

PR series

Features

- Low cost precision resistors
- Tolerances down to $\pm 0.1\%$
- TCR down to 15ppm/ $^{\circ}\text{C}$



All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

Electrical Data

		PR4	PR5
Power rating at 70°C	watts	0.25	0.5
Resistance range	ohms	100R – 1M	
Limiting element voltage	volts	250	350
TCR (20°C to 70°C)	ppm/ $^{\circ}\text{C}$	$\leq 240\text{K}$: 15, 25, 50	$> 240\text{K}$: 25, 50
Resistance tolerance	%	$\leq 500\text{K}$: 0.1, 0.25, 0.5, 1	$> 500\text{K}$: 0.25, 0.5, 1
Standard values		E24, E96	
Thermal impedance	$^{\circ}\text{C}/\text{watt}$	140	112
Ambient temperature range	$^{\circ}\text{C}$	-55 to 155	

Physical Data

Dimensions (mm) & Weight (g)							
Type	L Max	D Max	f min	d nom	PC mounting centres	Min. bend radius	Wt. nom
PR4	6.2	2.5	21	0.6	10.2	0.6	0.3
PR5	9.0	3.6	19.6	0.8	12.7	1.2	0.5

Construction

The resistance element is a precisely controlled thin film of metal alloy sputtered on to a high purity ceramic core, protected by a moisture-resistant, high dielectric strength coating applied so that terminations remain completely clear.

This permits a well defined body length (clean lead to clean lead dimension L).

Terminations

Material

Hot tin dipped copper wire

Strength

The terminations meet the requirements of IEC 68.2.21

Solderability

The terminations meet the requirements of IEC 115-1, Clause 4.17.3.2

Marking

25ppm/ $^{\circ}\text{C}$ resistors are colour coded with 5 bands. The other grades have an additional 6th band indicating TCR which is orange for 15ppm/ $^{\circ}\text{C}$ and red for 50ppm/ $^{\circ}\text{C}$.

Solvent Resistance

The body protection and marking are resistant to all normal industrial cleaning solvents suitable for printed circuits.

General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

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Performance Data

		Maximum
Load: 1000 hours at 70°C	ΔR %	0.5
Derating from rated power at 70°C		zero at 155°C
Short term overload	ΔR %	0.25
Climatic	ΔR %	0.5
Climatic category		55/155/56
Long term damp heat	ΔR %	0.5
Temperature rapid change	ΔR %	0.25
Resistance to solder heat	ΔR %	0.25
Vibration and bump	ΔR %	0.1
Insulation resistance	ohms	> 1G
Voltage proof	volts	PR4: 500 min, PR5: 700 min

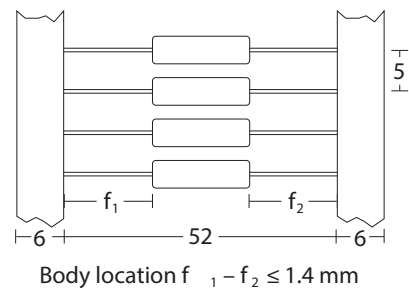
Packaging

All PR resistors are supplied tape packed ready for loading on to automatic sequencing and insertion machines.

Component wires will not protrude beyond the outside edge of the tapes.

Alternative packaging available by request.

Lead formed resistors can also be supplied. Standard options of Lancet, Radial and Goalpost forming are available.



Ordering Procedure

Example: PR4Y-10KBI (PR4 with TCR $\pm 15 \text{ ppm}/^\circ\text{C}$ at 10 kilohms $\pm 0.1\%$, Pb-free)



1	2	3	4	5			
Type	TCR	Value	Tolerance	Packing			
PR4	Y = $\pm 15 \text{ ppm}/^\circ\text{C}$	E24 = 3/4 characters	B = $\pm 0.1\%$	I	Ammo		
PR5	Blank = $\pm 25 \text{ ppm}/^\circ\text{C}$	E96 = 3/4 characters	C = $\pm 0.25\%$			PR4	5000/box
	C = $\pm 50 \text{ ppm}/^\circ\text{C}$	R = ohms K = kilohms M = megohms	D = $\pm 0.5\%$ F = $\pm 1\%$			PR5	2500/box

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