



High power thin film chip resistors (long side terminal)

■ PRG series

AEC-Q200 Compliant

Features

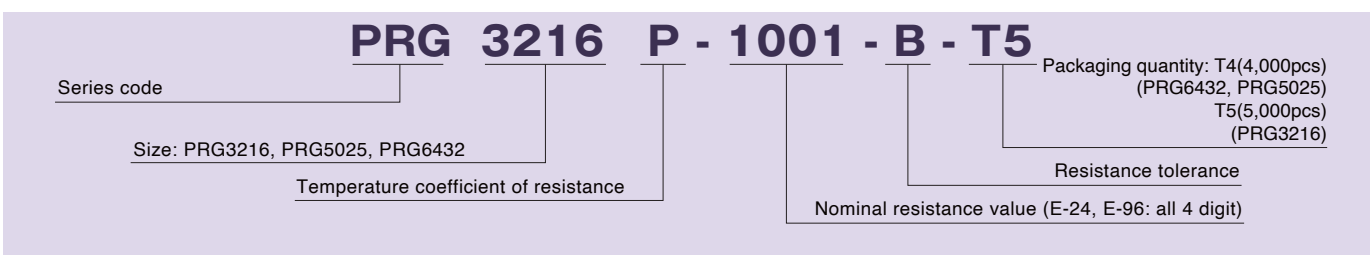
- Long side terminal enabling higher power capability
- Significantly larger power handling capability than conventional same size resistors
Size: 3216 ~ 6432, power ratings: 0.5 ~ 3.0W, Resistance range: 2.5 ~ 250KΩ
- Precision resistance tolerance: $\pm 0.1\%$, very small TCR: $\pm 25\text{ppm}/^\circ\text{C}$
- Thin film structure enabling low noise and anti-sulfur

Applications

- Automotive electronics
- DC motor, inverters
- Robotics, Industrial control system



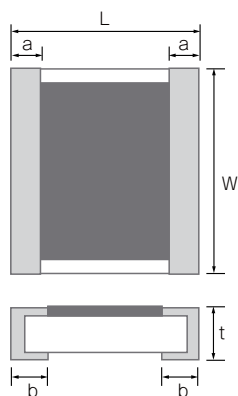
◆ Part numbering system



◆ Electrical Specification

Type	Power ratings	Temperature coefficient of resistance	Resistance range(Ω) Resistance tolerance		Maximum voltage	Resistance value series	Operating temperature	Packaging quantity					
		(ppm/°C)	$\pm 0.1\%$ (B)	$\pm 0.5\%$ (D)									
PRG3216	1.0W	± 25 (P)	$47 \leq R \leq 100\text{k}$	$10 \leq R \leq 100\text{k}$	150V	E-24, E-96	$-55^\circ\text{C} \sim 155^\circ\text{C}$	T5					
		± 50 (Q)		$2.5 \leq R \leq 100\text{k}$									
PRG5025	1.5W ~ 2.0W	± 25 (P)	$47 \leq R \leq 200\text{k}$	$10 \leq R \leq 200\text{k}$	200V			E-24, E-96	$-55^\circ\text{C} \sim 155^\circ\text{C}$	T4			
		± 50 (Q)		$2.5 \leq R \leq 200\text{k}$									
PRG6432	2.0W ~ 3.0W	± 25 (P)	$47 \leq R \leq 250\text{k}$	$10 \leq R \leq 250\text{k}$	400V						E-24, E-96	$-55^\circ\text{C} \sim 155^\circ\text{C}$	T4
		± 50 (Q)		$2.5 \leq R \leq 250\text{k}$									

◆Dimensions



Type	Size (inch)	W	L	a	b	t
PRG3216	1206	3.20+0.40/-0.20	1.60±0.20	0.30±0.20	0.35±0.20	0.45+0.15/-0.10
PRG5025	2010	5.00±0.20	2.50±0.20	0.55±0.20	0.60±0.20	0.45+0.15/-0.10
PRG6432	2512	6.40+0.20/-0.40	3.20±0.20	0.40±0.20	0.55±0.20	0.45+0.15/-0.10

(unit : mm)

Thin film surface mount resistors

PRG series

◆Reliability specification

Test items	Condition (test methods (JIS C5201-1))	Standard	
		≤47Ω	≥47Ω
Life (biased)	70°C, rated voltage ^{*1} 90min on 30min off, 1000hours	±(0.25%+0.05Ω)	±(0.1%+0.01Ω)
High temperature high humidity	85°C, 85%RH, 1/10 of rated power, 90min on 30min off, 1000hours	±(0.25%+0.05Ω)	±(0.1%+0.01Ω)
Temperature shock	-55°C (30min) ~ 125°C (30min) 1000cycles	±(0.25%+0.05Ω)	±(0.1%+0.01Ω)
High temperature exposure	155°C, no bias, 1000hours	±(0.25%+0.05Ω)	±(0.1%+0.01Ω)
Resistance to soldering heat	260±5°C, 10 seconds (reflow)	±(0.1%+0.01Ω)	±(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.

High power thin film chip resistors (long side terminal)

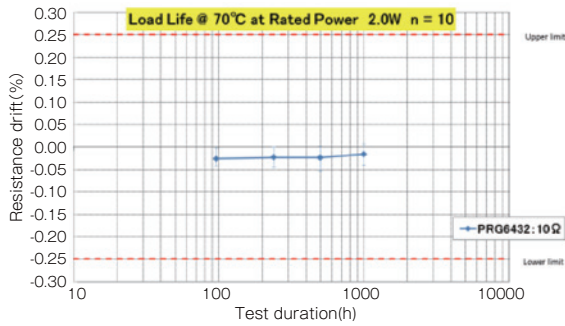
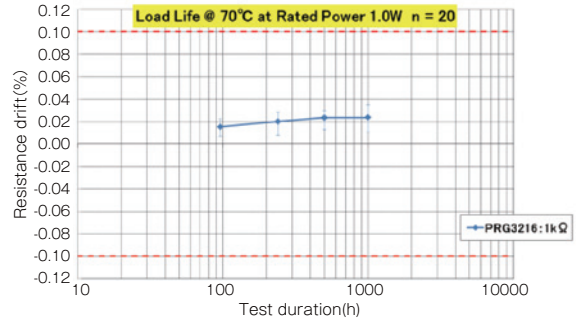
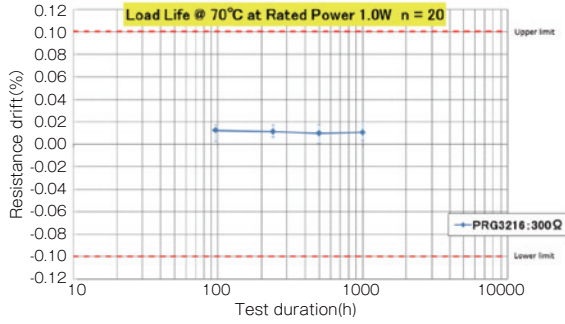
PRG series

Reliability test data

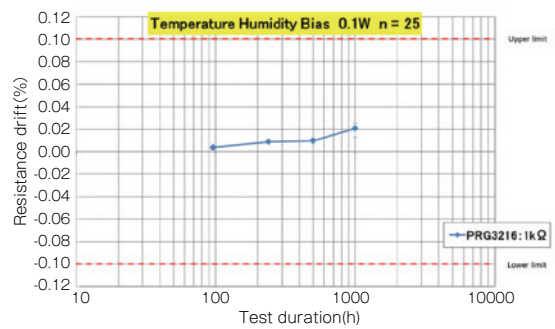
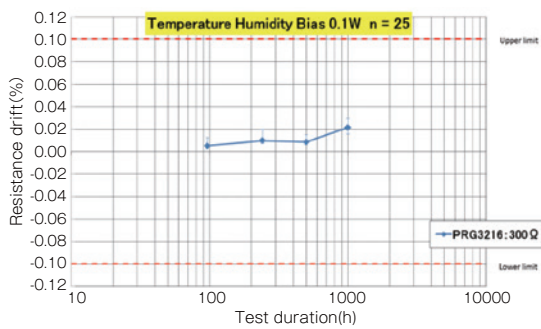
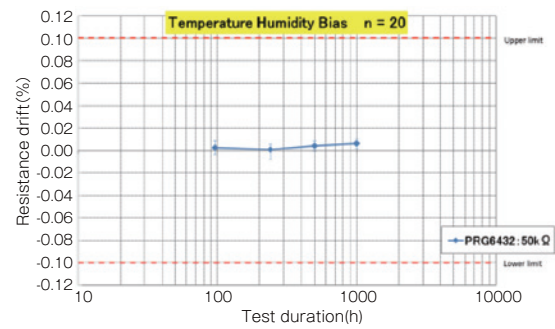
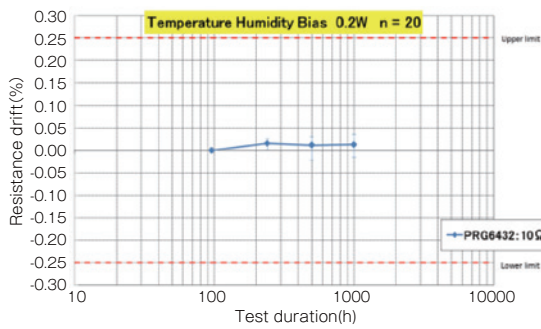
Biased life test

Thin film surface mount resistors

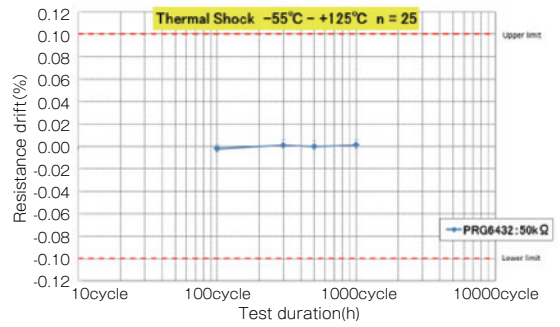
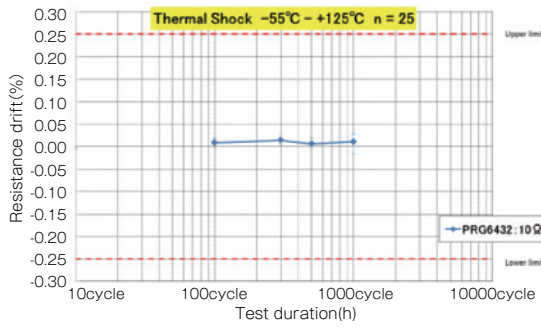
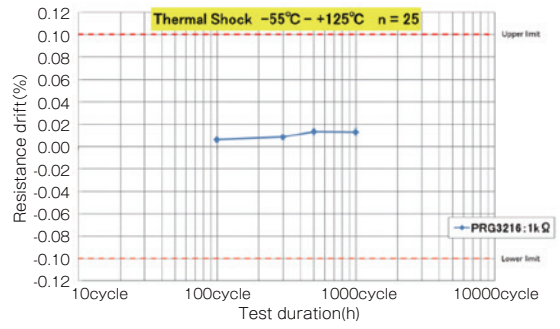
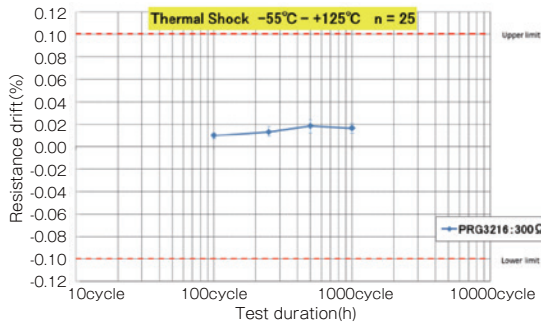
PRG series



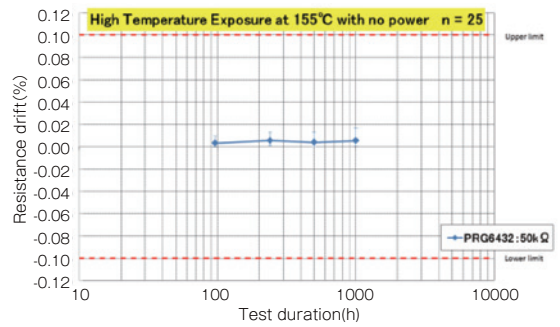
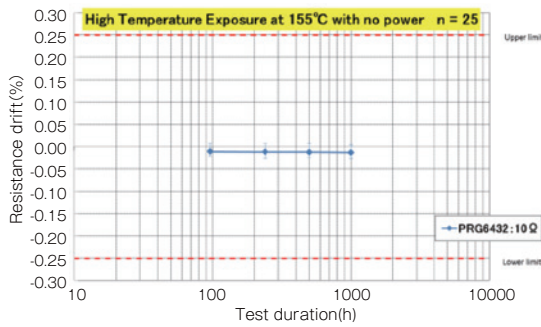
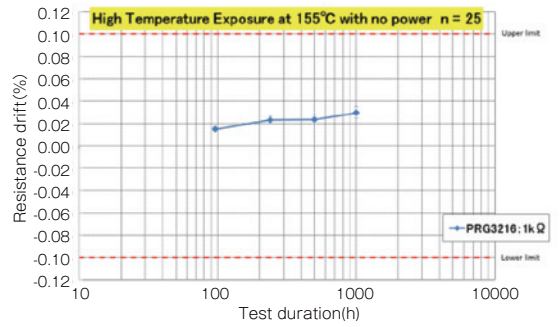
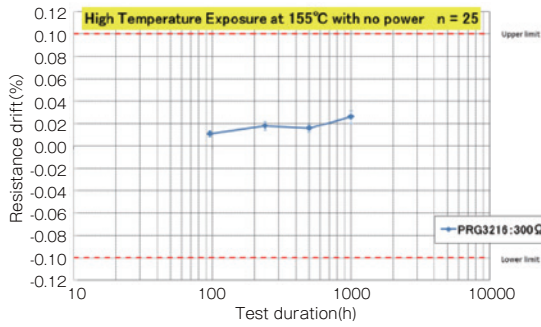
High temperature high humidity (biased)



○ Temperature shock

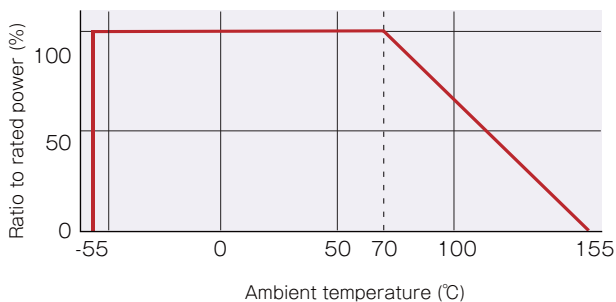


○ High temperature exposure

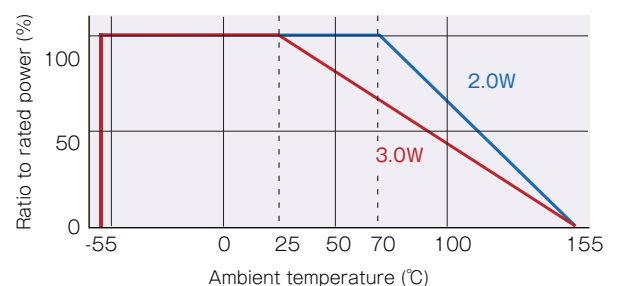


◆ Derating Curve

○ PRG3216



○ PRG6432



Mouser Electronics

Authorized Distributor

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

[Susumu:](#)

[PRG3216P-8202-D-T5](#)