SMD POWER INDUCTORS / CDRH-R Series

■ Feature

1. High current and inductance capacity.
2. Specially designed for surface mounting.
   equipment, good for high density application.
3. Low profile very effective in space-conscious applicatior
4. Low resistance and high-energy storage.

■ Application

1. Power supply for VCR, OA equipment, LCD TV,
2. Notebook PC, DC/DC Converter, DC/AC Inverter.

■ Product Identification

CDRH	104R	150	M
A	B	C	D

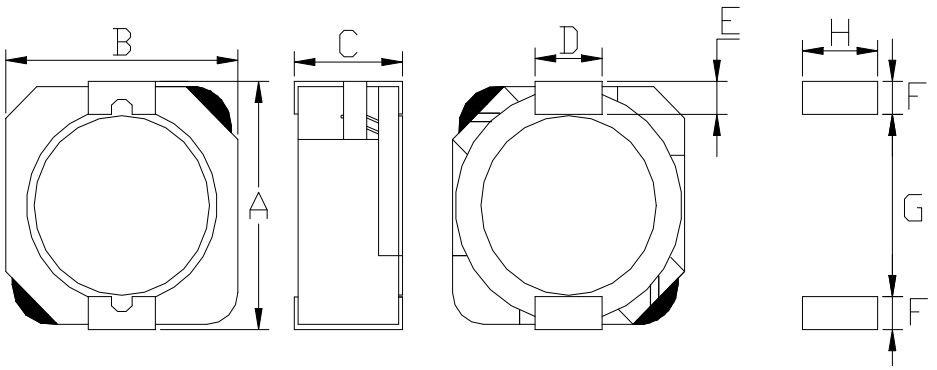
A. Product code.

B. Dimension.

C.Inductance.

D. Tolerance. (N=±30% M=±20% K=±10%)

■ Shape & Dimensions



Unit: mm

Series	A	B	C	D	E	F	G	H
CDRH103R	10.5MAX	10.5MAX	3.1MAX	3.0typ	1.2 Ref.	1.6Ref	7.3Ref	3.2Ref
CDRH104R	10.6MAX	10.6MAX	4.1MAX	3.0typ	1.2 Ref	1.6Ref	7.3Ref	3.2Ref
CDRH105R	10.5MAX	10.5MAX	5.1MAX	3.0typ	1.2 Ref	1.6Ref	7.3Ref	3.2Ref

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■ Electrical characteristics (CDRH103R Series)

Part Number	Inductance L0(uH) 100KHz/1.0V	DCR(mΩ)±20%. @ 25℃	I-sat (Amps) 70%L0	I-rms (Amps) △T≦40℃
CDRH103R-1R5N	1.5±30%	18	5.0	4.5
CDRH103R-2R2N	2.2±30%	20	4.8	4.3
CDRH103R-3R3N	3.3±30%	25	4.5	4.0
CDRH103R-4R7N	4.7±30%	30	4.3	3.8
CDRH103R-6R8N	6.8±30%	40	3.9	3.6
CDRH103R-8R2N	8.2±20%	50	3.5	3.3
CDRH103R-100M	10±20%	59	3.2	2.8
CDRH103R-150M	15±20%	91	2.6	2.1
CDRH103R-220M	22±20%	143	2.2	1.6
CDRH103R-330M	33±20%	213	1.7	1.4
CDRH103R-470M	47±20%	299	1.4	1.2
CDRH103R-560M	56±20%	335	1.4	1.2
CDRH103R-680M	68±20%	429	1.2	1.0
CDRH103R-820M	82±20%	494	1.1	0.8
CDRH103R-101M	100±20%	683	1.0	0.7
CDRH103R-151M	150±20%	871	0.8	0.5
CDRH103R-221M	220±20%	997	0.7	0.5
CDRH103R-331M	330±20%	1578	0.5	0.4

NOTES:

Operating: -40℃ ~ +125℃ (Including self-temperature rise)

Test Frequency:100KHZ/1.0V

Saturation Rated Current that will cause initial inductance value approximately 25% rolloff. (Ta=25±5℃)

Temperature Rise Current that will cause temperature rise approximate 40°C without core loss. (Ta=25±5℃)

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■ Electrical characteristics (CDRH104R Series)

Part Number	Inductance L0(uH) 100KHz/1.0V	DCR(mΩ)±20%. @ 25℃	I-sat (Amps) 70%L0	I-rms (Amps) △T≦40℃
CDRH104R-1R5N	1.5±30%	9	10.00	6.50
CDRH104R-2R2N	2.2±30%	12	7.50	6.10
CDRH104R-3R3N	3.3±30%	15	6.00	5.50
CDRH104R-4R7N	4.7±30%	22	5.50	5.40
CDRH104R-6R8N	6.8±30%	24	5.20	5.00
CDRH104R-100M	10±20%	42	4.40	3.80
CDRH104R-150M	15±20%	56	3.60	3.10
CDRH104R-220M	22±20%	83	2.90	2.90
CDRH104R-330M	33±20%	105	2.30	2.30
CDRH104R-470M	47±20%	144	2.10	1.90
CDRH104R-560M	56±20%	200	1.70	1.50
CDRH104R-680M	68±20%	213	1.50	1.42
CDRH104R-101M	100±20%	304	1.35	1.25
CDRH104R-151M	150±20%	506	1.15	0.85
CDRH104R-221M	220±20%	756	0.92	0.70
CDRH104R-R330M	330±20%	1090	0.70	0.52

NOTES:

Operating: -40℃ ~ +125℃ (Including self-temperature rise)

Test Frequency:100KHZ/1.0V

Saturation Rated Current that will cause initial inductance value approximately 25% rolloff. (Ta=25±5℃)

Temperature Rise Current that will cause temperature rise approximate 40°C without core loss. (Ta=25±5℃)

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■ Electrical characteristics (CDRH105R Series)

Part Number	Inductance L0(uH) 100KHz/1.0V	DCR(mΩ)±20%. @ 25℃	I-sat (Amps) 70%L0	I-rms (Amps) △T≦40℃
CDRH105R-1R0N	1.0±30%	7	10.50	8.30
CDRH105R-2R2N	2.2±30%	8	9.25	7.50
CDRH105R-3R3N	3.3±30%	11	7.80	6.50
CDRH105R-4R7N	4.7±30%	13	6.40	6.10
CDRH105R-5R6N	5.6±30%	16	5.90	5.90
CDRH105R-6R8N	6.8±30%	18	5.40	5.40
CDRH105R-100M	10±20%	26	4.45	4.50
CDRH105R-150M	15±20%	41	3.60	3.40
CDRH105R-220M	22±20%	61	2.95	2.90
CDRH105R-330M	33±20%	84	2.40	2.50
CDRH105R-470M	47±20%	130	2.00	2.00
CDRH105R-680M	68±20%	201	1.65	1.60
CDRH105R-820M	82±20%	227	1.50	1.45
CDRH105R-101M	100±20%	253	1.35	1.35
CDRH105R-151M	150±20%	370	1.12	1.10
CDRH105R-221M	220±20%	500	940m	940m
CDRH105R-331M	330±20%	812	750m	730m
CDRH105R-471M	470±20%	1290	600m	540m
CDRH105R-561M	560±20%	1430	540m	520m
CDRH105R-681M	680±20%	1600	520m	510m
CDRH105R-821M	820±20%	1770	500m	480m
CDRH105R-102M	1000±20%	1990	480m	420m

NOTES:

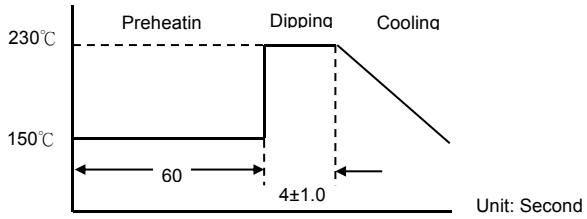
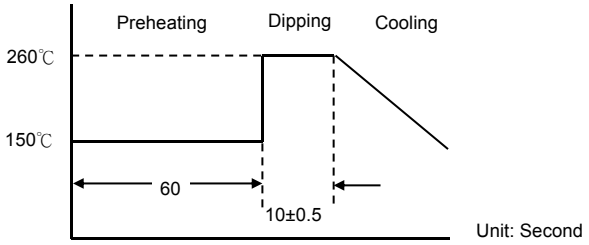
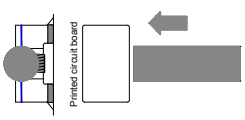
Operating: -40℃ ~ +125℃ (Including self-temperature rise)

Test Frequency:100KHZ/1.0V

Saturation Rated Current that will cause initial inductance value approximately 25% rolloff. (Ta=25±5℃)

Temperature Rise Current that will cause temperature rise approximate 40°C without core loss. (Ta=25±5℃)

■ Reliability and Testing Conditions / Pin Type Power Inductors

Item	Specification	Conditions
Operating temperature range	-40℃ ~ +125℃ (Including self-temperature rise)	
Storage temperature and humidity range	-25℃ ~ +85℃ , 70% RH Max	
Solderability	More than 90% of the terminal electrode should be covered with solder.	
Solder Heat Resistance	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	
Heat resistance	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	After 96 hours in 85±5℃ and 2 hour drying under normal condition.
Cold resistance	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	After 96 hours in -25±5℃ and 2 hour drying under normal condition.
Thermal shock	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	After 100 cycles of following condition. Step / Temperature (℃) / Times (min.) 1 / -25±5℃ / 30 2 / Room Temperature / Within 3 3 / 85±5℃ / 30 4 / Room Temperature / Within 3
Humidity Resistance	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	After96 hours in 40±2℃ and 90 to 95% humidity , and 2 hour drying under normal condition.
Vibration Test	Inductance within ±5% of initial value and appearance shall not break.	After vibration for 1hour, In each of three orientations at sweep vibration (10~55~10Hz) with 1.52mm P-P Amplitudes.
Terminal strength	The terminal electrode and the ferrite must not be damaged	Solder a chip to test substrate, and then laterally apply a load 10N in the arrow direction, Duration :5s 

■ Recommended Soldering Conditions

Figure 1. Re-flow Soldering

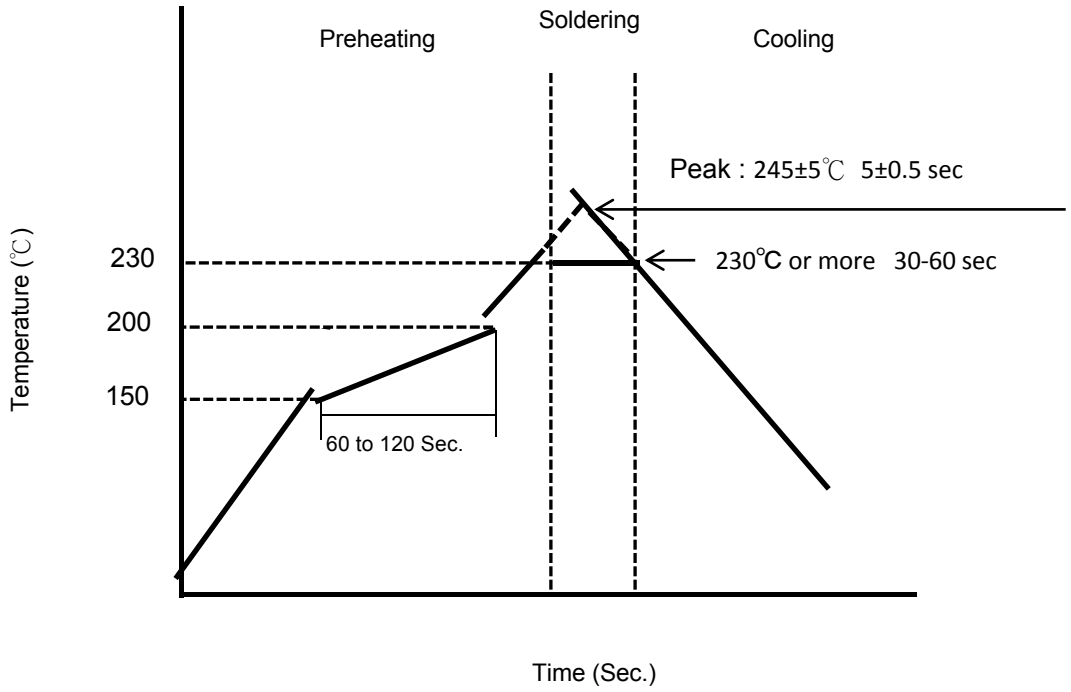


Figure 2. Hand Soldering