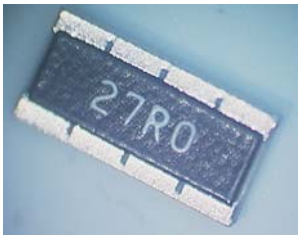
High Power thin film chip resistor with long side termination



FEATURES

- Excellent reliability and stability even under harsh conditions
- Low noise, THIN FILM construction
- EIA Standard case size(1206)
- RoHS Compliance and 100% Lead-Free

APPLICATIONS

- Automotive
- Scale, Test & Measurement
- Optical & Telecommunication
- Medical and Industrial Equipment

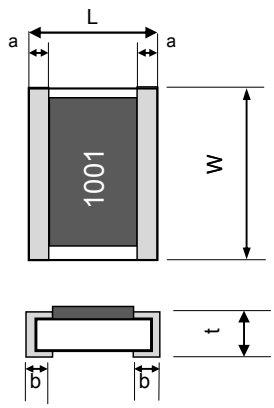
Electrical Specification

Type	Size (in inch)	Power Rating	Resistance Tolerance	TCR	Resistance Range (ohm) *E24 & E96 series R value	Packaging
PRG3216	1206	1.0W	±0.1%(B)	±25ppm/℃(P)	47 – 100k	Tape & Reel T5 = 5000pcs
				±50ppm/℃(Q)		
			±0.5%(D)	±25ppm/℃(P)	10 – 100k	
				±50ppm/℃(Q)	2.5 – 100k	
PRG5025	2010	1.5W～2.0W	±0.1%(B)	±25ppm/℃(P)	47 – 200k	Tape & Reel T4 = 4000pcs
				±50ppm/℃(Q)		
			±0.5%(D)	±25ppm/℃(P)	10 – 200k	
				±50ppm/℃(Q)	2.5 – 100k	
PRG6432	2512	2.0W～3.0W	±0.1%(B)	±25ppm/℃(P)	47 – 250k	
				±50ppm/℃(Q)		
			±0.5%(D)	±25ppm/℃(P)	10 – 250k	
				±50ppm/℃(Q)	2.5 – 250k	

Reliability Specification

Test Item	Test Method (JIS C5201-1)	ΔR Limits
Short Time Overload	2.5 times of rated power for 5sec.	Under 47Ω ±(0.1%+0.01Ω) 47Ω and higher ±(0.05%+0.01Ω)
Load Life	70℃, rated power, 90min. on/ 30min. Off, 1000hrs.	Under 47Ω ±(0.25%+0.05Ω) 47Ω and higher ±(0.1%+0.01Ω)
Temp. Hum. Bias	85℃ 85% RH, 1/10 rated power, 90min. on/ 30min. Off, 1000hrs.	
Thermal Shock	−55℃ (30min)/room temp.(2min) /+125℃(30min)/room temp.(2min), no bias, 1000 cycles	
High Temp. Exposure	155℃ for 1000h, no bias.	

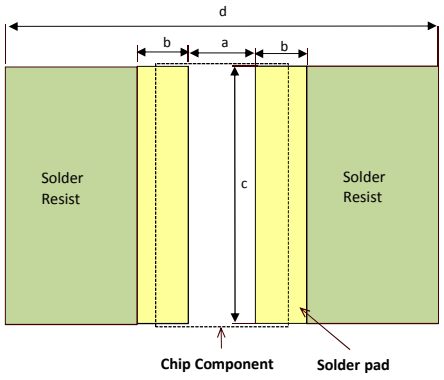
Dimensions



Unit (mm)

Type / Dimensions	PRG3216	PRG5025	PRG6432
W	3.2+0.4/-0.2	5.0±0.2	6.4+0.2/-0.4
L	1.6±0.2	2.5±0.2	3.2±0.2
t	0.45±0.1	0.45±0.1	0.45±0.1
a	0.30±0.2	0.55±0.2	0.40±0.2
b	0.35±0.2	0.60±0.2	0.55±0.2

Recommended Land Pattern



Unit (mm)

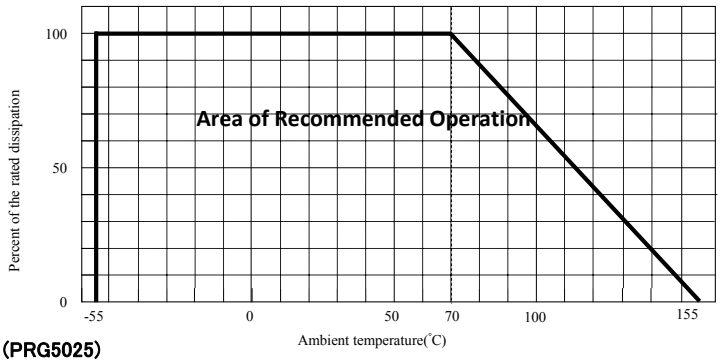
TYPE	a	b	c	d (*1) (Reference value)
PRG3216	0.8±0.1	1.1±0.1	3.7±0.1	27mm or more
PRG5025	1.3±0.1	1.6±0.1	5.7±0.1	27mm or more
PRG6432	2.0±0.1	2.1±0.1	6.9±0.1	27mm or more

(*1) Please give consideration to heat dissipation of the resistor.
The solder fillet when resistor is powered up should not exceed 155℃.

Power Derating Curve

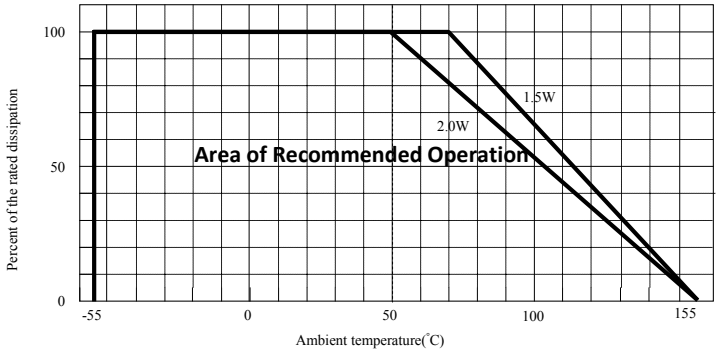
(PRG3216)

For operation above 70℃, power must be derated according to the following chart.
However, in actual use, verify the fillet temperature is not exceeding 155℃.



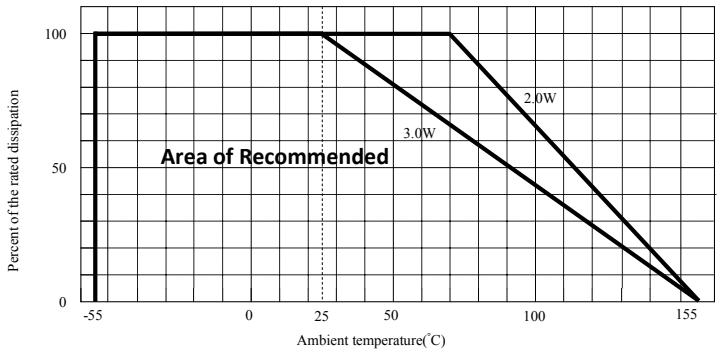
(PRG5025)

For operation above 1.5W:70℃, 2.0W:50℃, power must be derated according to the following chart
However, in actual use, verify the fillet temperature is not exceeding 155℃.

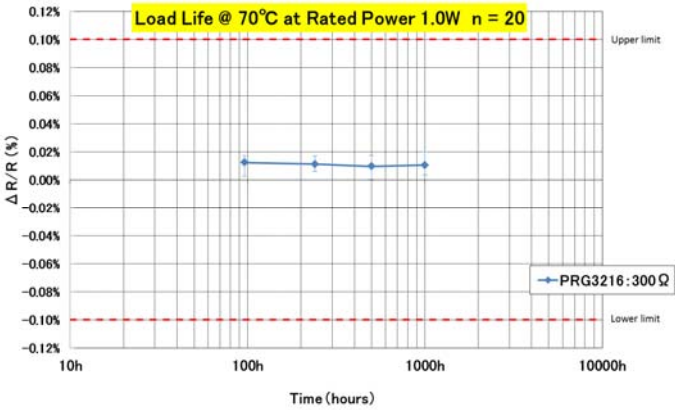


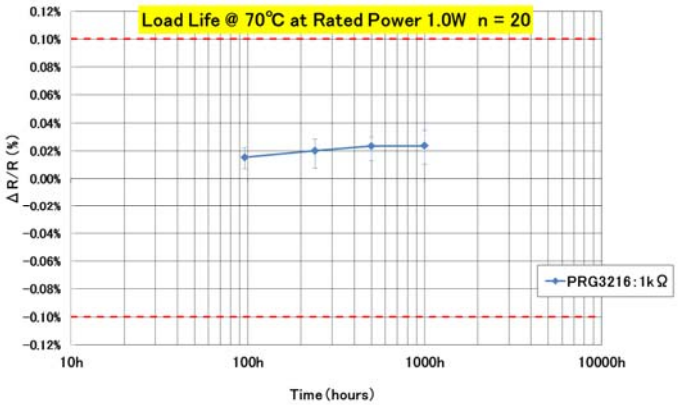
(PRG6432)

For operation above 2.0W:70℃, 3.0W:25℃, power must be derated according to the following chart
However, in actual use, verify the fillet temperature is not exceeding 155℃.

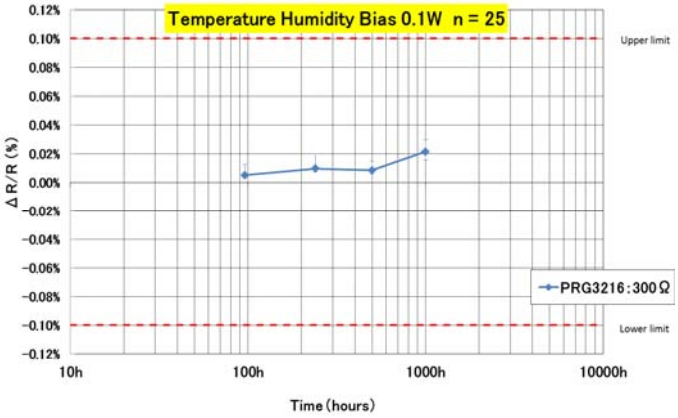


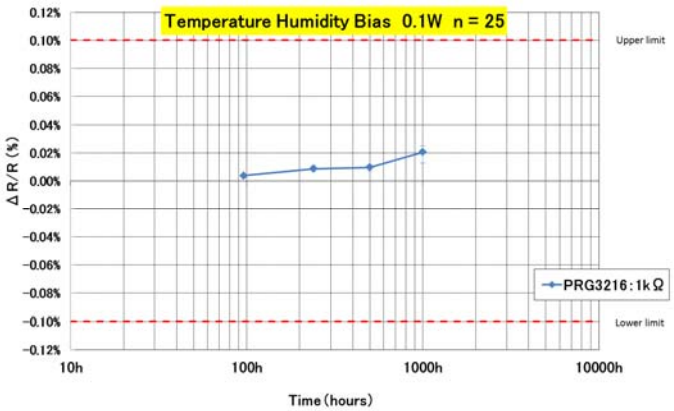
Load Life @ 70℃ at Rated Power 1.0W



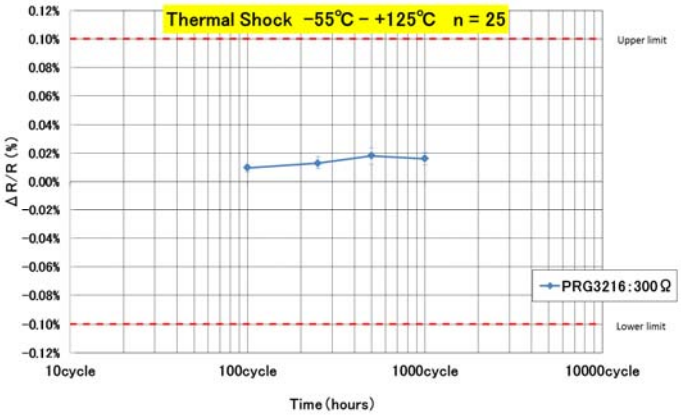


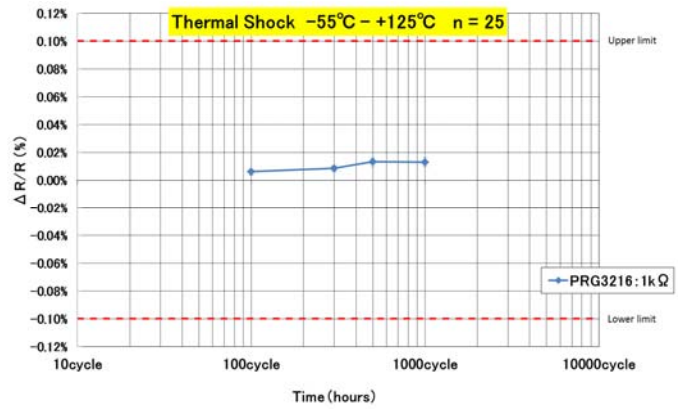
Temperature Humidity Bias



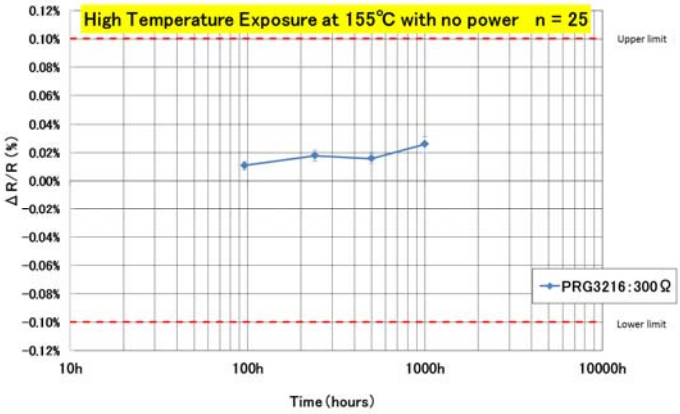


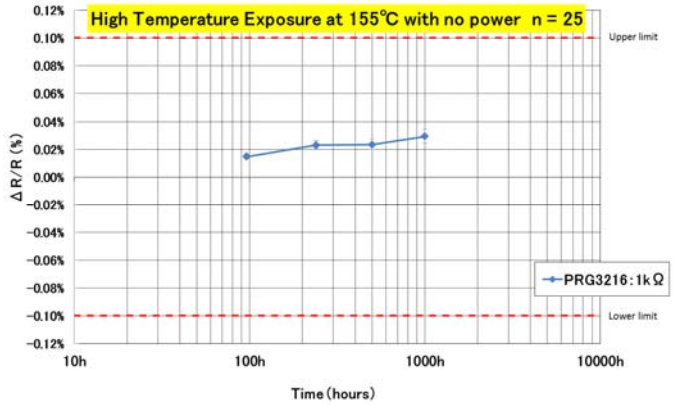
Thermal Shock −55℃ – +125℃



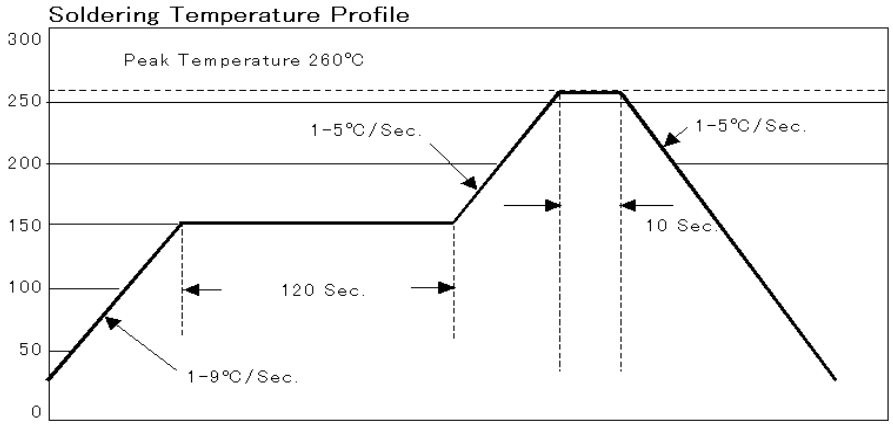


High Temperature Exposure at 155℃ with no power





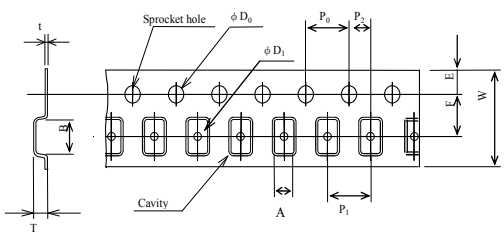
Recommended Reflow Profile

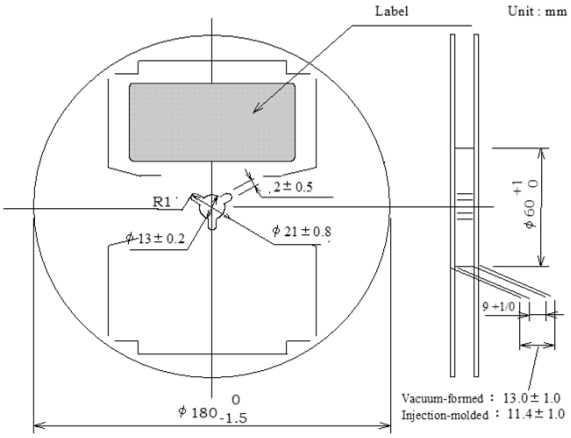


Tape & Reel Dimensions (mm)

unit(mm)

TYPE	A	B	W	F	E	P_0	P_1	P_2	D_0	D_1	T	t
PRG3216	2.0±0.2	3.6±0.2	8.0±0.3	3.5±0.05	1.75±0.1	4.0±0.1	4.0±0.1	2.0±0.05	1.55±0.05	1.05±0.05	1.5 max	0.3 max
PRG5025	2.8±0.1	5.3±0.1	12.0±0.2	5.5±0.1	1.75±0.1	4.0±0.1	4.0±0.1	2.0±0.05	1.55±0.05	1.1±0.1	1.0±0.1	0.2±0.05
PRG6432	3.5±0.1	6.9±0.1	12.0±0.2	5.5±0.1	1.75±0.1	4.0±0.1	4.0±0.1	2.0±0.05	1.5+0.1/0	1.5+0.1/0	0.75±0.1	0.25±0.05





Ordering information

PRG	3216	P	-	1001	-	B	-	T5
Type	Size	TCR		R-Values		Tolerance		Package

Size: 3216, 5025, 6432

TCR: P = 25ppm/℃; Q = 50ppm/℃

R-Values: 4digits for all values E24 & E96
(Ex.47R0=47 ohm)
(Ex.1000=100 ohm)
(Ex.4992=49.9k ohm)

Tolerance: B = ±0.1%; D = ±0.5%

Package: T&R
T4 = 4000pcs T&R (PRG5025,PRG6432)
T5 = 5000pcs T&R (PRG3216)

Notice

For non-standard R-value requests, please contact our technical support.

Mouser Electronics

Authorized Distributor

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

Susumu:

PRG3216Q-330-D-T5 PRG6432P-49R9-D-T4 PRG6432Q-7321-D-T4 PRG6432Q-49R9-B-T4 PRG3216Q-2550-B-T5 PRG5025P-1132-B-T4 PRG5025Q-39R2-D-T4 PRG5025Q-40R2-D-T4 PRG5025Q-100-D-T4 PRG5025Q-202-B-T4 PRG3216Q-4020-D-T5 PRG3216Q-45R3-D-T5 PRG6432P-6340-B-T4 PRG6432P-333-D-T4 PRG5025P-751-D-T4 PRG6432Q-2212-B-T4 PRG6432Q-4320-D-T4 PRG3216Q-14R7-D-T5 PRG5025Q-34R8-D-T4 PRG5025P-2151-B-T4 PRG3216Q-333-B-T5 PRG5025Q-9311-D-T4 PRG3216Q-511-D-T5 PRG5025Q-2101-D-T4 PRG5025Q-61R9-B-T4 PRG5025Q-332-D-T4 PRG6432Q-2101-B-T4 PRG5025P-78R7-D-T4 PRG5025Q-63R4-D-T4 PRG5025Q-71R5-B-T4 PRG6432P-1211-B-T4 PRG6432Q-510-D-T4 PRG5025P-9761-B-T4 PRG5025P-4992-D-T4 PRG6432Q-16R9-D-T4 PRG5025P-6340-D-T4 PRG6432Q-4322-B-T4 PRG5025P-201-D-T4 PRG6432Q-78R7-D-T4 PRG5025Q-9310-B-T4 PRG6432P-2550-B-T4 PRG3216Q-3240-D-T5 PRG6432Q-61R9-B-T4 PRG5025P-390-D-T4 PRG3216Q-2552-B-T5 PRG5025P-913-D-T4 PRG6432Q-4121-B-T4 PRG6432Q-63R4-D-T4 PRG5025P-3240-D-T4 PRG6432P-2430-B-T4 PRG6432P-1580-D-T4 PRG6432P-95R3-D-T4 PRG6432P-113-D-T4 PRG5025Q-1211-B-T4 PRG5025Q-3162-D-T4 PRG6432Q-11R8-D-T4 PRG6432Q-200-D-T4 PRG3216Q-1211-D-T5 PRG6432Q-7R5-D-T4 PRG5025Q-9310-D-T4 PRG6432P-2550-D-T4 PRG6432P-4991-B-T4 PRG6432P-3831-D-T4 PRG5025Q-2550-B-T4 PRG6432Q-2671-D-T4 PRG5025Q-9090-B-T4 PRG6432P-6190-B-T4 PRG6432Q-2100-B-T4 PRG5025P-3242-B-T4 PRG3216Q-3832-D-T5 PRG5025P-1151-D-T4 PRG5025P-1910-B-T4 PRG5025Q-302-B-T4 PRG6432P-1210-B-T4 PRG6432P-6340-D-T4 PRG5025P-752-B-T4 PRG5025P-5900-B-T4 PRG6432Q-3322-B-T4 PRG6432P-53R6-D-T4 PRG6432Q-1330-B-T4 PRG5025P-1271-D-T4 PRG3216Q-333-D-T5 PRG6432Q-5231-D-T4 PRG6432P-34R8-D-T4 PRG5025P-43R2-D-T4 PRG6432Q-2321-B-T4 PRG5025P-5490-B-T4 PRG5025Q-4121-D-T4 PRG3216Q-2672-D-T5 PRG5025Q-6490-B-T4 PRG5025Q-27R4-D-T4 PRG3216Q-221-D-T5 PRG5025P-4421-B-T4 PRG3216Q-1650-B-T5 PRG6432Q-28R0-D-T4 PRG6432Q-1400-D-T4 PRG6432P-221-D-T4 PRG5025P-1741-D-T4 PRG5025P-3570-B-T4 PRG6432Q-2211-B-T4