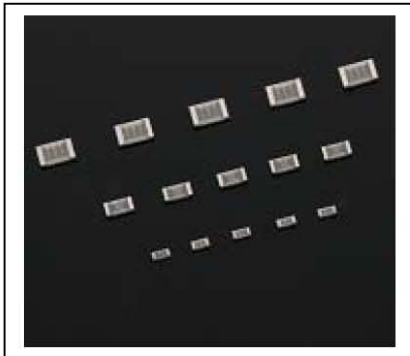


**Ultra precision 0.02%, 0.05%, 0.1%, 0.25%, 0.5%, tolerance
Thin Film Chip Resistor**



FEATURES

- High Reliability and Excellent Stability at different environmental conditions
- Low noise, THIN FILM(NiCr) construction
- EIA Standard case size(0402, 0603, 0805, 1206)
- RoHS Compliance and 100% Lead-Free (Matte Sn termination finished)

APPLICATIONS

- Automotive
- Test & Measurement
- Optical & Telecommunication
- Medical and Industrial Equipment

Electrical Specification

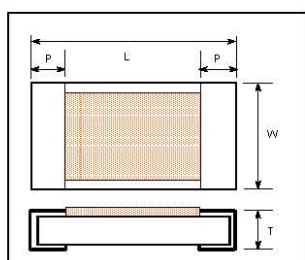
Type	Size	Power Rating ar 85 °C		Resistance Tolerance (Code)	Resistance Rnage (ohm)	Temperature Coefficient (Code)		Max. operating Voltage	Resistance Vaues (E-series)
		General	Ultra-Reliability			(ohm)	(ppm/°C)		
RG1005	0402	0.063W	0.032W	±0.5% (D)	10-100K	10-46.4	100(R)	25V	E-24, E-96
						47-100K	25(P), 10(N)		
						100-2.94K	5(V)		
						47-100K	25(P), 10(N)		
						100-2.94K	5(V)		
±0.25% (C)	47-100K	47-100K	25(P), 10(N)						
		100-2.94K	5(V)						
		47-100K	25(P), 10(N)						
		100-2.94K	5(V)						
		47-100K	25(P), 10(N)						
±0.1% (B)	100-2.94K	100-2.94K	25(P), 10(N), 5(V)						
		47-100K	25(P), 10(N)						
		100-2.94K	5(V)						
		47-100K	25(P), 10(N)						
		100-2.94K	5(V)						
±0.05% (W)	100-2.94K	100-2.94K	25(P), 10(N), 5(V)						
		47-100K	25(P), 10(N)						
		100-2.94K	5(V)						
		47-100K	25(P), 10(N)						
		100-2.94K	5(V)						
±0.02% (V)	100-2.94K	100-2.94K	25(P), 10(N), 5(V)						
		47-100K	25(P), 10(N)						
		100-2.94K	5(V)						
		47-100K	25(P), 10(N)						
		100-2.94K	5(V)						
RG1608	0603	0.1W	0.063W	±0.5% (D)	10-360K	10-46.4	50(Q)	75V	E-24, E-96
						47-360K	25(P)		
						47-274K	10(N)		
						100-4.99K	5(V)		
						47-274K	25(P), 10(N)		
±0.25% (C)	47-274K	47-274K	25(P), 10(N)						
		100-4.99K	5(V)						
		47-332K	25(P)						
		47-274K	10(N)						
		100-4.99K	5(V)						
±0.1% (B)	47-332K	47-332K	25(P)						
		47-274K	10(N)						
		100-4.99K	5(V)						
		47-332K	25(P)						
		47-274K	10(N)						
±0.05% (W)	100-4.99K	100-4.99K	25(P), 10(N), 5(V)						
		47-274K	10(N)						
		100-4.99K	5(V)						
		47-274K	10(N)						
		100-4.99K	5(V)						
±0.02% (V)	100-4.99K	100-4.99K	25(P), 10(N), 5(V)						
		47-274K	10(N)						
		100-4.99K	5(V)						
		47-274K	10(N)						
		100-4.99K	5(V)						
RG2012	0805	0.125W	0.1W	±0.5% (D)	10-1M	10-46.4	50(Q)	100V	E-24, E-96
						47-1M	25(P)		
						47-475K	10(N)		
						100-10K	5(V)		
						47-1M	25(P), 10(N)		
±0.25% (C)	47-1M	47-1M	25(P), 10(N)						
		100-10K	5(V)						
		47-1M	25(P)						
		47-475K	10(N)						
		100-10K	5(V)						
±0.1% (B)	47-1M	47-475K	25(P)						
		47-475K	10(N)						
		100-10K	5(V)						
		47-475K	25(P)						
		100-10K	5(V)						
±0.05% (W)	47-475K	47-475K	10(N)						
		100-10K	5(V)						
		47-475K	10(N)						
		100-10K	5(V)						
		47-475K	10(N)						
±0.02% (V)	100-10K	100-10K	25(P), 10(N), 5(V)						
		47-475K	10(N)						
		100-10K	5(V)						
		47-475K	10(N)						
		100-10K	5(V)						
RG3216	1206	0.25W	0.125W	±0.5% (D)	47-1M	47-1M	25(P), 10(N)	150V	E-24, E-96
						100-33.2K	5(V)		
						47-1M	25(P), 10(N)		
						100-33.2K	5(V)		
						47-1M	25(P), 10(N)		
±0.25% (C)	47-1M	47-1M	25(P), 10(N)						
		100-33.2K	5(V)						
		47-1M	25(P), 10(N)						
		100-33.2K	5(V)						
		47-1M	25(P), 10(N)						
±0.1% (B)	47-1M	47-1M	25(P), 10(N)						
		100-33.2K	5(V)						
		47-1M	25(P), 10(N)						
		100-33.2K	5(V)						
		47-1M	25(P), 10(N)						
±0.05% (W)	47-1M	47-1M	25(P), 10(N)						
		100-33.2K	5(V)						
		47-1M	25(P), 10(N)						
		100-33.2K	5(V)						
		47-1M	25(P), 10(N)						
±0.02% (V)	100-33.2K	100-33.2K	25(P), 10(N), 5(V)						
		47-1M	25(P), 10(N)						
		100-33.2K	5(V)						
		47-1M	25(P), 10(N)						
		100-33.2K	5(V)						

Ultra precision 0.02%, 0.05%, 0.1%, 0.25%, 0.5%, tolerance Thin Film Chip Resistor

Performance

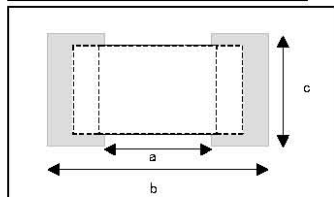
Item	Test Methode	Performance of High Reliability	
		Max	Typical
Short Time Overload	2.5 times of Rated Load X 5sec.	+/- 0.05%	+/- 0.01%
Load Life	85°C Rated Load 90min. On/ 30min. Off per Cycle X1000	+/- 0.1%	+/- 0.01%
Temp. Hum. Biasa	85°C 85% RH 1/10 power loaded 90min. On/ 30min. Off per Cycle X1000	+/- 0.1%	+/- 0.05%
A/A Thermal Shock	-55°C (30min)/room temp.(2min) / +125°C(30min)/room temp.(2min) No Load per Cycle X1000	+/- 0.1%	+/- 0.05%
High Temperature	155°C No Load 1000h	+/- 0.1%	+/- 0.01%

Dimensions & Footprints



Dimensions inch (mm)

	L	W	P	T
RG 1005	.040 ± .002 (1.0 ± 0.05)	.020 ± .002 (0.5 ± 0.05)	.008 ± .004 (0.2 ± 0.1)	.014 ± .002 (0.35 ± 0.05)
RG 1608	.063 ± .008 (1.6 ± 0.2)	.031 ± .008 (0.8 ± 0.2)	.012 ± .008 (0.3 ± 0.2)	0.016 ± .004 (0.4 ± 0.1)
RG 2012	.079 ± .008 (2.0 ± 0.2)	.049 ± .008 (1.25 ± 0.2)	.016 ± .008 (0.4 ± 0.2)	0.016 ± .004 (0.4 ± 0.1)
RG 3216	.126 ± .008 (3.2 ± 0.2)	.063 ± .008 (1.6 ± 0.2)	.02 ± .01 (0.5 ± 0.25)	0.016 ± .004 (0.4 ± 0.1)

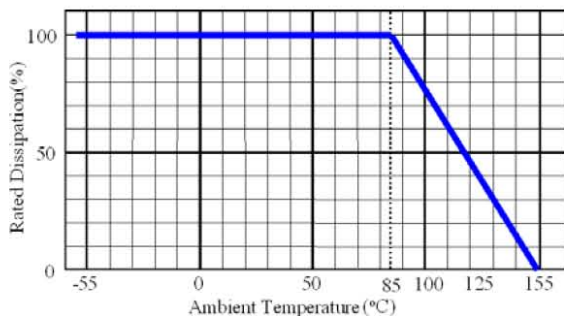


Dimensions (mm)

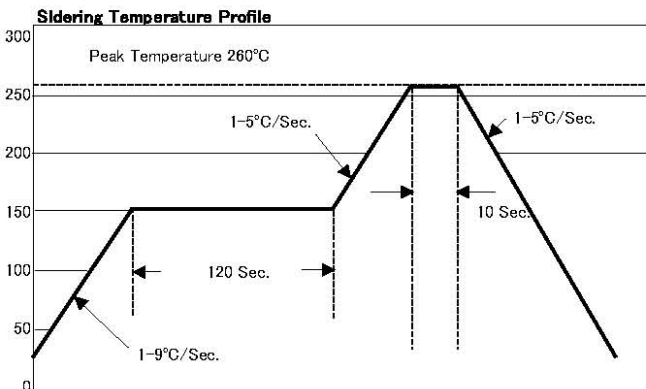
	a	b	c
RG 1005	0.5	1.6	0.6
RG 1608	1.0	3.0	1.2
RG 2012	1.2	4.0	1.7
RG 3216	2.0	5.0	2.0

Power Derating Curve

:For operation above 85degC, power rating must be derated according to the following chart



Recommended Reflow Curve

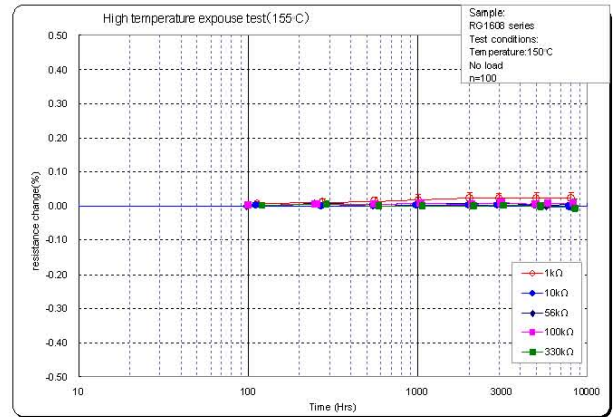
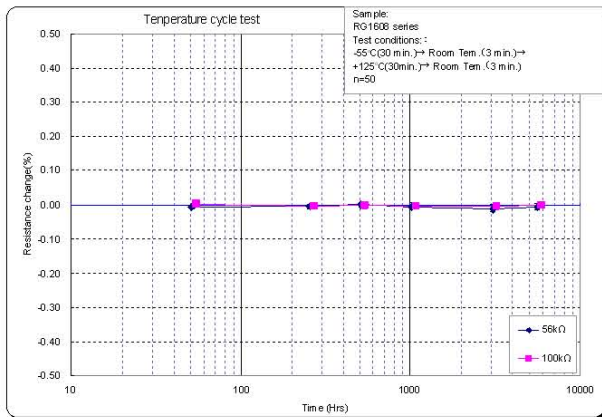
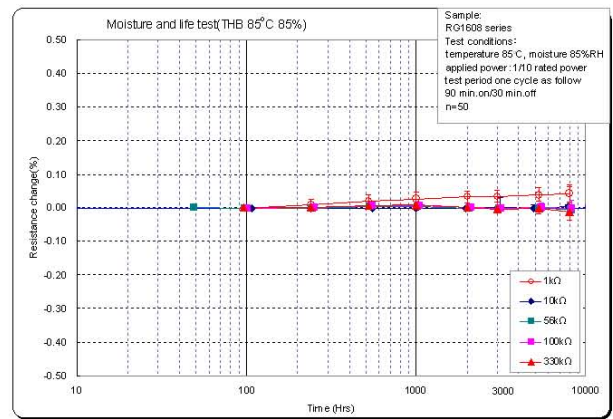
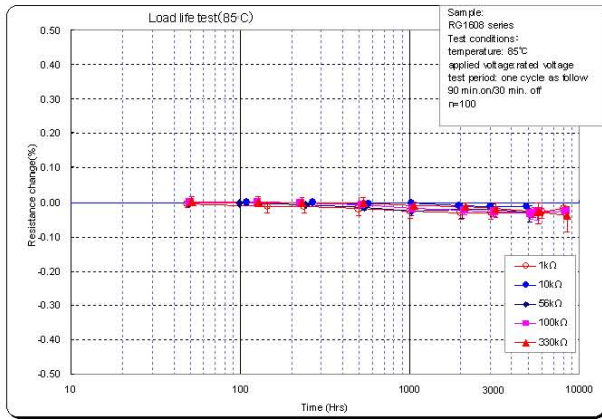


Ordering information

RG	1608	N	-	104	-	W	-	T5
TYPE	Size	TCR		R-Values		Tolerance		Package
	1005 1608 2012 3216	V=5ppm/°C N=10ppm/°C P=25ppm/°C Q=50ppm/°C R=100ppm/°C		3 digits for E24 series (Ex.104=100K ohm) 4 digits for E96 series (Ex.4992=49.9K ohm)		P=0.02% W=0.05% B=0.1% C=0.25% D=0.5%		T1= 1000 T5= 5000

Ultra precision 0.02%, 0.05%, 0.1%, 0.25%, 0.5%, tolerance
Thin Film Chip Resistor

Reliability Test Data



Tape & Reel Dimensions (mm)

Type	A	B	E	F	W	P ₀	P ₁	P ₂	t ₁
RG1005	0.63 ± 0.05	1.13 ± 0.05	1.75 ± 0.1	3.5 ± 0.05	8.0 ± 0.3	4.0 ± 0.1	2.0 ± 0.05	2.0 ± 0.05	0.43 ± 0.05
RG1608	1.1 ± 0.1	1.9 ± 0.1					4.0 ± 0.1		0.6 ± 0.05
RG2012	1.65 ± 0.2	2.4 ± 0.2					4.0 ± 0.1		0.75 ± 0.05
RG3216	1.9 ± 0.1	3.5 ± 0.1					4.0 ± 0.1		1.0 ± 0.2

