



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

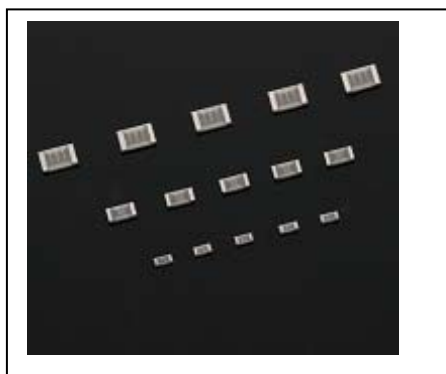
Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



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**

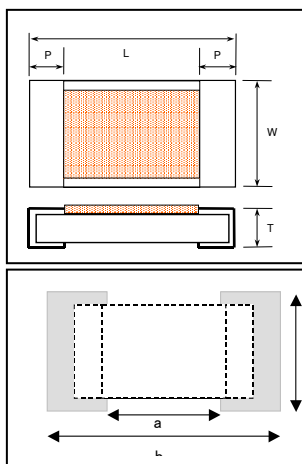
Type	Size	Power Rating ar 85 °C			Resistance Tolerance (Code)	Resistance Range (ohm)	Temperature Coefficient (Code)		Max. operating Voltage	Resistance Values (E-series)
		Low (ultra precision)	Regular	High			(ohm)	(ppm/°C)		
RG1005	0402	0.032W	0.063W	0.125W	±0.5% (D)	10-100K	10-46.4	100(R)	25V	E-24, E-96
							47-100K	25(P), 10(N)		
							100-2.94K	5(V)		
					±0.25% (C)	47-100K	47-100K	25(P), 10(N)		
							100-2.94K	5(V)		
							47-100K	25(P), 10(N)		
±0.1% (B)	47-100K	100-2.94K	5(V)							
		47-100K	25(P), 10(N)							
±0.05% (W)	100-2.94K	5(V)								
±0.02% (V)	100-2.94K	100-2.94K	25(P), 10(N), 5(V)							
RG1608	0603	0.063W	0.1W	0.166W	±0.5% (D)	10-360K	10-46.4	50(Q)	75V	E-24, E-96
							47-360K	25(P)		
							47-274K	10(N)		
					±0.25% (C)	47-274K	100-4.99K	5(V)		
							47-274K	25(P), 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)		
					±0.05% (W)	47-332K	47-332K	25(P)		
47-274K	10(N)									
±0.02% (V)	100-4.99K	100-4.99K	25(P), 10(N), 5(V)							
RG2012	0805	0.1W	0.125W	0.25W	±0.5% (D)	10-1M	10-46.4	50(Q)	100V	E-24, E-96
							47-1M	25(P)		
							47-475K	10(N)		
					±0.25% (C)	47-1M	100-10K	5(V)		
							47-1M	25(P), 10(N)		
							100-10K	5(V)		
					±0.1% (B)	47-1M	47-1M	25(P)		
							47-475K	10(N)		
							100-10K	5(V)		
					±0.05% (W)	47-475K	47-475K	25(P)		
47-475K	10(N)									
±0.02% (V)	100-10K	100-10K	25(P), 10(N), 5(V)							
RG3216	1206	0.125W	0.25W		±0.5% (D)	47-1M	10-46.4	50(Q)	150V	E-24, E-96
							10-1M	25(P), 10(N)		
							100-33.2K	5(V)		
					±0.25% (C)	47-1M	47-1M	25(P), 10(N)		
							100-33.2K	5(V)		
							47-1M	25(P), 10(N)		
±0.1% (B)	47-1M	100-33.2K	5(V)							
		47-1M	25(P), 10(N)							
±0.05% (W)	47-1M	47-1M	25(P), 10(N)							
±0.02% (V)	100-33.2K	100-33.2K	25(P), 10(N), 5(V)							

Ultra precision 0.02%, 0.05%, 0.1%, 0.25%, 0.5%, tolerance  
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Performance

Item	Test Method	Specification: drift limits for each power rating						(Typical)
		Low		Regular		High		
		≤47Ω	≥47Ω	≤47Ω	≥47Ω	≤47Ω	≥47Ω	
Short time Overload	Applied voltage : 2.5 times. Test duration: 5 seconds. (When maximum operating voltage: 2 times or less)	±0.10%	±0.05%	±0.10%	±0.05%	-	±0.10%	±(0.01%)
Load Life	Test temperature : 85°C (When high voltage : 70°C). Applied voltage : rated voltage. Repeat 1000 hours as follow : 90 mins on/30mins off.	±0.25%	±0.10%	±0.50%	±0.25%	-	±0.50%	±(0.01%)
Moisture load life	Test condition: 85°C, 85% RH. Applied power : 1/10 rated power. Repeat 1000 hours as follow : 90 mins on/30mins off.	±0.25%	±0.10%	±0.50%	±0.25%	-	±0.50%	±(0.05%)
Temperature Cycle	Repeat 1000 cycle as follow : -55°C (30 min.)/Room Temp.(2 min.) / +125°C (30min.)/Room Temp.(2min.)	±0.25%	±0.10%	±0.25%	±0.10%	-	±0.10%	±(0.01%)
High temperature Exposure	+155°C for 1000 hours with no load	±0.25%	±0.10%	±0.25%	±0.10%	-	±0.10%	±(0.01%)

Dimensions & Footprints



Dimensions inch (mm)

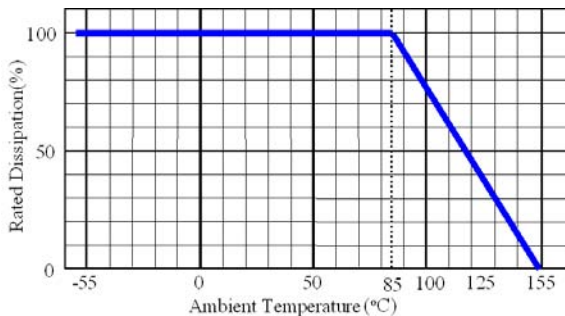
	L	W	P	T
RG 1005	.040 ± .002 (1.0 ± 0.05)	.020 ± .002 (0.5 ± 0.05)	.008 ± .004 (0.2 ± 0.1)	.014 ± .002 (0.35 ± 0.05)
RG 1608	.063 ± .008 (1.6 ± 0.2)	.031 ± .008 (0.8 ± 0.2)	.012 ± .008 (0.3 ± 0.2)	0.016 ± .004 (0.4 ± 0.1)
RG 2012	.079 ± .008 (2.0 ± 0.2)	.049 ± .008 (1.25 ± 0.2)	.016 ± .008 (0.4 ± 0.2)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

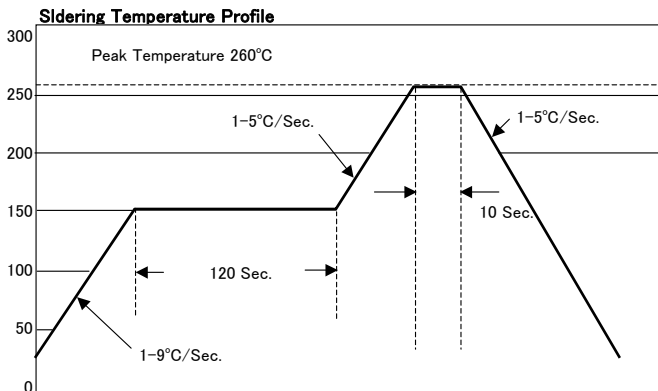
	a	b	c
RG 1005	0.5	1.6	0.6
RG 1608	1.0	3.0	1.2
RG 2012	1.2	4.0	1.7
RG 3216	2.0	5.0	2.0

Power Derating Curve

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



Recommended Reflow Curve



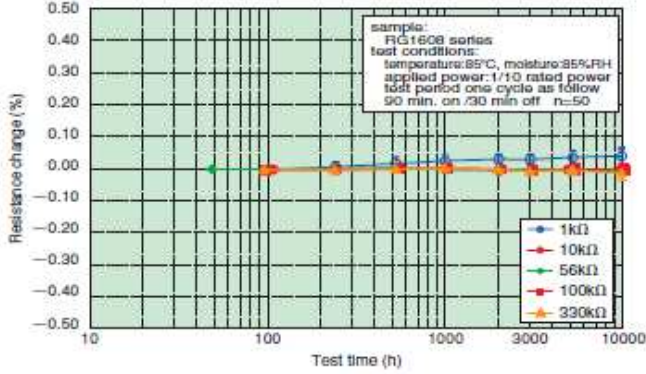
Ordering information

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

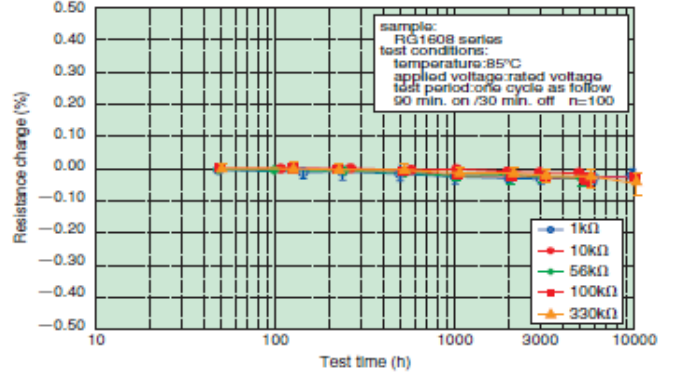
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Reliability Test Data

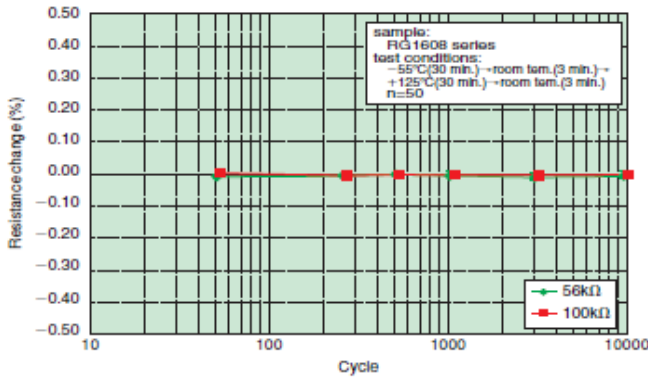
●Moisture and life test (THB 85°C 85%)



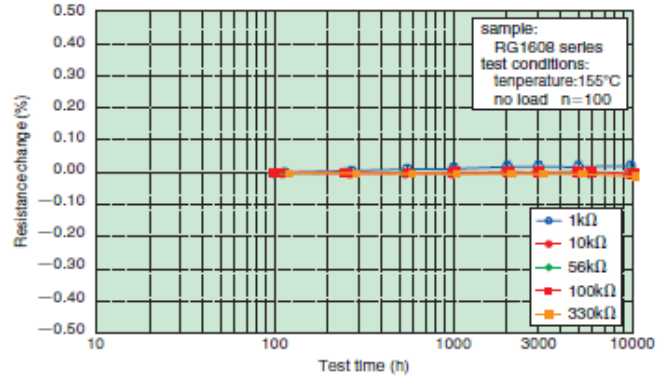
●Load life test (85°C)



●Temperature cycle test



●High temperature expose test (155°C)



Tape & Reel Dimensions (mm)

Type	A	B	E	F	W	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>	t <sub>1</sub>
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

