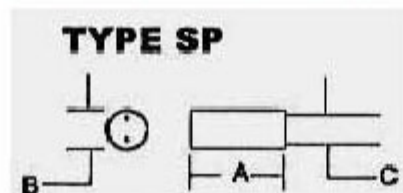




SP146 .25W Custom (+) TCR Temperature Sensitive Wire Wound Probe Compensator



Electrical & Physical Specifications:

- A-Length:** 13.21mm (.520")
- B-Diameter:** 4.75mm (.187")
- Probe Lead dimensions:** .028" dia. X 1.5" long (min.)

SP146

Compensator Attributes:

LINEAR COMPENSATION

PRC's type PT/ST (+) TCR Characteristics +3500 PPM/°C. linear tracking temperature sensitive resistors help you develop the desired compensation for true RMS measurements...and can offset errors in dB output circuits.

TOLERANCE FOR (+) 3500 PPM/°C.

Less than ± 100 PPM/°C from +25°C. to +100°C. If you are looking for a systems offset of +3350 PPM/°C to +3450 PPM/°C. try a few engineering samples of our off-the-shelf compensators. We are confident you can achieve dramatic results. The element wire used on our type PT/ST, as a rule, is very close to +3350 PPM/°C. @ 25°C. & lower than +3450 PPM/°C. @ 100°C. See figure #4 below.

OFF THE SHELF FOR IMMEDIATE DELIVERY

Thru-hole & SMD designs are available for evaluation & testing. We have our PT series for 2 terminal type or our AT35 for 4 terminal type. If you have plans for SMD/SMT, our type ST35 is a drop in replacement for the thru-hole part w/ interchangeable specs. All our standard 1000 Ω $\pm 1\%$ +3500 PPM Compensators are in stock!

CUSTOM COMPENSATORS

We can customize any of our compensators to fit your specs in any Ohmic value from 1 Ω to 50K Ω We have pure metals, alloys, & composite windings available. All of which are extremely linear, reasonably priced & delivered quickly.

TRACKING CHART

Constant temperature oil bath computer tracking charts are available to match temp. span & behavior specs exactly.

COMPENSATORS VS. POWER

PRC's positive (+) TCR resistors are used to offset negative (-) ambient temperature changes or counter self-generating shifts in resistance w/ an excitation of power to .25W @ +125°C. Derated to 0W @ +150°C.

STABILITY

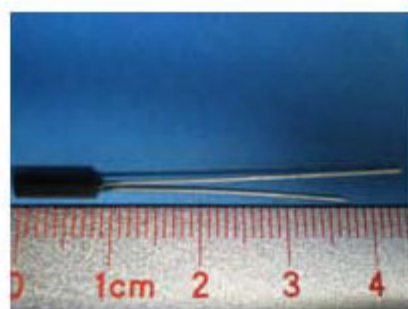
- Standard:** $\pm .05\%$ /year @ +25°C.
- Special:** Less than $\pm .01\%$ /year @ +25°C.

MARKING

PRC stamp, part type, resistance value, tolerance & TCR characteristics, physical size permitting.

PROTECTIVE SEAL

- Standard:** Conformal silicone or epoxy case.
- Special:** Thermal conductive insulating coatings or uncoated.



TCR CHARACTERISTICS AVAILABLE

Temperature Coefficient of Resistance (TCR*)

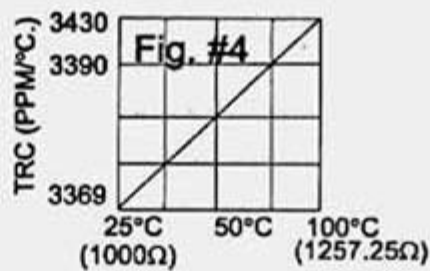
- +80 ppm/°C
- +140 ppm/°C
- +3930 ppm/°C
- +4300 ppm/°C

+400 ppm/°C
 +1400 ppm/°C
 +3500 ppm/°C

+4500 ppm/°C
 +5000 ppm/°C
 +6000 ppm/°C

*TCR based upon avg. PPM change in res./°C. from +25°C. to +100°C.

Detailed Images



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

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

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

$$\text{TCR} = \frac{257.25}{75000} \times 10^6$$

$$\text{TCR} = +3430 \text{ PPM/ } ^\circ\text{C. OR } 3.4\Omega/\text{ } ^\circ\text{C.}$$

Res/Temp Curve & TCR Equation for nominal 1K ± 1% +3500 PPM Compensator

Details

SKU	SP146
Type	Probe
Length	13.21mm (.520")
Lead Dimensions	.028" dia. X 1.5" long (min.)
Diameter	4.75mm (.187")
TCR Char.	from +80 PPM/°C to +6000 PPM/°C
Power Rating	0-.25W
Resistance	1Ω to 20KΩ
Tolerance	to ±.05%
Stability	to less than ±.01% per year at 25°C
Max Watts	.25
Lead Free	Yes