Metal thin film chip resistors
(wide temperature range)

■RGT series **AEC-Q200 Compliant**

Features

- Wide temperature operation (Upper category temperature :175°C)
- Long term stability with igorganic passivation
- Resistance tolerance : ±0.1% , TCR : ±10ppm/°C
- Thin film structure enabling low noise and anti-sulfur

Applications

- Automotive electronics
- Industrial measurement instrumentation, industrial machines
- Wide temperature operation machines

◆Part numbering system

RGT 2012 N - 105 - B - T5

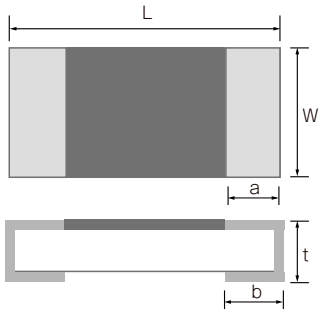
- RGT — Series code
- 2012 — Size: RGT1005, RGT1608, RGT2012, RGT3216
- N — Temperature coefficient of resistance
- 105 — Nominal resistance value (E-24 : 3 digit, E-96 : 4 digit)
- B — Resistance tolerance
- T5 — Packaging quantity : T5(5,000pcs) T10(10,000pcs)

◆Electrical Specification

Type	Power ratings	Temperature coefficient of resistance (ppm/℃)	Resistance range(Ω) Resistance tolerance ±0.1%(B)	±0.5%(D)	Maximum voltage	Resistance value series	Operating temperature	Packaging quantity
RGT1005	1/32W	±10(N)	47≦R≦100k		50V	E-24, E-96	-55℃~ 175℃	T5 T10*1
		±25(P)	47≦R≦150k					
RGT1608	1/16W	±10(N)	47≦R≦270k		100V			T5
		±25(P)	47≦R≦1M					
RGT2012	1/10W	±10(N)	47≦R≦475k		150V			
		±25(P)	47≦R≦2.7M					
RGT3216	1/8W	±10(N)	47≦R≦1M		200V			
		±25(P)	47≦R≦5.1M					

*1 : Resistance tolerance ± 0.5% (D) of RGT1005 is available only at T10

◆Dimensions



Type	Size (inch)	L	W	a	b	t
RGT1005	0402	1.00+0.1/-0.05	0.50±0.05	0.20±0.10	0.25±0.05	0.35±0.05
RGT1608	0603	1.60±0.20	0.80+0.25/-0.20	0.30±0.20	0.30±0.20	0.40+0.15/-0.10
RGT2012	0805	2.00±0.20	1.25+0.25/-0.20	0.40±0.20	0.40±0.20	0.40+0.15/-0.10
RGT3216	1206	3.20±0.20	1.60±0.25	0.50±0.25	0.50±0.20	0.40+0.15/0.10

(unit : mm)

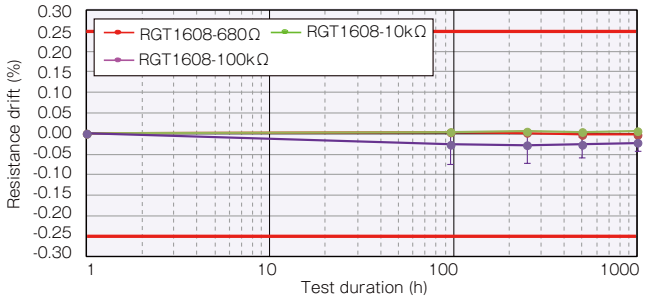
◆Reliability specification

Test items	Condition(IEC60115-1/JIS C5201-1)	Standard
Short time overload	2.5 x rated voltage,※1 5 seconds	±0.05%+0.01Ω
Life (baised)	125℃, rated voltage※1, 90min. ON/ 30min. OFF, 1000hours	±0.25%+0.05Ω
High temperature high humidity	85℃、85%RH, 1/10 of rated power, 90min. ON/ 30min. OFF, 1000hours	±0.25%+0.05Ω
Temperature shock	-55℃ (30min) ~ 125℃(30min) 1000 cycles	±0.1%+0.01Ω
High temperature exposure	175℃, no baias, not mounted, 1000h	±0.1%+0.01Ω
Resistance to soldering heat	260±5℃, 10seconds (reflow)	±0.05%+0.01Ω

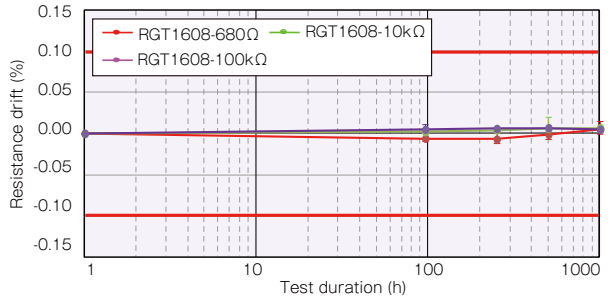
*1 Rated voltage is given by E= $\sqrt{R \times P}$ E= rated voltage (V), R=nominal resistance value(Ω), P=rated power(W)
If rated voltage exceeds maximum voltage /element, maximum voltage/element is the rated voltage.

◆Reliability test data

○Biased life test



○High temperature exposure



◆Derating Curve