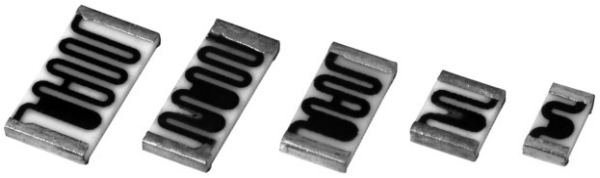
Thick Film Chip Resistors, High Voltage



STANDARD ELECTRICAL SPECIFICATIONS

MODEL	RESISTANCE (1) (Ω)	POWER RATING (W)	VOLTAGE RATING (V) (max.)
CRHV1206	2M - 8G	0.300	1500
CRHV1210	4M - 10G	0.450	1750
CRHV2010	6M - 35G	0.500	2000
CRHV2510	10M - 40G	0.600	2500
CRHV2512	12M - 50G	0.700	3000

Notes

(1) Resistance values below 1 GΩ are calibrated at 100 V_{DC}, and values of 1 GΩ and above are calibrated at 1000 V_{DC}. Calibration at other voltages available upon request.

- For non-standard sizes, lower values or higher power rating requirement, contact factory

ELECTRICAL SPECIFICATIONS

(Reference only: Not for all values specified. Consult factory for your size and value.)

Resistance Range: 2 MΩ to 50 GΩ
Resistance Tolerance: ± 1 %, ± 2 %, ± 5 %, ± 10 %, ± 20 %
Temperature Coefficient: ± 100 ppm/°C (- 55 °C to + 150 °C)
Voltage Rating: 1500 V - 3000 V
Short Time Overload: Less than 0.5 % ΔR

FEATURES

Pb Available

RoHS* COMPLIANT

- High voltage up to 3000 V
- Outstanding stability < 0.5 %
- Flow solderable
- Custom sizes available
- Automatic placement capability
- Available with either wraparound terminations or as a single termination flip chip
- Tape and reel packaging available
- Internationally standardized sizes
- Suitable for solderable, epoxy bondable, or wire bondable applications
- Termination: Gold, palladium silver, platinum gold, platinum silver, platinum palladium gold or solder-coated nickel barrier available
- Multiple styles, termination materials and configurations, allow wide design flexibility
- Non-magnetic terminations available
- Lead (Pb)-free version is RoHS compliant

MECHANICAL SPECIFICATIONS

Construction: 96 % alumina substrate with proprietary cermet resistance element and specified termination material

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature: - 55 °C to + 150 °C
Life: Less than 0.5 % change when tested at full rated power

(Reference only: Not for all values specified. Consult factory for your size and value.)

VOLTAGE COEFFICIENT OF RESISTANCE CHART

SIZE	VALUE (Ω)	VCR (ppm/V)	FURTHER INSTRUCTIONS
CRHV1206	2M to 199M	25	Values over 200M, consult factory
CRHV1210	4M to 200M	25	Values over 200M, consult factory
CRHV2010	6M to 99M	15	Values over 1G, consult factory
	100M to 1G	20	
CRHV2510	10M to 99M	10	Values over 1G, consult factory
	100M to 1G	15	
CRHV2512	12M to 999M	10	Values over 5G, consult factory
	1G to 5G	25	

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: CRHV1206AF100MFKFB (preferred part number format)

C	R	H	V	1	2	0	6	A	F	1	0	0	M	F	K	F	B

GLOBAL MODEL	SIZE	TERM STYLE	TERM MATERIAL	RESISTANCE VALUE	TOLERANCE	TCR	SOLDER TERMINATION	PACKAGING
CRHV	**1206** **1210** **2010** **2510** **2512**	**A** = 3-sided **B** = top only **C** = 5-sided	**A** = Palladium silver **B** = Platinum gold **C** = Gold **D** = Platinum silver **E** = Platinum palladium gold **F** = Nickel barrier	M = Million G = Billion **4M70** = 4.7 MΩ **10M0** = 10 MΩ **1G00** = 1 GΩ	**F** = ± 1.0 % **G** = ± 2.0 % **J** = ± 5.0 % **K** = ± 10.0 % **M** = ± 20.0 %	**K** = 100 ppm **N** = 200 ppm **W** = 350 ppm **P** = 500 ppm	**E** = Sn100 **F** = Sn95/Ag5 **N** = No solder **S** = Sn62/Pb36/Ag2 **T** = Sn90/Pb10	**B** = Bulk **T** = Tape and reel **W** = Waffle

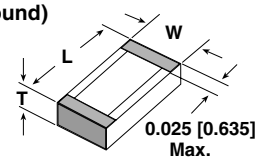
Historical Part Numbering: CRHV1206AF1006F100e2 (will continue to be accepted)

CRHV	1206	A	F	1006	F	100	e2
HISTORICAL MODEL	SIZE	TERM STYLE	TERM MATERIAL	RESISTANCE VALUE	TOLERANCE	TCR	SOLDER TERMINATION

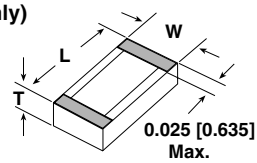
* Pb containing terminations are not RoHS compliant, exemptions may apply

DIMENSIONS in inches [millimeters]

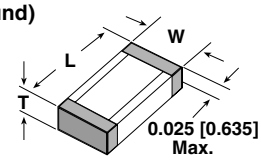
Termination Style A
(3-sided wraparound)



Termination Style B
(Top conductor only)

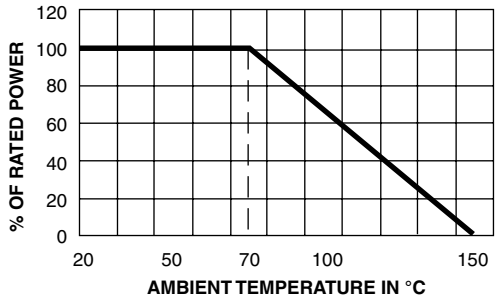


Termination Style C
(5-sided wraparound)



MODEL	LENGTH (L) ± 0.006 [0.152]	WIDTH (W) ± 0.006 [0.152]	THICKNESS (T) ± 0.002 [0.051]
CRHV1206	0.125	0.063	0.025
CRHV1210	0.125	0.100	0.025
CRHV2010	0.200	0.100	0.025
CRHV2510	0.250	0.100	0.025
CRHV2512	0.250	0.126	0.025

DERATING CURVE



(Reference only: Not for all values specified. Consult factory for your size and value.)

TYPE	TERMINATION MATERIAL	TERMINATION STYLE	TERMINATION STYLE/ MATERIAL CODE	SOLDER TERMINATION CODE
Solderable	Nickel barrier	3-sided (wraparound)	AF	E, F, S, or T [3]
		Top only (flip chip)	BF	
Wire bondable/ Solderable	Platinum palladium gold	3-sided (wraparound)	AE	N, F or S [1]
		Top only (flip chip)	BE	
		5-sided (wraparound)	CE	
Wire bondable/ Epoxy bondable	Gold	3-sided (wraparound)	AC	N
		Top only (flip chip)	BC	
		5-sided (wraparound)	CC	
Epoxy bondable	Palladium silver [2]	3-sided (wraparound)	AA	N
		Top only (flip chip)	BA	
		5-sided (wraparound)	CA	
	Platinum gold	3-sided (wraparound)	AB	
		Top only (flip chip)	BB	
		5-sided (wraparound)	CB	
	Platinum silver	3-sided (wraparound)	AD	
		Top only (flip chip)	BD	
		5-sided (wraparound)	CD	

Notes

[1] Use solder termination N for applications requiring wire bondable mounting, and solder terminations F or S for applications requiring solderable mounting.

[2] While not recommended, palladium silver terminations could be used for solderable applications when using a solder alloy containing silver.

[3] Standard solder plating for the nickel barrier parts are solder terminations E or T. Hot solder dipped terminations F or S are also available.

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