

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 inorganic passivation
- Resistance tolerance : $\pm 0.1\%$, TCR : $\pm 10\text{ppm}/^\circ\text{C}$
- Thin film structure enabling low noise and anti-sulfur

Applications

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

Thin film surface mount resistors

RGT series



◆ Part numbering system

RGT 2012 N - 105 - B - T5

Series code

Size: RGT1005, RGT1608, RGT2012, RGT3216

Temperature coefficient of resistance

Packaging quantity :
T5(5,000pcs) T10(10,000pcs)

Resistance tolerance
Nominal resistance value
(E-24 : 3 digit, E-96 : 4 digit)

◆ Electrical Specification

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

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

◆ Dimensions



| Type | Size (inch) | L | W | a | b | t |
|---------|-------------|----------------------|-----------------------|-----------------|-----------------|-----------------------|
| RGT1005 | 0402 | 1.00 \pm 0.1/-0.05 | 0.50 \pm 0.05 | 0.20 \pm 0.10 | 0.25 \pm 0.05 | 0.35 \pm 0.05 |
| RGT1608 | 0603 | 1.60 \pm 0.20 | 0.80 \pm 0.25/-0.20 | 0.30 \pm 0.20 | 0.30 \pm 0.20 | 0.40 \pm 0.15/-0.10 |
| RGT2012 | 0805 | 2.00 \pm 0.20 | 1.25 \pm 0.25/-0.20 | 0.40 \pm 0.20 | 0.40 \pm 0.20 | 0.40 \pm 0.15/-0.10 |
| RGT3216 | 1206 | 3.20 \pm 0.20 | 1.60 \pm 0.25 | 0.50 \pm 0.25 | 0.50 \pm 0.20 | 0.40 \pm 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 (biased) | 125°C, rated voltage ^{**1} , 90min. ON/ 30min. OFF, 1000hours | ±0.25%+0.05Ω |
| High temperature high humidity | 85°C, 85%RH, 1/10 of rated power, 90min. ON/ 30min. OFF, 1000hours | ±0.25%+0.05Ω |
| Temperature shock | -55°C (30min) ~ 125°C(30min) 1000 cycles | ±0.1%+0.01Ω |
| High temperature exposure | 175°C, no bias, not mounted, 1000h | ±0.1%+0.01Ω |
| Resistance to soldering heat | 260±5°C, 10seconds (reflow) | ±0.05%+0.01Ω |

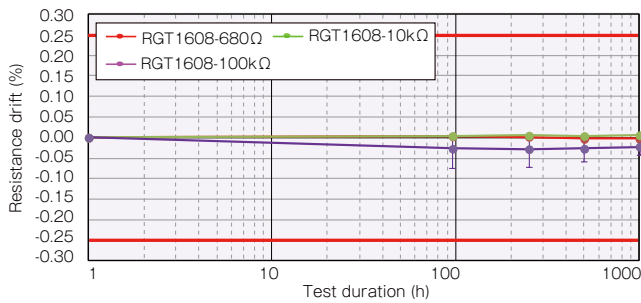
*1 Rated voltage is given by $E = \sqrt{R \times P}$ E= rated voltage (V), R=nominal resistance value(Ω), P=rated power(W)
 If rated voltage exceeds maximum voltage /element, maximum voltage/element is the rated voltage.

Thin film surface mount resistors

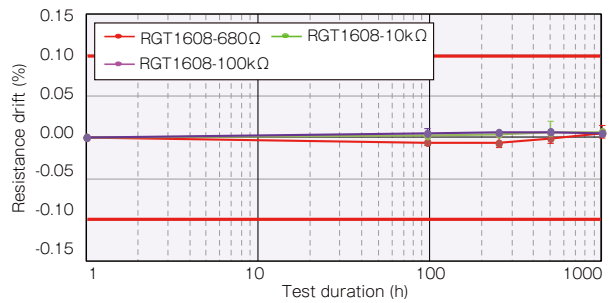
RGT series

◆ Reliability test data

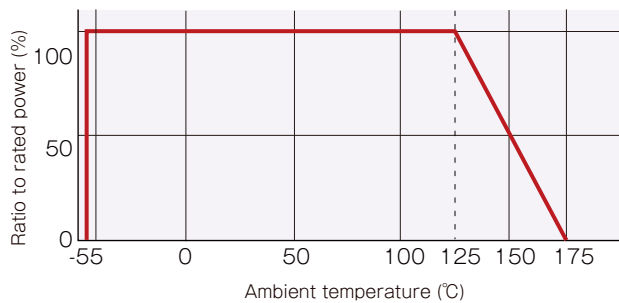
○ Biased life test



○ High temperature exposure



◆ Derating Curve



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Susumu:

[RGT1608P-1052-B-T5](#) [RGT1608P-1153-B-T5](#) [RGT1608P-1180-B-T5](#) [RGT1608P-1051-B-T5](#) [RGT1608P-1070-B-T5](#)
[RGT1608P-9312-B-T5](#) [RGT1608P-93R1-B-T5](#) [RGT1608P-6652-B-T5](#) [RGT1608P-7320-B-T5](#) [RGT1608P-78R7-B-T5](#)
[RGT1608P-8060-B-T5](#) [RGT1608P-8660-B-T5](#) [RGT1608P-9310-B-T5](#) [RGT1608P-4870-B-T5](#) [RGT1608P-4871-B-T5](#)
[RGT1608P-5230-B-T5](#) [RGT1608P-5621-B-T5](#) [RGT1608P-5622-B-T5](#) [RGT1608P-6190-B-T5](#) [RGT1608P-331-B-T5](#)
[RGT1608P-362-B-T5](#) [RGT1608P-3921-B-T5](#) [RGT1608P-393-B-T5](#) [RGT1608P-4420-B-T5](#) [RGT1608P-4752-B-T5](#)
[RGT1608P-1963-B-T5](#) [RGT1608P-2550-B-T5](#) [RGT1608P-3012-B-T5](#) [RGT1608P-302-B-T5](#) [RGT1608P-3242-B-T5](#)
[RGT1608P-3243-B-T5](#) [RGT1608P-1542-B-T5](#) [RGT1608P-1690-B-T5](#) [RGT1608P-1820-B-T5](#) [RGT1608P-1821-B-T5](#)
[RGT1608P-1822-B-T5](#) [RGT1608P-1962-B-T5](#) [RGT1608P-76R8-B-T5](#) [RGT1608P-82R5-B-T5](#) [RGT1608P-8451-B-T5](#)
[RGT1608P-1053-B-T5](#) [RGT1608P-1152-B-T5](#) [RGT1608P-1373-B-T5](#) [RGT1608P-3832-B-T5](#) [RGT1608P-4532-B-T5](#)
[RGT1608P-54R9-B-T5](#) [RGT1608P-5762-B-T5](#) [RGT1608P-620-B-T5](#) [RGT1608P-681-B-T5](#) [RGT1608P-2431-B-T5](#)
[RGT1608P-2613-B-T5](#) [RGT1608P-2801-B-T5](#) [RGT1608P-3091-B-T5](#) [RGT1608P-3162-B-T5](#) [RGT1608P-3240-B-T5](#)
[RGT1608P-1782-B-T5](#) [RGT1608P-182-B-T5](#) [RGT1608P-204-B-T5](#) [RGT1608P-2051-B-T5](#) [RGT1608P-2322-B-T5](#)
[RGT1608P-242-B-T5](#) [RGT1608P-910-B-T5](#) [RGT1608P-103-B-T5](#) [RGT1608P-1211-B-T5](#) [RGT1608P-123-B-T5](#)
[RGT1608P-1403-B-T5](#) [RGT1608P-1691-B-T5](#) [RGT1608P-6042-B-T5](#) [RGT1608P-621-B-T5](#) [RGT1608P-6650-B-T5](#)
[RGT1608P-751-B-T5](#) [RGT1608P-7870-B-T5](#) [RGT1608P-8871-B-T5](#) [RGT1608P-3831-B-T5](#) [RGT1608P-4021-B-T5](#)
[RGT1608P-4531-B-T5](#) [RGT1608P-4640-B-T5](#) [RGT1608P-5111-B-T5](#) [RGT1608P-5361-B-T5](#) [RGT1608P-2802-B-T5](#)
[RGT1608P-2943-B-T5](#) [RGT1608P-3163-B-T5](#) [RGT1608P-3241-B-T5](#) [RGT1608P-3482-B-T5](#) [RGT1608P-3650-B-T5](#)
[RGT1608P-2050-B-T5](#) [RGT1608P-2103-B-T5](#) [RGT1608P-2151-B-T5](#) [RGT1608P-223-B-T5](#) [RGT1608P-272-B-T5](#)
[RGT1608P-2740-B-T5](#) [RGT1608P-80R6-B-T5](#) [RGT1608P-821-B-T5](#) [RGT1608P-8450-B-T5](#) [RGT1608P-8452-B-T5](#)
[RGT1608P-912-B-T5](#) [RGT1608P-203-B-T5](#) [RGT1608P-6040-B-T5](#) [RGT1608P-623-B-T5](#) [RGT1608P-6812-B-T5](#)