Data Sheet

Customer:

Product: DIP Power Inductor – HDRGH Series

Size : 664/855/875/895/110

Issued Date: 07-Aug.-2024

Edition: Ver. 2

Record of change

Date	Ver.	Description	Page
13-Nov.-2023	1		
07-Aug.-2024	2	Add Characteristics	1

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07-Aug.-2024	07-Aug.-2024	07-Aug.-2024	
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DIP POWER INDUCTOR HDRGH SERIES

■ Features

- Density design, small size, and low cost
- Comparatively range rated current and high inductance
- Low DCR and high dip stability

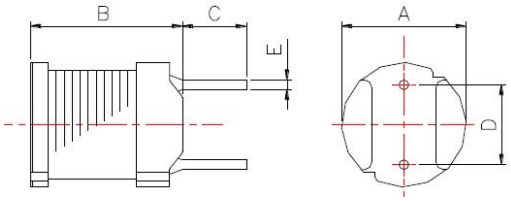
■ Applications

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

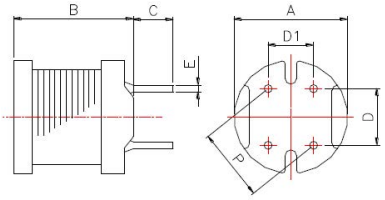
■ Characteristics

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

Shape & Dimensions



HDRGH 664 / 855 / 875 / 895



HDRGH 110

Type	A	B max.	C	D	D1	E	P
HDRGH664	6.0±0.5	6.5	4.0±1.0	4.0±0.3	–	0.50±0.1	–
HDRGH855	7.8±0.5	5.5	5.0±1.0	5.0±0.3	–	0.65±0.1	–
HDRGH875	7.8±0.5	7.5	5.0±1.0	5.0±0.3	–	0.65±0.1	–
HDRGH895	7.8±0.5	9.5	5.0±1.0	5.0±0.3	–	0.65±0.1	–
HDRGH110	10.0±0.5	10.5	3.5±1.0	5.0±0.3	4.0±0.3	0.70±0.1	6.40±0.5

◆ Part Numbering

HDRGH	664	K	B	100
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	664: 6.0x6.5x4.0 855: 7.8x5.5x5.0 875: 7.8x7.5x5.0 895: 7.8x9.5x5.0 110: 10x10.5x3.5	J: ±5% K: ±10% M: ±20%	B: Bulk	100: 10μH 101: 100μH 102: 1000μH 103: 10000μH

DIP POWER INDUCTOR HDRGH SERIES

■ Electrical Characteristics

HDRGH664 Type(□:Tolerance):

Part No	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.
HDRGH664□B220	22	M	1KHz, 0.1V	0.11	1.27
HDRGH664□B270	27	M	1KHz, 0.1V	0.14	1.14
HDRGH664□B330	33	M	1KHz, 0.1V	0.17	1.03
HDRGH664□B390	39	M	1KHz, 0.1V	0.19	0.95
HDRGH664□B470	47	M	1KHz, 0.1V	0.23	0.87
HDRGH664□B560	56	M	1KHz, 0.1V	0.26	0.80
HDRGH664□B680	68	M	1KHz, 0.1V	0.28	0.72
HDRGH664□B820	82	M	1KHz, 0.1V	0.39	0.66
HDRGH664□B101	100	K	1KHz, 0.1V	0.43	0.59
HDRGH664□B121	120	K	1KHz, 0.1V	0.54	0.54
HDRGH664□B151	150	K	1KHz, 0.1V	0.64	0.48
HDRGH664□B181	180	K	1KHz, 0.1V	0.74	0.44
HDRGH664□B221	220	K	1KHz, 0.1V	0.96	0.40
HDRGH664□B271	270	K	1KHz, 0.1V	1.12	0.36
HDRGH664□B331	330	K	1KHz, 0.1V	1.48	0.33
HDRGH664□B391	390	K	1KHz, 0.1V	1.66	0.30
HDRGH664□B471	470	K	1KHz, 0.1V	1.91	0.27
HDRGH664□B561	560	K	1KHz, 0.1V	2.31	0.25
HDRGH664□B681	680	K	1KHz, 0.1V	2.67	0.23
HDRGH664□B821	820	K	1KHz, 0.1V	3.10	0.21
HDRGH664□B102	1000	K	1KHz, 0.1V	4.45	0.19

DIP POWER INDUCTOR HDRGH SERIES

■ Electrical Characteristics

HDRGH855 Type(□:Tolerance):

Part No	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.
HDRGH855□B100	10	M	1KHz, 0.1V	0.07	2.50
HDRGH855□B120	12	M	1KHz, 0.1V	0.08	2.40
HDRGH855□B150	15	M	1KHz, 0.1V	0.09	2.10
HDRGH855□B180	18	M	1KHz, 0.1V	0.10	2.00
HDRGH855□B220	22	M	1KHz, 0.1V	0.12	1.70
HDRGH855□B270	27	M	1KHz, 0.1V	0.14	1.60
HDRGH855□B330	33	M	1KHz, 0.1V	0.17	1.40
HDRGH855□B390	39	M	1KHz, 0.1V	0.21	1.30
HDRGH855□B470	47	M	1KHz, 0.1V	0.24	1.20
HDRGH855□B560	56	M	1KHz, 0.1V	0.31	1.10
HDRGH855□B680	68	M	1KHz, 0.1V	0.34	1.00
HDRGH855□B820	82	M	1KHz, 0.1V	0.40	0.93
HDRGH855□B101	100	K	1KHz, 0.1V	0.52	0.81
HDRGH855□B121	120	K	1KHz, 0.1V	0.59	0.76
HDRGH855□B151	150	K	1KHz, 0.1V	0.71	0.67
HDRGH855□B181	180	K	1KHz, 0.1V	0.89	0.62
HDRGH855□B221	220	K	1KHz, 0.1V	1.04	0.54
HDRGH855□B271	270	K	1KHz, 0.1V	1.28	0.49
HDRGH855□B331	330	K	1KHz, 0.1V	1.47	0.44
HDRGH855□B391	390	K	1KHz, 0.1V	1.67	0.41
HDRGH855□B471	470	K	1KHz, 0.1V	1.95	0.38
HDRGH855□B561	560	K	1KHz, 0.1V	2.83	0.35
HDRGH855□B681	680	K	1KHz, 0.1V	3.25	0.32
HDRGH855□B821	820	K	1KHz, 0.1V	3.82	0.31
HDRGH855□B102	1000	K	1KHz, 0.1V	5.28	0.25
HDRGH855□B122	1200	K	1KHz, 0.1V	6.03	0.23
HDRGH855□B152	1500	K	1KHz, 0.1V	7.15	0.21
HDRGH855□B182	1800	K	1KHz, 0.1V	8.26	0.20
HDRGH855□B222	2200	K	1KHz, 0.1V	11.1	0.18
HDRGH855□B272	2700	K	1KHz, 0.1V	13.1	0.16
HDRGH855□B332	3300	K	1KHz, 0.1V	15.9	0.14
HDRGH855□B392	3900	K	1KHz, 0.1V	18.0	0.13
HDRGH855□B472	4700	K	1KHz, 0.1V	23.9	0.12
HDRGH855□B562	5600	K	1KHz, 0.1V	26.8	0.11
HDRGH855□B682	6800	K	1KHz, 0.1V	31.7	0.098
HDRGH855□B822	8200	K	1KHz, 0.1V	46.5	0.088
HDRGH855□B103	10000	K	1KHz, 0.1V	55.7	0.081

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DIP POWER INDUCTOR HDRGH SERIES

HDRGH875 Type(□:Tolerance):

Part No	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.
HDRGH875□B100	10	M	1KHz, 0.1V	0.05	2.90
HDRGH875□B120	12	M	1KHz, 0.1V	0.06	2.50
HDRGH875□B150	15	M	1KHz, 0.1V	0.07	2.20
HDRGH875□B180	18	M	1KHz, 0.1V	0.08	1.90
HDRGH875□B220	22	M	1KHz, 0.1V	0.09	1.80
HDRGH875□B270	27	M	1KHz, 0.1V	0.11	1.70
HDRGH875□B330	33	M	1KHz, 0.1V	0.13	1.50
HDRGH875□B390	39	M	1KHz, 0.1V	0.14	1.30
HDRGH875□B470	47	M	1KHz, 0.1V	0.15	1.30
HDRGH875□B560	56	M	1KHz, 0.1V	0.18	1.20
HDRGH875□B680	68	M	1KHz, 0.1V	0.20	1.10
HDRGH875□B820	82	M	1KHz, 0.1V	0.24	1.00
HDRGH875□B101	100	K	1KHz, 0.1V	0.28	0.89
HDRGH875□B121	120	K	1KHz, 0.1V	0.36	0.81
HDRGH875□B151	150	K	1KHz, 0.1V	0.42	0.72
HDRGH875□B181	180	K	1KHz, 0.1V	0.57	0.66
HDRGH875□B221	220	K	1KHz, 0.1V	0.63	0.57
HDRGH875□B271	270	K	1KHz, 0.1V	0.88	0.51
HDRGH875□B331	330	K	1KHz, 0.1V	1.05	0.46
HDRGH875□B391	390	K	1KHz, 0.1V	1.17	0.44
HDRGH875□B471	470	K	1KHz, 0.1V	1.34	0.41
HDRGH875□B561	560	K	1KHz, 0.1V	1.72	0.36
HDRGH875□B681	680	K	1KHz, 0.1V	1.96	0.33
HDRGH875□B821	820	K	1KHz, 0.1V	2.56	0.30
HDRGH875□B102	1000	K	1KHz, 0.1V	2.94	0.27
HDRGH875□B122	1200	K	1KHz, 0.1V	4.04	0.24
HDRGH875□B152	1500	K	1KHz, 0.1V	4.70	0.22
HDRGH875□B182	1800	K	1KHz, 0.1V	5.05	0.20
HDRGH875□B222	2200	K	1KHz, 0.1V	6.25	0.18
HDRGH875□B272	2700	K	1KHz, 0.1V	8.72	0.16
HDRGH875□B332	3300	K	1KHz, 0.1V	10.6	0.15
HDRGH875□B392	3900	K	1KHz, 0.1V	14.2	0.14
HDRGH875□B472	4700	K	1KHz, 0.1V	16.7	0.12
HDRGH875□B562	5600	K	1KHz, 0.1V	18.7	0.11
HDRGH875□B682	6800	K	1KHz, 0.1V	21.8	0.10
HDRGH875□B822	8200	K	1KHz, 0.1V	28.7	0.093
HDRGH875□B103	10000	K	1KHz, 0.1V	33.0	0.084

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DIP POWER INDUCTOR HDRGH SERIES

HDRGH895 Type(□:Tolerance):

Part No	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.
HDRGH895□B100	10	M	100KHz, 0.1V	0.04	2.60
HDRGH895□B120	12	M	100KHz, 0.1V	0.04	2.60
HDRGH895□B150	15	M	100KHz, 0.1V	0.05	2.10
HDRGH895□B180	18	M	100KHz, 0.1V	0.05	2.00
HDRGH895□B220	22	M	100KHz, 0.1V	0.06	1.70
HDRGH895□B270	27	M	100KHz, 0.1V	0.06	1.60
HDRGH895□B330	33	M	100KHz, 0.1V	0.07	1.40
HDRGH895□B390	39	M	100KHz, 0.1V	0.08	1.40
HDRGH895□B470	47	M	100KHz, 0.1V	0.10	1.30
HDRGH895□B560	56	M	100KHz, 0.1V	0.11	1.20
HDRGH895□B680	68	M	100KHz, 0.1V	0.14	1.10
HDRGH895□B820	82	M	100KHz, 0.1V	0.16	1.00
HDRGH895□B101	100	K	1KHz, 0.1V	0.19	0.90
HDRGH895□B121	120	K	1KHz, 0.1V	0.22	0.82
HDRGH895□B151	150	K	1KHz, 0.1V	0.27	0.74
HDRGH895□B181	180	K	1KHz, 0.1V	0.31	0.71
HDRGH895□B221	220	K	1KHz, 0.1V	0.38	0.64
HDRGH895□B271	270	K	1KHz, 0.1V	0.53	0.57
HDRGH895□B331	330	K	1KHz, 0.1V	0.61	0.51
HDRGH895□B391	390	K	1KHz, 0.1V	0.69	0.48
HDRGH895□B471	470	K	1KHz, 0.1V	0.89	0.43
HDRGH895□B561	560	K	1KHz, 0.1V	1.01	0.40
HDRGH895□B681	680	K	1KHz, 0.1V	1.18	0.35
HDRGH895□B821	820	K	1KHz, 0.1V	1.57	0.32
HDRGH895□B102	1000	K	1KHz, 0.1V	1.84	0.30
HDRGH895□B102-1	1000	K	1KHz, 0.25V	1.84	0.50
HDRGH895□B122	1200	K	1KHz, 0.1V	2.10	0.27
HDRGH895□B152	1500	K	1KHz, 0.1V	2.80	0.23
HDRGH895□B182	1800	K	1KHz, 0.1V	3.21	0.21
HDRGH895□B222	2200	K	1KHz, 0.1V	4.21	0.19
HDRGH895□B272	2700	K	1KHz, 0.1V	4.94	0.17
HDRGH895□B332	3300	K	1KHz, 0.1V	6.16	0.15
HDRGH895□B392	3900	K	1KHz, 0.1V	6.84	0.14
HDRGH895□B472	4700	K	1KHz, 0.1V	7.89	0.13
HDRGH895□B562	5600	K	1KHz, 0.1V	11.50	0.12
HDRGH895□B682	6800	K	1KHz, 0.1V	13.20	0.11
HDRGH895□B822	8200	K	1KHz, 0.1V	15.20	0.10
HDRGH895□B103	10000	J, K	1KHz, 0.1V	22.00	0.089
HDRGH895□B123	12000	K	1KHz, 0.1V	25.00	0.073
HDRGH895□B153	15000	K	1KHz, 0.1V	29.10	0.068
HDRGH895□B183	18000	K	1KHz, 0.1V	38.90	0.066
HDRGH895□B223	22000	K	1KHz, 0.1V	44.90	0.059
HDRGH895□B273	27000	K	1KHz, 0.1V	55.70	0.052
HDRGH895□B333	33000	K	1KHz, 0.1V	64.20	0.048
HDRGH895□B393	39000	K	1KHz, 0.1V	74.20	0.042
HDRGH895□B473	47000	K	1KHz, 0.1V	96.40	0.038

DIP POWER INDUCTOR HDRGH SERIES

HDRGH110 Type(□:Tolerance):

Part No	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.
HDRGH110□B100	10	M	100KHz, 0.1V	0.022	5.30
HDRGH110□B120	12	M	100KHz, 0.1V	0.023	4.90
HDRGH110□B150	15	M	100KHz, 0.1V	0.026	4.40
HDRGH110□B180	18	M	100KHz, 0.1V	0.033	4.00
HDRGH110□B220	22	M	100KHz, 0.1V	0.037	3.60
HDRGH110□B270	27	M	100KHz, 0.1V	0.048	3.30
HDRGH110□B330	33	M	100KHz, 0.1V	0.055	2.90
HDRGH110□B390	39	M	100KHz, 0.1V	0.073	2.70
HDRGH110□B470	47	M	100KHz, 0.1V	0.083	2.50
HDRGH110□B560	56	M	100KHz, 0.1V	0.092	2.30
HDRGH110□B560-1	56	M	100KHz, 0.1V	0.1113	2.10
HDRGH110□B680	68	M	100KHz, 0.1V	0.120	2.10
HDRGH110□B820	82	M	100KHz, 0.1V	0.140	1.90
HDRGH110□B101	100	K	1KHz, 0.1V	0.160	1.70
HDRGH110□B121	120	K	1KHz, 0.1V	0.200	1.50
HDRGH110□B151	150	K	1KHz, 0.1V	0.230	1.40
HDRGH110□B181	180	K	1KHz, 0.1V	0.310	1.30
HDRGH110□B221	220	K	1KHz, 0.1V	0.340	1.10
HDRGH110□B271	270	K	1KHz, 0.1V	0.400	1.00
HDRGH110□B331	330	K	1KHz, 0.1V	0.520	0.93
HDRGH110□B391	390	K	1KHz, 0.1V	0.650	0.86
HDRGH110□B471	470	K	1KHz, 0.1V	0.710	0.78
HDRGH110□B561	560	K	1KHz, 0.1V	1.000	0.71
HDRGH110□B681	680	K	1KHz, 0.1V	1.100	0.65
HDRGH110□B821	820	K	1KHz, 0.1V	1.300	0.59
HDRGH110□B102	1000	K	1KHz, 0.1V	1.800	0.53

■Reliability of DIP Ferrite 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

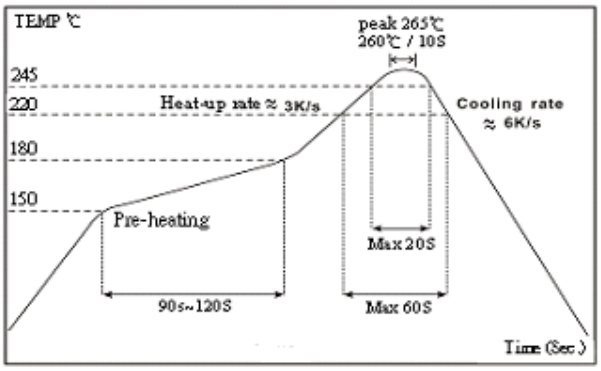
Environmental Performance

<table>
<tr><th>Item</th><th>Specification</th><th colspan="3">Test Method</th></tr>
<tr><td>Temperature Shock</td><td rowspan="6">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 rowspan="6">Temperature Cycle</td><td colspan="3">One cycle:</td></tr>
<tr><td>Step</td><td>Temperature (℃)</td><td>Time (min)</td></tr>
<tr><td>1</td><td>-25±3</td><td>30</td></tr>
<tr><td>2</td><td>25±2</td><td>3</td></tr>
<tr><td>3</td><td>85±3</td><td>30</td></tr>
<tr><td>4</td><td>25±2</td><td>3</td></tr>
<tr><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**

DIP POWER INDUCTOR HDRGH SERIES

■IR-Reflow



■Package

Type	Parts plate	Parts Per bind
HDRGH664	200	2400
HDRGH855	200	2400
HDRGH875	200	2400
HDRGH895	200	2400
HDRGH110	144	1296