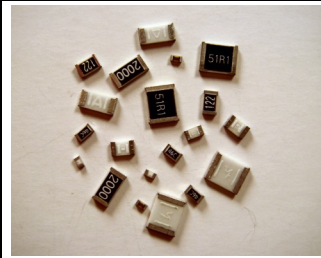




Product Family: [Precision Chip Resistor](#)

Part Number Series: [RR Series](#)



Construction:

- High Purity Alumina Substrate
- Ni alloy thin-film resistive element
- Wrap around electrodes
- 100% matte tin over Ni terminations (RoHS compliant and Pb Free)

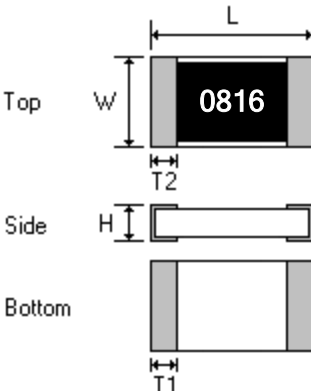
Features:

- 0201, 0402, 0603, and 0805 English sizes
- TCR's down to $\pm 25\text{ppm}/^\circ\text{C}$
- Resistance down to 10Ω available
- High volume production suitable for commercial and special applications

Description:

These precision chip resistors offer excellent performance and tolerance in TCR, current noise, and linearity for high frequency circuit applications and other applications requiring precision and stability. High volume manufacturing allows for lower costs for the customer.

Product Dimensions:

	Dimension	RR0306 (0201)	RR0510 (0402)	RR0816 (0603)	RR1220 (0805)
	L	0.024 ± 0.002	0.039 ± 0.002	0.063 ± 0.008	0.079 ± 0.008
	W	0.012 ± 0.002	0.020 ± 0.002	0.031 ± 0.008	0.049 ± 0.008
	H	0.009 ± 0.001	0.014 ± 0.002	0.016 ± 0.004	0.016 ± 0.004
	T1	0.005 ± 0.002	0.010 ± 0.002	0.012 ± 0.008	0.016 ± 0.008
	T2	0.005 ± 0.002	0.008 ± 0.004	0.012 ± 0.008	0.016 ± 0.008

All dimensions are shown in inches, but use metric size when ordering as shown in the part numbering section. English case sizes are shown in parenthesis.

Part Numbering: Ex: RR0816P203D-T5*

Product Designator	Size W x L (Metric)	Temp. Coefficient of Resistance (TCR)	Resistance Value	Resistance Tolerance	T&R Packaging Quantity
RR	0306 0510 0816 1220	P = $\pm 25\text{ppm}/^\circ\text{C}$ Q = $\pm 50\text{ppm}/^\circ\text{C}$ R = $\pm 100\text{ppm}/^\circ\text{C}$	Use 3 digit code for E24 values and 4 digit code for E-96 values. "R" denotes decimal position as necessary	D = $\pm 0.5\%$ F = $\pm 1.0\%$	-T5 = 5,000/reel -T10 = 10,000/reel (see electrical tables for offerings)

* Note 1: Tape quantity codes can be left off when ordering or requesting quote. These will be assigned by us based on part/quantity ordered.

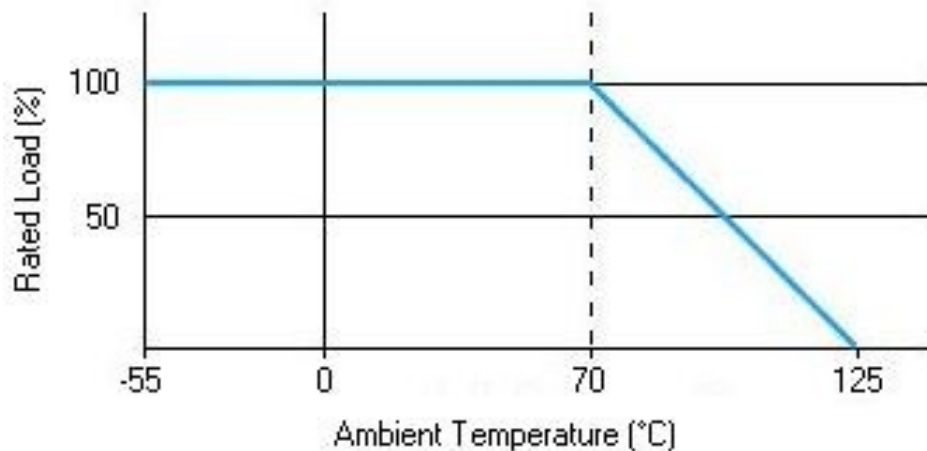
* Note 2: All part numbers will automatically have a "-C" appended to the end of them to indicate RoHS compliance/Pb Free (RoHS 6/6). This will be automatically assigned by TFT. This part series is no longer available in non-RoHS.

Examples:

Part Number	Size (English)	TCR	Resistance (ohms)	Tolerance	Tape Qty
RR0816P203D-T5-C	0816 (0603)	P = $\pm 25\text{ppm}/^\circ\text{C}$	203 = 20,000 E-24=3 digit	D = $\pm 0.5\%$	-T5 = 5,000
RR1220Q49R9D-T5-C	1220 (0805)	Q = $\pm 50\text{ppm}/^\circ\text{C}$	49R9 = 49.9 E-96=4 digit	D = $\pm 0.5\%$	-T5 = 5,000

Electrical Specifications:

Type	RR0306		RR0510		RR0816		RR1220	
English Size	0201		0402		0603		0805	
Power	1/20 Watt		1/16 Watt		1/16 Watt		1/10 Watt	
Tolerance% (code)	±1.0(F)	±0.5(D)	±0.5(D)		±0.5(D)		±0.5(D)	
Resistance Range (Ω)	10~30	33~22k	10~97.6	100~100k	10~97.6	100~360k	10~97.6	100~1M
Resistance Offering	E-24 Values		E-24, E-96 Values					
TCR ppm/°C (code)	±100 (R)	±25 (P)	±100 (R)	±25 (P)	±50 (Q)	±25 (P)	±50 (Q)	±25 (P)
Max Operating Voltage	15 V		25 V		75 V		100 V	
Operating Temp. Range	-55°C ~ 125°C							
Packaging	5,000 pcs/reel		10,000 pcs/reel		5,000 pcs/reel		5,000 pcs/reel	

Power Derating Curve:**Reliability Specifications:**

Test	Test Method	Specification
Short Time Overload	Applied voltage: 2.5X rated voltage or 2X maximum operating voltage, whichever is less. Test duration: 5 seconds	±0.5% +0.05 Ω
Load Life	Test Temperature: 70 $^{\circ}$ C Applied voltage: rated voltage Test period: 1000 hours with power cycling as follows: 90 min. power ON/30 min. power OFF,	±0.5% +0.05 Ω
Moisture Load Life	Test Condition: 40 $^{\circ}$ C/95% RH Applied voltage: rated voltage Test period: 1000 hours with power cycling as follows: 90 min. power ON/30 min. power OFF	±0.5% +0.05 Ω
Temperature Cycle	Repeat 5 cycles as follows: -55 $^{\circ}$ C(30 min.) / Room temp (2 min) / +125 $^{\circ}$ C(30 min.) / Room temp (2 min)	±0.5% +0.05 Ω