



Product Family: [High Power Chip Resistor](#)
Part Number Series: [HCR Series](#)

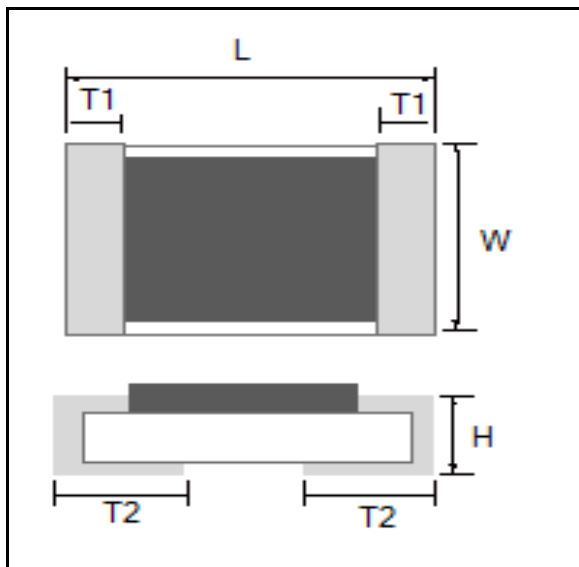


	<p>Construction:</p> <ul style="list-style-type: none"> • Wider bottom terminal enabling higher power capacity • Wrap around electrodes • (RoHS compliant and Pb Free) • AEC-Q200 qualified 	<p>Features:</p> <ul style="list-style-type: none"> • 1206 size • Power rating of 1.0W • High precision resistance tolerance $\pm 0.1\%$, $\pm 5\%$ • Thin film structure enabling low noise and anti-sulfur
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Description:

These chip resistors are highly stable, low noise precision, with a wider bottom terminal enabling higher power capacity, which are perfect for power source related devices, DC motors, inverters, robotics, and industrial control systems.

Product Dimensions:



Dimension	HCR1206 (3216)
L	0.126 \pm 0.008 (3.20 \pm 0.20)
W	0.063 \pm 0.010 (1.60 \pm 0.25)
H	0.016+ 0.006/-0.004 (0.40+0.15/-0.10)
T1	0.020 \pm 0.010 (0.50 \pm 0.25)
T2	0.043 \pm 0.008 (1.10 \pm 0.20)

Part Numbering: Ex: HCR1206E2002B-T5*

All dimensions are shown in inches. Metric sizes are shown in parenthesis.

Product Designator	Size W x L (English)	Temp. Coefficient of Resistance (TCR)	Resistance Value	Resistance Tolerance	T&R Packaging Quantity *
HCR	1206	E = ± 25 ppm/ $^{\circ}$ C Q = ± 50 ppm/ $^{\circ}$ C	4 digits with the first 3 being significant. The last digit specifies the number of zeros. "R" denotes decimal position as necessary	B= $\pm 0.1\%$ D= $\pm 0.5\%$	-T1 = 1,000 -T5 = 5,000 (see note)

* Note: Refer to available package sizes in the Electrical Specifications section of this document. When requesting quotes or ordering parts, it is not necessary to add the T&R package quantity (-T#) to the end of the part number. This will be added by TFT based on the quantity ordered.

Reflow/ Storage:

Moisture Sensitivity Level = MSL1	Maximum Reflow Temperature = 260 $^{\circ}$ C \pm 5 $^{\circ}$ C
Recommended Reflow Profile: http://www.thin-film.com/uploadedcontent/documents/Soldering_Profile.pdf	

Electrical Specifications:

Type	HCR 1206
Power Rating	1 Watt
Tolerance % (code)	10 Ω ~100k Ω = \pm 0.5% (D) 47 Ω ~100k Ω = \pm 0.1% (B)
Resistance Range (Ω)	10~100k
Resistance Offering	E-24, E-96 Value
TCR ppm/ $^{\circ}$ C (code)	10 Ω ~100k Ω = \pm 50 (Q) 47 Ω ~100k Ω = \pm 25 (E)
Max Operating Voltage	200V
Operating Temperature	-55 $^{\circ}$ C ~ 155 $^{\circ}$ C
Packaging	1,000 pcs/reel (T1) 5,000 pcs/reel (T5)

Reliability Specifications:

Test items	Condition (test methods (JIS C5201-1))	\leq 47 Ω	\geq 47 Ω
Life (biased)	70 $^{\circ}$ C, rated voltage*,1 90min on 30min off, 1000hours	\pm (0.5% +0.05 Ω)	\pm (0.25% +0.01 Ω)
High temperature high humidity	85 $^{\circ}$ C, 85%RH, 1/10 of rated power, 90min on 30min off, 1000hours	\pm (0.25% +0.05 Ω)	\pm (0.1% +0.01 Ω)
Temperature shock	-55 $^{\circ}$ C (30min) ~ 125 $^{\circ}$ C (30min) 1000cycles	\pm (0.25% +0.05 Ω)	\pm (0.1% +0.01 Ω)
High temperature exposure	155 $^{\circ}$ C, no bias, 1000hours	\pm (0.25% +0.05 Ω)	\pm (0.1% +0.01 Ω)
Resistance to soldering heat	260 \pm 5 $^{\circ}$ C, 10 seconds (reflow)	\pm (0.25% +0.05 Ω)	\pm (0.1% +0.01 Ω)

1 Rated voltage is given by $E = \sqrt{R \times P}$ E= rated voltage (V), R=nominal resistance value(Ω), P=rated power(W) If rated voltage exceeds maximum voltage /element, maximum voltage/element is the rated voltage.

Reliability Testing Graphs:

