	±20%	100KHz, 0.1V	0.13	0.96
DRGR664MB270	27	±20%	100KHz, 0.1V	0.18	0.87
DRGR664MB330	33	±20%	100KHz, 0.1V	0.21	0.78
DRGR664MB390	39	±20%	100KHz, 0.1V	0.26	0.72
DRGR664MB470	47	±20%	100KHz, 0.1V	0.29	0.66
DRGR664MB560	56	±20%	100KHz, 0.1V	0.33	0.60
DRGR664MB680	68	±20%	100KHz, 0.1V	0.36	0.55
DRGR664MB820	82	±20%	100KHz, 0.1V	0.39	0.50
DRGR664MB101	100	±20%	1KHz, 0.1V	0.54	0.45
DRGR664MB121	120	±20%	1KHz, 0.1V	0.62	0.41
DRGR664MB151	150	±20%	1KHz, 0.1V	0.72	0.37
DRGR664MB181	180	±20%	1KHz, 0.1V	0.88	0.34
DRGR664MB221	220	±20%	1KHz, 0.1V	0.99	0.30
DRGR664MB271	270	±20%	1KHz, 0.1V	1.52	0.27
DRGR664MB331	330	±20%	1KHz, 0.1V	1.69	0.25
DRGR664MB391	390	±20%	1KHz, 0.1V	1.85	0.23
DRGR664MB471	470	±20%	1KHz, 0.1V	2.85	0.21
DRGR664MB561	560	±20%	1KHz, 0.1V	3.21	0.19
DRGR664MB681	680	±20%	1KHz, 0.1V	3.60	0.17
DRGR664MB821	820	±20%	1KHz, 0.1V	4.87	0.16
DRGR664MB102	1000	±20%	1KHz, 0.1V	5.56	0.14

DRGR875 Type:

Part No	L (μH)	Tolerance	Test Condition	DCR (Ω) max	IDC (A) max.
DRGR875MB220	22	±20%	100KHz, 0.1V	0.08	1.60
DRGR875MB270	27	±20%	100KHz, 0.1V	0.10	1.40
DRGR875MB330	33	±20%	100KHz, 0.1V	0.14	1.30
DRGR875MB390	39	±20%	100KHz, 0.1V	0.15	1.20
DRGR875MB470	47	±20%	100KHz, 0.1V	0.17	1.10
DRGR875MB560	56	±20%	100KHz, 0.1V	0.19	0.99
DRGR875MB680	68	±20%	100KHz, 0.1V	0.21	0.89
DRGR875MB820	82	±20%	100KHz, 0.1V	0.27	0.81
DRGR875MB101	100	±20%	1KHz, 0.1V	0.32	0.74
DRGR875MB121	120	±20%	1KHz, 0.1V	0.36	0.67
DRGR875MB151	150	±20%	1KHz, 0.1V	0.51	0.60
DRGR875MB181	180	±20%	1KHz, 0.1V	0.57	0.55
DRGR875MB221	220	±20%	1KHz, 0.1V	0.76	0.50
DRGR875MB271	270	±20%	1KHz, 0.1V	0.86	0.45
DRGR875MB331	330	±20%	1KHz, 0.1V	0.97	0.41
DRGR875MB391	390	±20%	1KHz, 0.1V	1.28	0.37
DRGR875MB471	470	±20%	1KHz, 0.1V	1.44	0.34
DRGR875MB561	560	±20%	1KHz, 0.1V	1.61	0.31
DRGR875MB681	680	±20%	1KHz, 0.1V	2.07	0.28
DRGR875MB821	820	±20%	1KHz, 0.1V	2.33	0.26
DRGR875MB102	1000	±20%	1KHz, 0.1V	2.72	0.23
DRGR875MB122	1200	±20%	1KHz, 0.1V	3.98	0.21
DRGR875MB152	1500	±20%	1KHz, 0.1V	4.50	0.19
DRGR875MB182	1800	±20%	1KHz, 0.1V	6.81	0.17
DRGR875MB222	2200	±20%	1KHz, 0.1V	7.56	0.16
DRGR875MB272	2700	±20%	1KHz, 0.1V	8.54	0.14
DRGR875MB332	3300	±20%	1KHz, 0.1V	9.74	0.13
DRGR875MB392	3900	±20%	1KHz, 0.1V	12.90	0.12
DRGR875MB472	4700	±20%	1KHz, 0.1V	14.70	0.11
DRGR875MB562	5600	±20%	1KHz, 0.1V	20.40	0.099
DRGR875MB682	6800	±20%	1KHz, 0.1V	23.00	0.089
DRGR875MB822	8200	±20%	1KHz, 0.1V	30.60	0.081
DRGR875MB103	10000	±20%	1KHz, 0.1V	35.00	0.074

■Electrical Characteristics

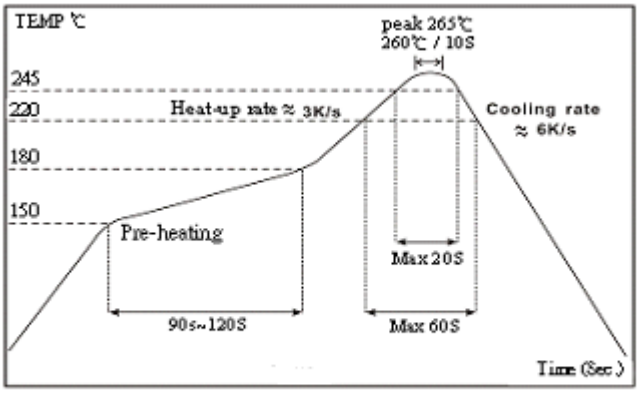
DRGR110 Type:

Part No	L (μH)	Tolerance	Test Condition	DCR (Ω) max	IDC (A) max.
DRGR110MB100	10	±20%	100KHz, 0.1V	0.023	3.51
DRGR110MB120	12	±20%	100KHz, 0.1V	0.024	3.24
DRGR110MB150	15	±20%	100KHz, 0.1V	0.036	2.88
DRGR110MB180	18	±20%	100KHz, 0.1V	0.039	2.61
DRGR110MB220	22	±20%	100KHz, 0.1V	0.042	2.34
DRGR110MB270	27	±20%	100KHz, 0.1V	0.045	2.16
DRGR110MB330	33	±20%	100KHz, 0.1V	0.057	1.89
DRGR110MB390	39	±20%	100KHz, 0.1V	0.076	1.80
DRGR110MB470	47	±20%	100KHz, 0.1V	0.100	1.62
DRGR110MB560	56	±20%	100KHz, 0.1V	0.110	1.44
DRGR110MB680	68	±20%	100KHz, 0.1V	0.150	1.35
DRGR110MB820	82	±20%	100KHz, 0.1V	0.160	1.26
DRGR110MB101	100	±20%	1KHz, 0.1V	0.190	1.08
DRGR110MB121	120	±20%	1KHz, 0.1V	0.210	0.99
DRGR110MB151	150	±20%	1KHz, 0.1V	0.230	0.90
DRGR110MB181	180	±20%	1KHz, 0.1V	0.260	0.82
DRGR110MB221	220	±20%	1KHz, 0.1V	0.290	0.74
DRGR110MB271	270	±20%	1KHz, 0.1V	0.360	0.67
DRGR110MB331	330	±20%	1KHz, 0.1V	0.510	0.61
DRGR110MB391	390	±20%	1KHz, 0.1V	0.690	0.55
DRGR110MB471	470	±20%	1KHz, 0.1V	0.980	0.51
DRGR110MB561	560	±20%	1KHz, 0.1V	1.100	0.46
DRGR110MB681	680	±20%	1KHz, 0.1V	1.200	0.42
DRGR110MB821	820	±20%	1KHz, 0.1V	1.300	0.38
DRGR110MB102	1000	±20%	1KHz, 0.1V	1.500	0.35

■Package

Type	Parts plate	Parts Per bind
DRGR664	200	2400
DRGR875	200	2400
DRGR110	144	1296

■IR-Reflow



■Reliability of DIP Ferrite Wire Wound Power Inductor

Mechanical Performance

Item	Specification	Test Method
Vibration	Appearance: No damage L change: within±10% RDC: within specification	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
Resistance to Soldering Heat	Appearance: No Damage	Pre-heating:150℃,1Min. Solder Composition: Sn/Ag/Cu=95.6/3.0/0.5 Solder Temperature: 260±5℃ Immersion Time: 4±1Sec.
Solderability	The electrodes shall be at least 90% covered with new solder coating	Pre-heating: 150℃, 1min Solder Composition: Sn/Ag/Cu=95.6/3.0/0.5 Solder Temperature: 245±5℃ Immersion Time: 4±1sec

Environmental Performance

<table>
<tr><th>Item</th><th>Specification</th><th colspan="3">Test Method</th></tr>
<tr><td>Temperature Shock</td><td rowspan="5">Appearance: No damage
L change: within±10%
RDC: within specification</td><td colspan="3">10 cycles (Air to Air) 1 cycles shall consist of:
30 minutes exposure to –55 ℃
30 minutes exposure to 125 ℃
15 seconds maximum transition between temperatures</td></tr>
<tr><td>Temperature Cycle</td><td colspan="3">One cycle:</td></tr>
<tr><td></td><td>Step</td><td>Temperature (℃)</td><td>Time (min)</td></tr>
<tr><td></td><td>1</td><td>-25±3</td><td>30</td></tr>
<tr><td></td><td>2</td><td>25±2</td><td>3</td></tr>
<tr><td></td><td>3</td><td>85±3</td><td>30</td></tr>
<tr><td></td><td>4</td><td>25±2</td><td>3</td></tr>
<tr><td></td><td colspan="3">Total: 100cycles
Measured after exposure in the room condition for 24hrs</td></tr>
<tr><td>Humidity Resistance</td><td colspan="3">Temperature: 40±2℃
Relative Humidity: 90 ~ 95%
Time: 1000hrs
Measured after exposure in the room condition for 24hrs</td></tr>
<tr><td>Heat Temperature Resistance</td><td colspan="3">Temperature: 85±3℃
Relative Humidity: 20%
Applied Current: Rated Current
Time: 1000hrs
Measured after exposure in the room condition for 24hrs</td></tr>
<tr><td>Low Temperature Resistance</td><td colspan="3">Temperature: -25±3℃
Relative Humidity: 0%
Time: 1000hrs
Measured after exposure in the room condition for 24hrs</td></tr>
</table>

■**Storage Temperature :15~28℃;<80%RH**