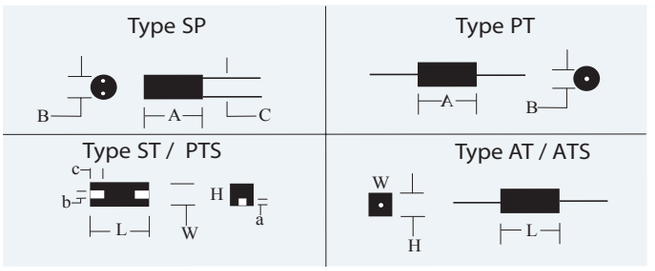
COMPENSATORS



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 ΩΔ/°C.

AXIAL & PROBE SPECIAL-PURPOSE COMPENSATOR/SENSORS

AXIAL LEAD & PROBE DESIGN TEMPERATURE SENSING	PRC Type	Power Rating	Body Dimensions ± .787mm (.031") Length mm	Length (Ins.)	Diameter mm	Diameter (Ins.)	Lead Length 1.5" ± 0.125" Max. Diam.	Maximum Resistance (Ω) for "Custom" +TCR Characteristics: +1400 ppm/°C	+3500 ppm/°C	+3930 ppm/°C	+4500 ppm/°C	+6000 ppm/°C
AXIAL	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 AXIAL	PRC TYPE SMD	POWER RATING	H mm. in.	L mm. in.	W mm. in.	a mm. in.	b mm. in.	c mm. in.	d mm. in.	ATS 1" Leads Diameter	Maximum Resistance (Ω) for "Custom" +TCR Characteristics: +1400 ppm/°C	+3500 ppm/°C	+3930 ppm/°C	+4500 ppm/°C	+6000 ppm/°C
		ATS1	PTS1	.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	PTS2	.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	PTS3	.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:

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

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

2. 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

*** TC TOLERANCE WINDOW ± 5%**
Calculated between +25°C. & +100°C.

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

R_o = 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.

3. 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)

4. 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.

5. PROTECTIVE SEAL

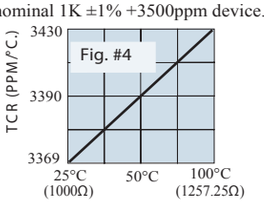
Standard: Conformal silicone or epoxy case.
Special: Thermal conductive insulating coatings.
Un-coated components are also available upon request.

6. MARKING

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

7. RES/TEMP CURVE & EQUATION

For nominal 1K ±1% +3500ppm device.



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

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

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

TCR = +3430ppm/ °C or 3.4ΩΔ/°C

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