

PRODUCT BULLETIN



PRC-SERIES

PRECISION SURFACE MOUNT

WILLOW TECHNOLOGIES LTD.

SHAWLANDS COURT, NEWCHAPEL ROAD
LINGFIELD, SURREY, RH7 6BL, ENGLAND

Tel. + 44 (0) 1342 835234 Fax. + 44 (0) 1342 834306

E-mail rob@willow.co.uk

Website <http://www.willow.co.uk>

- THIN FILM
- STANDARD INDUSTRY CASE SIZES
0201 0402 0603 0805 1206 1210 2010
- POWER RATINGS 1/20W, 1/16W, 1/10W
1/8W, 1/4W & 1/2W
- TEMPERATURE COEFFICIENTS
TO 2PPM°C
- RESISTANCE TOLERANCES
TO 0.05%
- CUSTOM VALUES TO 3 DECIMAL PLACES
- PACKAGING IS TAPE & REEL
1,000; 5,000; 10,000 pcs.

Specifications

TYPE	RATED PWR	MAX CWV	INCHES MILLIMETERS			
			L	W	H	P
PRC 0201	1/20W	15V	0.024 ±0.002 (0.60±0.05)	0.012 ±0.002 (0.30±0.05)	0.009 ±0.001 (0.23±0.03)	0.005 ±0.002 (0.12±0.05)
PRC 0402	1/16W	25V	0.390 ±0.002 (1.00±0.05)	0.020 ±0.002 (0.50±0.05)	0.014 ±0.002 (0.35±0.05)	0.008 ±0.004 (0.20±0.10)
PRC 0603	1/16W	75V	0.063 ±0.004 (1.60±0.10)	0.031 ±0.004 (0.08±0.10)	0.020 ±0.004 (0.50±0.10)	0.008 ±0.004 (0.20±0.10)
PRC 0805	1/10W	100V	0.079 ±0.006 (2.00±0.15)	0.049 ±0.006 (1.25±0.15)	0.020 ±0.006 (0.50±0.15)	0.016 ±0.010 (0.40±0.25)
PRC 1206	1/8W	150V	0.126 ±0.006 (3.20±0.15)	0.063 ±0.006 (1.60±0.15)	0.024 ±0.006 (0.60±0.15)	0.020 ±0.010 (0.50±0.25)
PRC 1210	1/4W	200V	0.126 ±0.006 (3.20±0.15)	0.098 ±0.006 (2.50±0.15)	0.022 ±0.006 (0.56±0.15)	0.020 ±0.010 (0.50±0.25)
PRC 2010	1/2W	200V	0.200 ±0.006 (5.00±0.15)	0.100 ±0.006 (2.50±0.15)	0.022 ±0.006 (0.56±0.15)	0.024 ±0.010 (0.60±0.25)

Operating Temperature Range is **-55°C to +125°C**
* **-20°C to +85°C**

Temperature Coefficients

TC50 = ±50 PPM/°C TC10 = ±10 PPM/°C
TC25 = ±25 PPM/°C TC5 = ±5 PPM/°C
TC2 = ±2 PPM/°C *

Resistance Ranges

Refer to Capability Sheet for available ranges
Contact factory for custom values

Resistance Tolerances

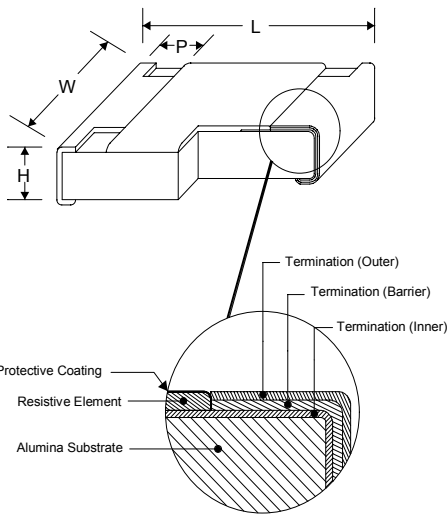
0.05% 0.1% 0.5% 1.0%

How to Order

Sample Part

PRC 0805 TC10 56.2R ±0.05%

Resistance Tolerance
Resistance Value
Temperature Coefficient
Case Size
Type



DEDICATION TO EXCELLENCE

TYPICAL RELIABILITY TEST DATA AND SPECIFICATIONS

Characteristic	Test Conditions	Result				Specification
		Value	Max.	Min.	Avg.	
MOISTURE LOAD LIFE	60°C 95%RH Rated voltage for 1½ hours ON, ½ hour OFF. 1000 hours	100 Ω	0.027%	0.003%	0.014%	ΔR within ±0.5%
		10 KΩ	0.019%	-0.008%	0.005%	
		100 KΩ	0.023%	-0.024%	0.014%	
TEMPERATURE CYCLE	-55°C~RT~ +155°C~RT 30 min. ON 3 min. OFF 5 cycles	100 Ω	0.036%	-0.010%	0.007%	ΔR within ±0.25%
		10 KΩ	0.005%	0.002%	0.000%	
		100 KΩ	0.011%	-0.006%	0.002%	
HIGH TEMPERATURE	175°C No load 1000 hours	100 Ω	0.254%	0.156%	0.194%	ΔR within ±0.5%
		10 KΩ	0.263%	0.130%	0.158%	
		100 KΩ	0.380%	0.194%	0.250%	
RANDOM VIBRATION	10~50Hz 3 directions each 2 hours	100 Ω	0.008%	-0.008%	0.003%	ΔR within ±0.25% without mechanical damage.
		10 KΩ	0.006%	-0.001%	0.002%	
		100 KΩ	0.006%	0.001%	0.003%	
MECHANICAL SHOCK	Acceleration 50G Axis 11 msec. x 3 Total 18 cycles	100 Ω	0.008%	0.002%	0.005%	ΔR within ±0.25% without mechanical damage.
		10 KΩ	0.008%	-0.002%	0.003%	
		100 KΩ	0.017%	0.003%	0.007%	
RESISTANCE TO SOLDERING HEAT	Solder temperature 275°C for 20 sec. ±1sec.	100 Ω	0.061%	-0.012%	0.013%	ΔR within ±0.1%
		10 KΩ	-0.018%	-0.044%	-0.024%	
		100 KΩ	-0.020%	-0.045%	-0.033%	
SOLDERABILITY	Solder temperature 230°C ±5°C for 3 sec. ±1 sec.	100 Ω 10 KΩ 100 KΩ	100% MEET SPECIFICATION			Minimum 95% of the electrode surface covered.
SHORT TIME OVERLOAD	2.5 times to rated voltage for 5 seconds	100 Ω	0.012%	-0.009%	-0.001%	ΔR within ±0.25%
		10 KΩ	0.000%	-0.018%	-0.001%	
		100 KΩ	0.012%	-0.008%	0.000%	
HUMIDITY	60°C, 95%RH No load 1000Hour	100 Ω	0.083%	0.002%	0.027%	ΔR within ±0.25%
		10 KΩ	0.005%	0.001%	0.003%	
		100 KΩ	0.018%	0.008%	0.012%	
LOAD LIFE	70°C Rated voltage for 1½ hours ON, ½ hour OFF. 1000 hours	100 Ω	0.052%	-0.057%	0.009%	ΔR within ±0.5%
		10 KΩ	0.017%	-0.009%	0.007%	
		100 KΩ	0.018%	-0.001%	0.007%	

Derating Curve

must be derated in accordance with the curve in the graph below.

