HIGH RESISTANCE VALUE CHIP RESISTORS

RoHs Compliant 2011/65/EU

HOW TO ORDER

CRH 10- 107 K M

Packaging
M = 7" Reel B = Bulk Case

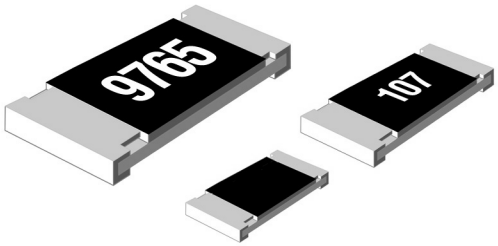
Tolerance (%)
P = ±50 M = ±20 J = ±5 F = ±1
N = ±30 K = ±10 G = ±2

EIA Resistance Code
Three digits for ≥ 5% tolerance
Four digits for 1% tolerance

Size
05 = 0402 10 = 0805 14 = 1210
16 = 0603 18 = 1206 12 = 2010
01 = 2512

Series
High ohm chip resistors

Termination Sn

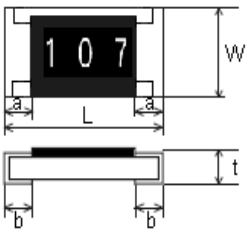


FEATURES

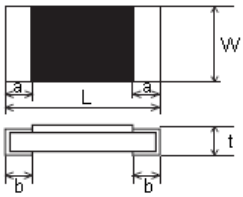
- Stringent specs in terms of reliability, stability, and quality.
- Available in sizes as small as 0502
- Resistance Range up to 150 Gig ohms
- E-24 and E-96 Series
- Low Voltage Coefficient of Resistance
- Wrap Around Terminal for Solder Flow
- RoHS Compliance

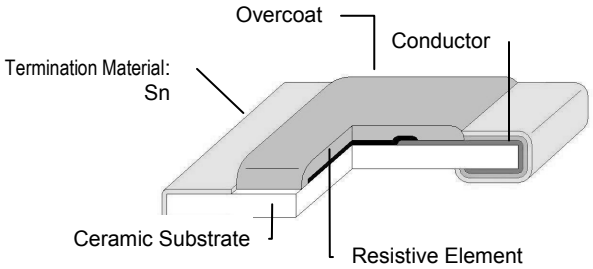
SCHEMATIC

CRH



CRH-A, CRH-B





DIMENSIONS (mm)

Series	Size	L	W	t	a	b	Package Qty
CRH05	0402	1.0 ± 0.05	0.50 ± 0.05	0.35 ± 0.05	0.20 ± 0.1	0.25 $^{+0.05}_{-0.10}$	10,000
CRH05B	0402	1.0 ± 0.05	0.50 ± 0.05	0.30 ± 0.05	0.20 ± 0.1	0.25 $^{+0.05}_{-0.10}$	10,000
CRH16	0603	1.60 ± 0.15	0.80 ± 0.15	0.45 ± 0.10	0.30 ± 0.20	0.30 ± 0.20	5,000
CRH16A		1.60 ± 0.10	0.80 ± 0.10	0.45 ± 0.10	0.20 ± 0.10	0.20 ± 0.10	
CRH16B		1.60 ± 0.10	0.80 ± 0.10	0.45 ± 0.10	0.30 ± 0.20	0.30 ± 0.20	
CRH10	0805	2.10 ± 0.15	1.25 ± 0.15	0.55 ± 0.10	0.40 ± 0.20	0.40 MAX	5,000
CRH10A		2.00 ± 0.20	1.25 ± 0.20	0.50 ± 0.10	0.40 ± 0.20	0.40 ± 0.20	
CRH10B		2.00 ± 0.20	1.25 ± 0.10	0.50 ± 0.10	0.40 ± 0.20	0.40 ± 0.20	
CRH18	1206	3.10 ± 0.15	1.55 ± 0.15	0.55 ± 0.10	0.50 ± 0.20	0.50 MAX	5,000
CRH18A		3.20 ± 0.20	1.60 ± 0.20	0.55 ± 0.10	0.50 ± 0.30	0.50 ± 0.30	
CRH18B		3.20 $^{+0.05}_{-0.20}$	1.60 $^{+0.05}_{-0.15}$	0.60 ± 0.10	0.50 ± 0.25	0.50 ± 0.20	
CRH14	1210	3.10 ± 0.15	2.65 ± 0.15	0.55 ± 0.10	0.50 ± 0.20	0.50 MAX	5,000
CRH12	2010	5.10 ± 0.15	2.60 ± 0.15	0.55 ± 0.10	0.80 ± 0.20	0.80 MAX	4,000
CRH01	2512	6.40 ± 0.15	3.10 ± 0.15	0.55 ± 0.10	0.80 ± 0.20	1.30 MAX	4,000
CRH01A		6.40 ± 0.20	3.2 ± 0.20	0.55 ± 0.10	0.50 ± 0.30	0.50 ± 0.30	

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HIGH RESISTANCE VALUE CHIP RESISTORS

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ELECTRICAL CHARACTERISTICS

Series	Size	Rated Power	Voltage (Max.)*		Operating Temperature	*Resistance Range by Tolerance& TCR (ppm/°C)*			
			Working	Overload		±1%	±5%	±10%	±20%
						+400 ~ -100 ppm	±500 ppm	±500 ppm	±500 ppm
CRH05	0402	1/20 w	25 V	50 V	-55 ~ +155°C	10M ~ 500M	10M ~ 1G	10M ~ 1G	10M ~ 1G
CRH16	0603	1/16w	50 V	100 V	-55 ~ +155°C	10M ~ 500M	10M ~ 1G	10M ~ 10G	10M ~ 50G
CRH10	0805	1/10w	150 V	300 V	-55 ~ +155°C	10M ~ 1G	10M ~ 1G	10M ~ 10G	10M ~ 50G
CRH18	1206	1/8w	200 V	400 V	-55 ~ +155°C	10M ~ 1G	10M ~ 10G	10M ~ 10G	10M ~ 50G
CRH14	1210	1/4w	200 V	400 V	-55 ~ +155°C	10M ~ 100M	10M ~ 100M	10M ~ 10G	10M ~ 1G
CRH12	2010	1/2w	200 V	400 V	-55 ~ +155°C	10M ~ 1G	10M ~ 10G	10M ~ 10G	10M ~ 50G
CRH01	2512	1w	200 V	400 V	-55 ~ +155°C	10M ~ 10G	10M ~ 10G	10M ~ 50G	10M ~ 50G

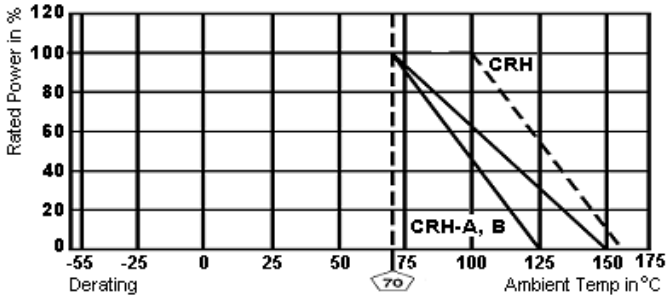
Series	Size	Rated Power	Voltage (Max.)*		Operating Temperature	*Resistance Range by Tolerance & TCR (ppm/°C)*			
			Working	Overload		±1%, ±2%	±5%	±10%	±20
						±100 ppm	±250 ppm		±1500 ppm
CRH16A	0603	1/32w	50V	100V	-55 ~ 125°C	10M ~ 100M	10M ~ 1G	10M ~ 1G	10M ~ 1G
CRH10A	0805	1/16w	75 V	150 V	-55 ~ +125°C	10M ~ 100M	10M ~ 1G	10M ~ 1G	10M ~ 1G
CRH18A	1206	1/8w	150 V	300 V	-55 ~ +125°C	10M ~ 100M	10M ~ 1G	10M ~ 1G	10M ~ 1G
CRH01A	2512	1w	300 V	500 V	-55 ~ +125°C		10M ~ 1G	10M ~ 1G	10M ~ 1G

Series	Size	Rated Power	Voltage (Max.)*		Operating Temperature	*Resistance Range by Tolerance & TCR (ppm/°C)*	
			Working	Overload		±5%, ±10%, ±20%	
						±500 ppm	±1500 ppm
CRH05B	0402	1/16w	50 V	100 V	-55 ~ +125°C	10M ~ 1G	10M ~ 150G
CRH16B	0603	1/16w	50 V	100 V	-55 ~ +125°C	10M ~ 1G	10M ~ 150G
CRH10B	0805	1/10w	150 V	300 V	-55 ~ +125°C	10M ~ 1G	10M ~ 150G
CRH18B	1206	1/8w	200 V	400 V	-55 ~ +125°C	10M ~ 1G	10M ~ 150G

* Rated Voltage = $\sqrt{P \times R}$

DERATING CURVE

If the ambient temperature exceeds 70°C, then the rated power must be derated according to the power derating curve shown to the right.



PERFORMANCE

Test Item	Test Conditions	Test Results	
		±100ppm parts	> ±100ppm parts
Long Term Stability	Normal temperature and humidity for 1,000 hours	±0.5%	±0.5%
High Temperature Loading	DC15V, 1.5 hours on, 0.5 hours off, 1,000 hours at 70°C	±0.5%	±1.0%
Resistance to Soldering Heat	260°C ± 5°C for 10+1-0 seconds	±0.5%	±1.0%
Short Time Overload	Test for 5 seconds using maximum Overload Voltage	±0.5%	±1.0%
Operating Temperature Range	Refer to electrical charachteristics		

The content of this specification may change without notification 04/22/2015