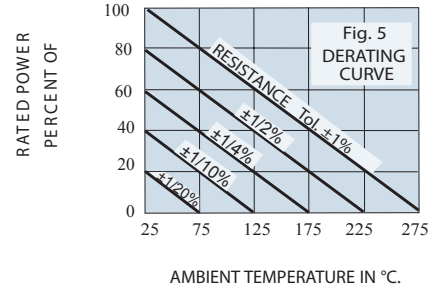


# SM - PRECISION POWER

## Profit from Precision Power SM Series

Sub-miniature high values ..... to 4 Megohms  
 Tolerance ..... to  $\pm 0.1\%$   
 TCR Characteristic .....  $0+10\text{ppm}/^\circ\text{C}$   
 High voltage rating ..... to 1250 Volts  
 Low EMF construction ..... Vs. copper leads

FULL RATED POWER & CURRENT FOR  $\pm 1\%$  RES. TOL.  
 BOTH MAX POWER & MAX CURRENT PUBLISHED MUST  
 BE DE-RATED FOR TOLERANCES CLOSER THAN  $\pm 1\%$



## ELECTRICAL & PHYSICAL SPECIFICATIONS

TWO (2) TERMINAL	PRC TYPE	For higher resistance values (at max. rated voltage) decrease max. power rating ( $P=E/R$ ) For lower resistance values (at max. rated power) decrease max. voltage rating ( $E=\sqrt{PR}$ ) *Resistance values based upon max. power and max. voltage.						Body Dimensions $\pm .787\text{mm}$ (.031")				Lead Length 1.5" $\pm$ 0.125"
		RW Styles MIL R-26	Max Power Rating (Watts)	*Min. Allowable Resist.* (Ohms)	Resist. (R=E <sup>2</sup> /P)	*Max. Allowable Resist.* (Ohms)	Max. Voltage Rating	Length		Diameter		
								mm	(ins.)	mm	(ins.)	
	SM041	—	0.125W	1.0	5K	10K	25V	6.35	(.250")	1.52	(.060")	.020"
	SM062	—	0.25W	1.0	17K	30K	65V	6.35	(.250")	2.03	(.080")	.020"
	SM063	—	0.5W	0.1	24K	50K	110V	7.92	(.312")	2.03	(.080")	.020"
	SM094	RW70	1W	0.1	40K	80K	200V	10.31	(.406")	2.92	(.115")	.025"
	SM076	—	1.125W	0.1	53K	180K	245V	12.7	(.500")	2.29	(.090")	.020"
	SM156	—	1.5W	0.1	90K	400K	375V	13.49	(.531")	4.47	(.176")	.028"
	SM1711	—	2W	0.1	225K	900K	670V	20.62	(.812")	4.83	(.190")	.028"
	SM186	RW69	3W	*0.025	80K	480K	500V	12.7	(.500")	5.26	(.207")	.028"
	SM177	RW79	3W	0.1	80K	540K	500V	14.27	(.562")	4.83	(.190")	.028"
	SM228	—	3W	*0.02	120K	720K	600V	15.88	(.625")	6.10	(.240")	.032"
	SM2812	RW74	5W	*0.02	200K	1 MEG	1000V	22.86	(.900")	7.92	(.312")	.032"
	SM3114	RW67	6.5W	0.1	154K	1.5 MEG	1000V	25.4	(1.000")	8.43	(.332")	.032"
	SM3726	RW78	10W	*0.07	156K	4 MEG	1250V	45.21	(1.780")	10.03	(.395")	.032"

## ENGINEERING DATA:

\* 0.02  $\Omega$  to 0.1  $\Omega$  and maximum resistance values available in non-standard physical sizes 0 to  $\pm .0625$ ".  
 All low value 2-terminal designs are calibrated and tested at mid-point on lead unless otherwise specified.

### 1. RESISTANCE RANGE

PRC's sub-miniature type SM "precision power" resistors offer the widest range of ohmic values anywhere. You can select any value or decimal part of an ohm from 0.02  $\Omega$  to 4 Megohms.

### 2. CUSTOM TOLERANCES

$\pm 1\%$  (Std.),  $\pm 0.5\%$ ,  $\pm 0.25\%$ ,  $\pm 0.1\%$   
 For Closer Tol., see HR Series.

### 3. TCR CHARACTERISTIC

Standard:  $0\pm 10\text{ppm}/^\circ\text{C}$  for 100  $\Omega$  and above and  $0\pm 15\text{ppm}/^\circ\text{C}$  below 100  $\Omega$ .  
 Special: To  $0\pm 2\text{ppm}/^\circ\text{C}$

\*Must Specify Temp. Span of Operation.

### 4. VOLTAGE RATING

**DC Voltage or Peak Voltage:**  
 The type SM's high operating voltage winding patterns eliminate dangerous crossovers and potential problems usually associated with standard style bobbins and mandrel designs. To calculate the safe operating voltage for any resistance value below the maximum listed, apply the formula:  $E=\sqrt{PR}$ .

### 5. PRECISION POWER RATINGS

All standard  $\pm 1\%$  tolerance type SM resistors are designed for continuous full load operation at  $+25^\circ\text{C}$ . Derated to zero wattage at  $+275^\circ\text{C}$  (see Fig. #5 above).

### 6. INDUCTANCE

Standard: Inductively wound  
 Special: Non-inductive winding is available, simply add suffix letter "N" to the end of part number.

### 7. TERMINALS

Standard: Solderable hot-tinned pure copper leads.

### 8. PROTECTIVE SEAL

SM resistors are coated in a tough solvent resistant high-temperature silicone formulation ... with indelible marking.



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