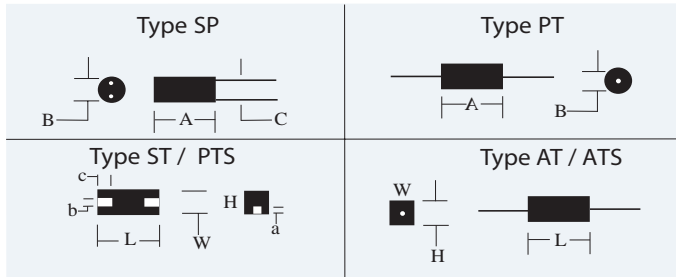


COMPENSATORS



How Can You Benefit From Our Custom Compensators?

1000 Ω 3500 PPM Compensators are in stock.
 Thru-hole or SMD it's your choice!
 Low RMS Noise for A/D conversions.
 Linear Tracking from -65 to +150°C.
 Custom Values & TCRs for high or lower Ω/Δ°C.

AXIAL & PROBE SPECIAL-PURPOSE COMPENSATOR/SENSORS

AXIAL LEAD & PROBE DESIGN TEMPERATURE SENSING	PRC Type	Power Rating	Body Dimensions ± .787mm (.031")				Lead Length 1.5" ± 0.125" Max. Diam.	Maximum Resistance (Ω) for "Custom" +TCR Characteristics:				
			Length		Diameter			+1400 ppm/°C	+3500 ppm/°C	+3930 ppm/°C	+4500 ppm/°C	+6000 ppm/°C
			mm	(Ins.)	mm	(Ins.)						
	PT052	.02 W	6.86	(.270")	1.78	(.070")	.020"	1500	1K	25	500	100
	PT073	.05 W	8.43	(.332")	2.54	(.100")	.020"	2500	2K	50	600	200
	PT094	0.1 W	10.03	(.395")	3.18	(.125")	.025"	6K	5K	100	1500	500
	PT146	0.25 W	13.21	(.520")	4.75	(.187")	.028"	20K	10K	500	5K	2K
PROBE												
	SP073	0.05 W	8.43	(.332")	2.54	(.100")	.020"	2500	2K	50	600	200
	SP094	0.1 W	10.03	(.395")	3.18	(.125")	.025"	6K	5K	100	1500	500
	SP146	0.25 W	13.21	(.520")	4.75	(.187")	.028"	20K	10K	500	5K	2K

RECTANGULAR AXIAL & SURFACE MOUNT SPECIAL-PURPOSE COMPENSATOR/SENSORS

ATS-AXIAL	PTS-SMD	PRC TYPE	POWER RATING	Dimensions								ATS 1" Leads Diameter	Maximum Resistance (Ω) for "Custom" +TCR Characteristics:				
				H	L	W	a	b	c	d	+1400 ppm/°C		+3500 ppm/°C	+3930 ppm/°C	+4500 ppm/°C	+6000 ppm/°C	
		ATS1	.05W	3.30 .130	9.14 .360	3.18 .125	1.91 .075	1.91 .075	2.54 .100	6.60 .260	.020"	2500	2K	50	600	200	
		ATS2	.1W	6.35 .250	9.78 .385	5.72 .225	3.18 .125	2.84 .112	2.54 .100	7.87 .310	.025"	6K	5K	100	1500	500	
		ATS3	.25W	6.35 .250	12.7 .500	6.35 .250	2.54 .100	2.84 .112	2.54 .100	10.8 .425	.031"	20K	10K	500	5K	2K	

RECTANGULAR AXIAL & SMD 1K 3500 PPM COMPENSATORS

PAD LAYOUT	PRC Type	Max. Volts Watts	H mm ins.	L mm ins.	W mm ins.	a	b	c	d	e (1"L.)
	AT35	100 V 0.1 W	3.30 .125"	9.14 .360"	3.18 .125"	—	—	—	—	.020"
	ST35					.075"	.075"	.100"	.260"	—

ENGINEERING DATA:

- ALL STANDARD 1000 Ω ± 1% TOLERANCE ±3500 PPM COMPENSATORS ARE IN STOCK

Special: Any value from 1Ω to 50KΩ.
 Tolerances to ±0.05%.

- TCR CHARACTERISTICS AVAILABLE

+80 ppm/°C +3930 ppm/°C
 +140 ppm/°C +4300 ppm/°C
 +400 ppm/°C +4500 ppm/°C
 +1400 ppm/°C +5000 ppm/°C
 +3500 ppm/°C +6000 ppm/°C

* Calculated between +25°C. & +100°C.

$$TCR = \frac{\Delta R \times 10^6}{R_0 \times \Delta t}$$

R₀ = Original resistance at reference temp.
 ΔR = Change in resistance at test temp.
 from resistance at reference temp.
 Δt = Difference between test and reference temp. in degrees.

- COMPENSATORS VS. POWER

PRC's positive TCR resistors are used to offset negative ambient temperature changes or counter self-generating shifts in resistance with an excitation of power to 0.25 watt at +125°C (Derated to zero watts at +150°C)

- STABILITY ENSURES LONGER SHELF-LIFE

Standard: ±0.05% per year at 25°C. w/ no load.
 Special: < ±0.01% per year at 25°C. w/ no load.

- PROTECTIVE SEAL

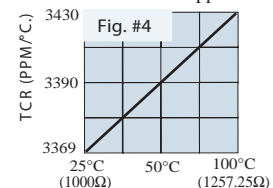
Standard: Conformal silicone or epoxy case.
 Special: Thermal conductive insulating coatings.
 Un-coated components are also available upon request.

- MARKING

PRC symbol, type, resistance value, tolerance and TCR characteristics, physical size permitting.

- RES/TEMP CURVE & EQUATION

For nominal 1K ±1% +3500ppm device.



e.g. 1000Ω at 25°C. is 1257.25Ω at +100°C.

$$TCR = \frac{R@100^\circ C - R@25^\circ C}{R@25^\circ C \times 75} \times 10^6$$

$$TCR = \frac{1257.25 - 1000}{1000 \times 75} \times 10^6$$

$$TCR = +3430 \text{ ppm/}^\circ C \text{ or } 3.4 \Omega/\Delta^\circ C$$



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