

# HIGH MEGOHM CHIP RESISTORS

## HR SERIES



RESISTORS • CAPACITORS • COILS • DELAY LINES



- Resistance Range: 1MΩ to 1TΩ (10<sup>12</sup>Ω)
- Standard Tol: ±5% up to 500MΩ, ±10/20/50% >500MΩ
- Choice of terminations: lead-free, tin/lead, or gold
- Low cost, popular models available from stock
- Excellent thermal, voltage, and environmental stability

### HR SERIES - Industry's Highest Value Chip Resistors!

RCD's HR Series offers excellent stability for applications requiring high ohmic values such as X-Ray equipment, photomultipliers, ionization detectors and other circuits which involve low signal detection or amplification. The excellent performance of the HR Series also makes them ideal as an input resistor in many high impedance voltage dividers.

### SPECIFICATIONS

RCD Type	Wattage	Max. Working Voltage	Termination Type	Resistance Range <sup>1</sup>	Dimensions			
					A ± .01 [2.54]	B ± .01 [2.54]	H Max.	t Typ.
HR0402	.063W	50V	W	1M - 470M	.02 [.51]	.04 [1.02]	.018 [.45]	.01 [.25]
HR0503	.03W	50V	S	1M - 100M	.025 [.64]	.05 [1.27]	.024 [.6]	.012 [.3]
HR0603	.1W	50V	W	1M - 10G	.031 [1.3]	.061 [1.55]	.022 [.55]	.012 [0.3]
HR0805	.125W	150V	W	1M - 1T	.05 [1.25]	.079 [2.0]	.026 [.66]	.012 [0.3]
HR1206	.25W	200V	W	1M - 1T	.062 [1.6]	.126 [3.2]	.026 [.66]	.016 [0.4]
HR1210	.33W	200V	W	1M - 470M	.098 [2.5]	.126 [3.2]	.026 [.66]	.02 [0.5]
HR2010	.5W	200V	W	1M - 470M	.102 [2.6]	.197 [5.0]	.026 [.66]	.02 [0.5]
HR2512	1W	250V	W	1M - 1G	.125 [3.2]	.25 [6.35]	.028 [.7]	.02 [0.5]

<sup>1</sup> Consult factory for resistance values outside of the standard range

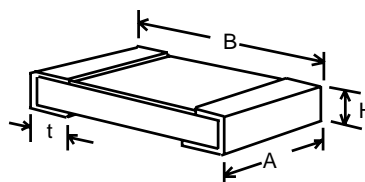
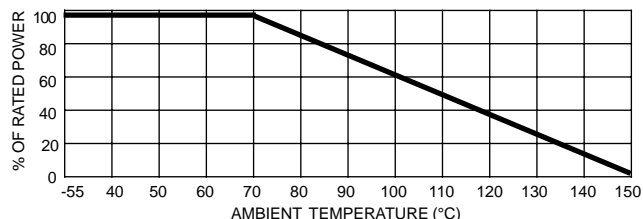
### TYPICAL PERFORMANCE CHARACTERISTICS

Voltage Coef. 5V-15V*	.01%/V up to 10 <sup>8</sup> Ω, .05%/V 10 <sup>9</sup> Ω, .2%/V 10 <sup>10</sup> Ω, 1%/V 10 <sup>11</sup> Ω.
Temperature Coef. (25-125°C)	300ppm < 10 <sup>7</sup> Ω, 500ppm 10 <sup>7</sup> - 10 <sup>9</sup> Ω, 1000ppm > 10 <sup>9</sup> - 10 <sup>10</sup> Ω, 2000ppm > 10 <sup>10</sup> - 10 <sup>11</sup> Ω, 2500ppm > 10 <sup>11</sup> - 10 <sup>12</sup> Ω
Thermal Shock (-55° to +125°C)	0.5% ΔR
Short Time Overload (2 x Max V, 5S)	1% ΔR
Low Temp. Operation (-55°C, 1 hr)	0.5% ΔR
High Temp. Exposure (125°C, 100 hrs)	0.5% ΔR
Resistance to Solder Heat	0.25% ΔR
Moisture Resistance	0.5% ΔR
Load Life(1000 hrs.)	1.0% ΔR
DC Resistance	within tol. @ 50V 25°C

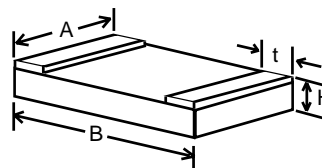
\* VC is based on HR1206 and larger (smaller sizes have higher VC's)

### DERATING CURVE

Resistors may be operated up to full rated power & voltage, with consideration of mounting layout and environmental conditions



Termination Type W: Wraparound (standard on all sizes except HR0503)



Termination Type S: Single Sided (HR0503)

### P/N DESIGNATION:

**HR0805** - **107** - **J** **T** □  
 RCD Type \_\_\_\_\_  
 Resis.Code: 2 digits & multiplier (105=1M, 106=10M, 107=100M, 1G0=1G, 10G=10G, 100G=100G, 1T0=1T)  
 Tolerance Code: N=50%, M=20%, K=10%, J=5%  
 Packaging: B = Bulk, T = Tape & Reel  
 Termination: W= Lead-free (Tin-plated), Q= Tin/Lead, G= Gold plated