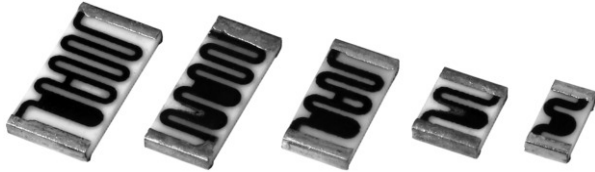


Thick Film Chip Resistors, High Voltage



| 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 G Ω are calibrated at 100 V_{DC}, and values of 1 G Ω 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 M Ω to 50 G Ω

Resistance Tolerance: $\pm 1\%$, $\pm 2\%$, $\pm 5\%$, $\pm 10\%$, $\pm 20\%$

Temperature Coefficient: ± 100 ppm/ $^{\circ}$ C (-55 $^{\circ}$ C to +150 $^{\circ}$ C)

Voltage Rating: 1500 V - 3000 V

Short Time Overload: Less than 0.5 % ΔR

FEATURES

- 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


 Available
RoHS*
 COMPLIANT

MECHANICAL SPECIFICATIONS

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

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature: -55 $^{\circ}$ C to +150 $^{\circ}$ C

Life: Less than 0.5 % change when tested at full rated power

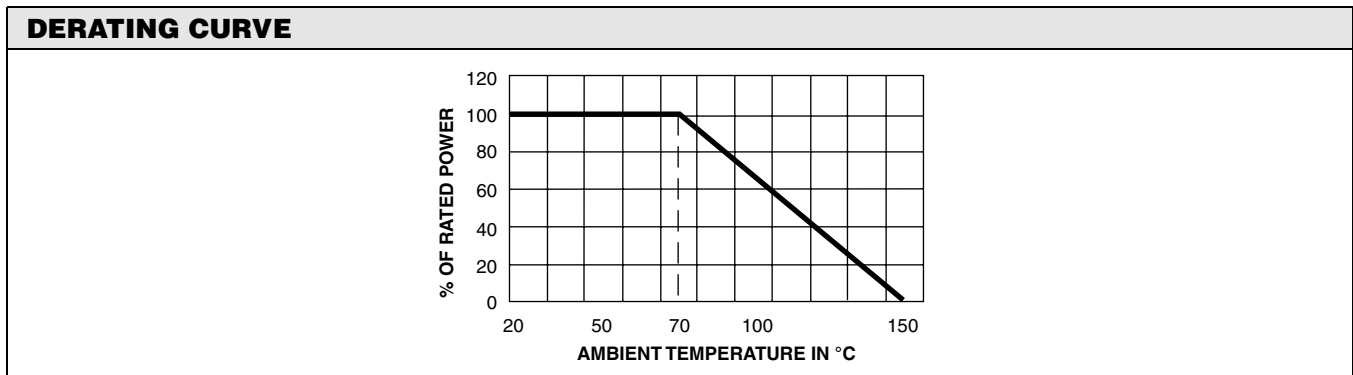
(Reference only: Not for all values specified. Consult factory for your size and value.)

| 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 M Ω 10M0 = 10 M Ω 1G00 = 1 G Ω | F = $\pm 1.0\%$ G = $\pm 2.0\%$ J = $\pm 5.0\%$ K = $\pm 10.0\%$ M = $\pm 20.0\%$ | 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 |
| | CRHV1210 | 0.125 | 0.100 |
| | CRHV2010 | 0.200 | 0.100 |
| | CRHV2510 | 0.250 | 0.100 |
| | CRHV2512 | 0.250 | 0.126 |



(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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