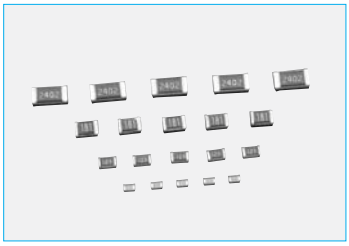


RG series, ultra-precision & ultra-reliability metal film chip resistors

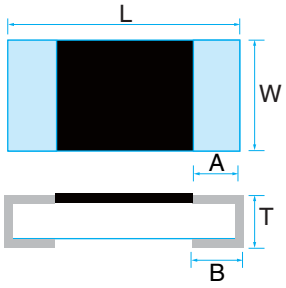
SSM THIN FILM TECHNOLOGY

Tight resistance tolerance of ±0.02% and temperature coefficient of resistance of ±5ppm/°C are achieved. Under high temperature and humid condition of 85°C and 85%RH, and at 155°C(duration:10000 hours for both tests), superior reliability of only less than ±0.1% of change in resistance value is realized.

RoHS compliant　Completely lead free

SPECIFICATIONS

Mechanical



Dimension (Inch Size)	RG1005 (0402)	RG1608 (0603)	RG2012 (0805)	RG3216 (1206)
L	1.0±0.05	1.6±0.2	2.0±0.2	3.2±0.2
W	0.5±0.05	0.8±0.2	1.25±0.2	1.6±0.2
A	0.2±0.10	0.3±0.2	0.4±0.2	0.5±0.25
B	0.25±0.05	0.3±0.2	0.4±0.2	0.5±0.2
T	0.35±0.05	0.4±0.1	0.4±0.1	0.4±0.1

(unit : mm)

Electrical

Type		RG1005				RG1608					
Power	general	1/16W				1/10W					
	Ultra-reliability	1/32W				1/16W					
Tolerance %(code)		±0.5(D)	±0.05(W),±0.1(B),±0.25(C),±0.5(D)	±0.02(P),±0.05(W),±0.1(B),±0.25(C),±0.5(D)	±0.05(W),±0.1(B),±0.25(C),±0.5(D)	±0.5(D)	±0.05(W),±0.1(B),±0.25(C),±0.5(D)	±0.02(P),±0.05(W),±0.1(B),±0.25(C),±0.5(D)	±0.05(W),±0.1(B),±0.25(C),±0.5(D)	±0.1(B) ±0.5(D)	±0.5(D)
Resistance Range(Ω)		10~46.4	47~97.6	100~2.94k	3k~100k	10~46.4	47~97.6	100~4.99k	5.1k~270k	274~332k	340~360k
TCR ppm /°C(code)		±100 (R)	±10 (N) ±25 (P)	±5 (V) ±10 (N) ±25 (P)	±10 (N) ±25 (P)	±50 (Q)	±10 (N) ±25 (P)	±5 (V) ±10 (N) ±25 (P)	±10 (N) ±25 (P)	±25 (P)	±25 (P)
Max Operating Voltage		25V				75V					
Resistance Value		E-24, E-96									
Operating Temp. Range		−55°C~155°C									
Package		1,000pcs/reel (T1:P,W,B), 5,000pcs/reel (T5:W,B), 10,000pcs/reel (T10:W,B,C,D)				1,000pcs/reel (T1:P,W,B), 5,000pcs/reel(T5:W,B,C,D)					

Type		RG2012					RG3216			
Power	general	1/8W					1/4W			
	Ultra-reliability	1/10W					1/8W			
Tolerance %(code)		±0.5(D)	±0.05(W),±0.1(B),±0.25(C),±0.5(D)	±0.02(P),±0.05(W),±0.1(B),±0.25(C),±0.5(D)	±0.05(W),±0.1(B),±0.25(C),±0.5(D)	±0.1(B) ±0.5(D)	±0.5(D)	±0.05(W),±0.1(B),±0.25(C),±0.5(D)	±0.02(P),±0.05(W),±0.1(B),±0.25(C),±0.5(D)	±0.05(W),±0.1(B),±0.25(C),±0.5(D)
Resistance Range(Ω)		10~46.4	47~97.6	100~10k	10.2k~475k	487k~1M	10~46.4	47~97.6	100~33.2k	34k~1M
TCR ppm /°C(code)		±50 (Q)	±10 (N) ±25 (P)	±5 (V) ±10 (N) ±25 (P)	±10 (N) ±25 (P)	±25 (P)	±50 (Q)	±10 (N) ±25 (P)	±5 (V) ±10 (N) ±25 (P)	±10 (N) ±25 (P)
Max Operating Voltage		100V					150V			
Resistance Value		E-24, E-96								
Operating Temp. Range		−55°C~155°C								
Package		1,000pcs/reel (T1:P,W,B), 5,000pcs/reel(T5:W,B,C,D)					1,000pcs/reel (T1), 5,000pcs/reel(T5)			

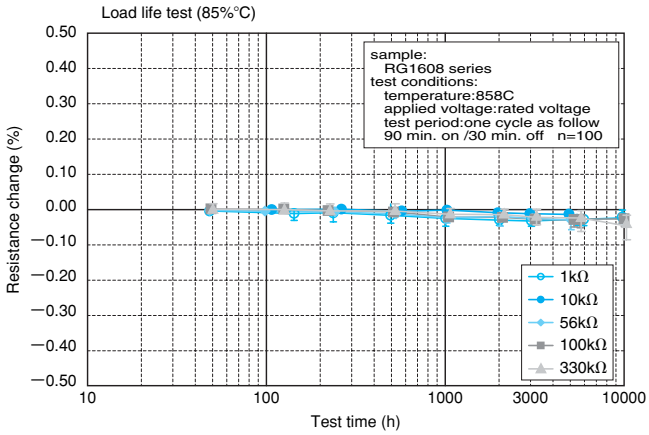
· Please contact us for Resistance tolerance ±0.01%.　· Please contact us for RG3225 series with power of 1/2W
· The stability (reliability) characteristics differ depending on the rated power.

Reliability

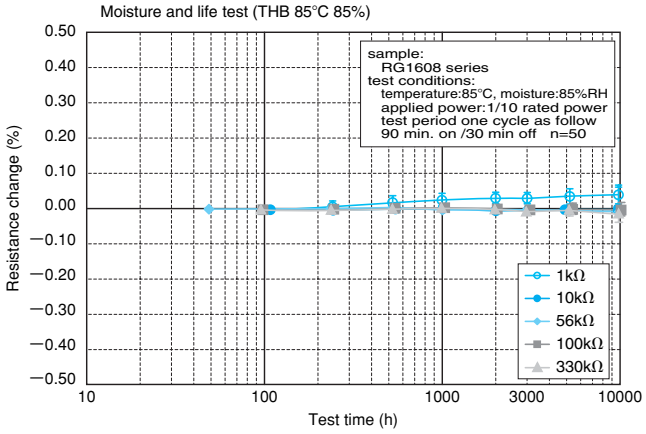
Item	Test Method	Specification		Typical
		Ultra-reliability	general	Ultra-reliability
Short time overload	Applied voltage:2.5×rated voltage or 2× maximum operating voltage which ever is less test duration:5 seconds	±(0.05%)	±(0.05%)	±(0.01%)
Load Life	Test Temperature.:85°C Applied voltage: rated voltage Test period: repeat 1000 cycle as follow: 90 min. on/30 min. off cycled	±(0.1%)	±(0.25%)	±(0.01%)
Moisture load life	Test condition: 85°C85%RH Applied power: 1/10 rated Power Test period: repeat 1000 cycle as follow: 90 min. on/30 min. off cycled	±(0.1%)	±(0.25%)	±(0.05%)
Temperature cycle	Repeat 1000 cycle as follow: -55°C(30 min.)/Room Tem.(2 min.)/ +125°C(30 min.)/ Room Tem.(2 min.)	±(0.1%)		±(0.01%)
High temperature exposure	+155°C for 1000 hours with no load	±(0.1%)		±(0.01%)

The result of each reliability test for 10000 hours

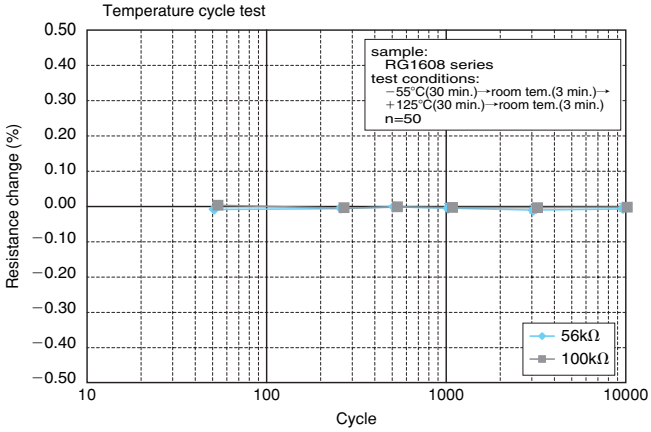
Load life test



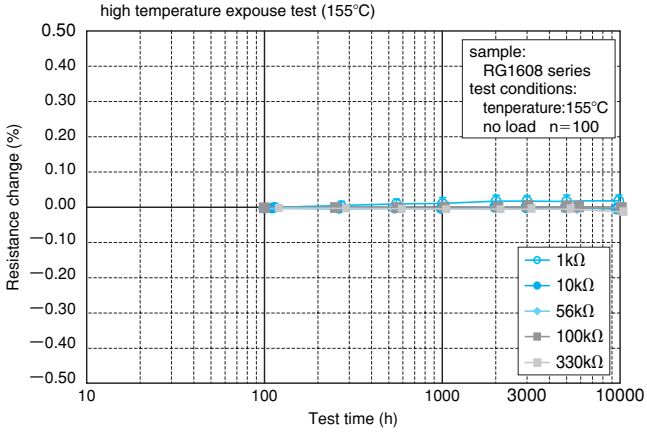
Moisture and life test



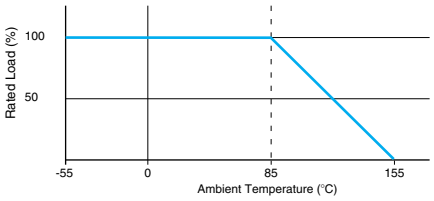
Temperature cycle test



High temperature exposure test



CHARACTERISTIC of Power Temperature Derating Curve



PART NUMBER

RG 1608 N - 102 - B - T5

- T5 — Package (T1,T5,T10)
- B — Resistance Tolerance
- 102 — Resistance (E-24: in a 3 digit number, E-96: in a 4 digit number 4 digits for all RG3216)
- N — Temperature Coefficient of Resistance
- 1608 — Dimensions
- RG — Part Code