

ULTRA HIGH RELIABILITY RESISTORS WITH LONG-SIDE TERMINALS



Thin film resistors PRG series of Susumu are now available from Endrich. Susumu is the technology leader in this segment and offers one of the largest product ranges in the world market.

Compared to standard resistors with terminals on the short side, PRG series resistors have their terminals on the long side of the component body. This allows Susumu to specify PRG resistors with a higher power rating or customers can use a smaller product to reach the same performance compared to a

standard part. Another positive effect is the increased tolerance against voltage and surge pulses as well as reduced parasitic inductance. Due to these enhanced performance ratings, the PRG series is a viable alternative to MELF resistors.

Since PRG resistors, same as most products from Susumu, come with the additional glass passivation, excellent reliability and performance is guaranteed. Extended resistance range compared with other thin film resistors, especially for the range below 10 Ω are available. Tolerances of ±0.5% / ±0.1%, TCR of ±50/25 ppm/°C and case sizes from 1206 to 2512 with power rating of 1 W to 3 W are realized.

Typical application for these resistors are industrial electronics, automotive, Inverter, weighting technology, test and measurement devices and as mentioned as MELF replacement. The resistors are now available.

SPECIFICATIONS

TYPE	SMD SIZE	POWER RATING	R-TOLERANCE	TCR	R-VALUE RANGE
PRG3216	1206	1.0W	±0.1% (B)	±25 ppm/°C (P)	47 Ω ... 100 kΩ
			±0.5% (D)	±50 ppm/°C (Q)	10 Ω ... 100 kΩ
PRG5025	2010	1.5W ... 2.0W	±0.1% (B)	±25 ppm/°C (P)	47 Ω ... 200 kΩ
			±0.5% (D)	±50 ppm/°C (Q)	10 Ω ... 200 kΩ
PRG6432	2512	2.0W ... 3.0W	±0.1% (B)	±25 ppm/°C (P)	47 Ω ... 250 kΩ
			±0.5% (D)	±50 ppm/°C (Q)	10 Ω ... 250 kΩ

RELIABILITY TEST DATA

ITEM	TEST METHOD (JIS C5201-1)	ΔR LIMITS
Short Time Overload	2.5 times of Rated Load for 5sec.	< 47 Ω: ±(0.10% +0.01 Ω) ≥ 47 Ω: ±(0.05% +0.01 Ω)
Load Life	70°C Rated Load 90 min. On/ 30 min. Off for 1000 hrs.	
Temp. Hum. Bias	85°C 85% RH 1/10 power loaded 90 min. On/ 30 min. Off for 1000 hrs.	< 47 Ω: ±(0.25% +0.05 Ω) ≥ 47 Ω: ±(0.10% +0.01 Ω)
Thermal Shock	-55°C (30 min)/room temp.(2 min) /+125°C(30 min)/room temp.(2min) no load × 1000 cycles	
High Temperature	155°C for 1000 h, no bias	