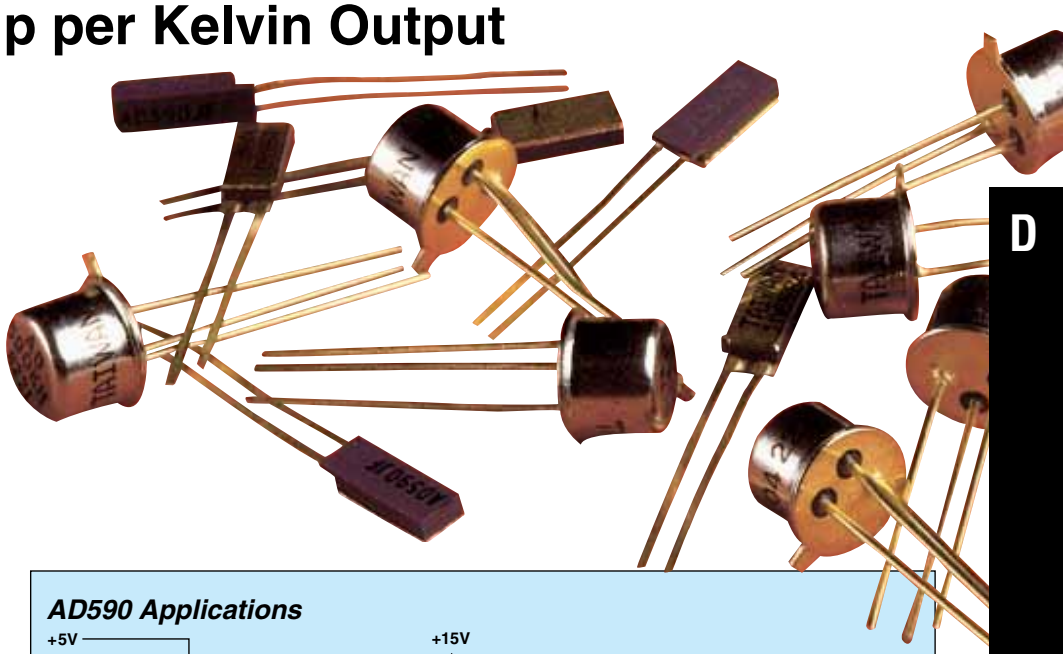
Solid State Temperature Sensor

Linear 1 Microamp per Kelvin Output



AD590JH

- Linear Current Output
- Broad Range -55 to 150°C
- No Linearization Circuity Required
- Versatile and Economical
- Fast Response

Two Styles Available

- Low-Cost Metal TO-52 Case
- Miniature Ceramic Flat Pack

Two Accuracies Available

- J for Low Cost
- K for Increased Accuracy

Applications

- Ideal for Fast Response Surface Measurements
- Sensors for Controllers and Meters
- Use in Custom-Made Probes
- Use on PC Boards for Accurate Measurement

The AD590 is a small temperature transducer that converts a temperature input into a proportional current output.

The advanced technology in the AD590 is especially suited for special temperature measurement and control applications between -55 and 150°C (-67 to 302°F) when solid state reliability, linearity and accuracy are required. The AD590 can be used to determine minimum, average, and differential temperatures, in addition to being used for thermocouple cold junction compensation and temperature control applications. The size and responsiveness of the AD590 make it perfect for uses where size is a consideration, such as on PC boards or heat sinks.

Just power up and measure absolute temperature (Kelvin). No linearization, amplification or cold junction compensation is required (Fig. 1). To convert reading to °C, subtract 273.15.

AD590 Applications

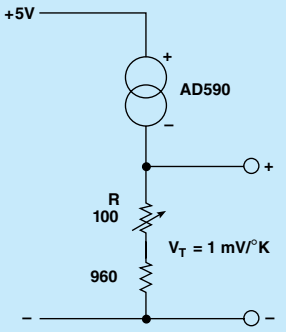


Fig. 1 *Basic Operation Circuit*

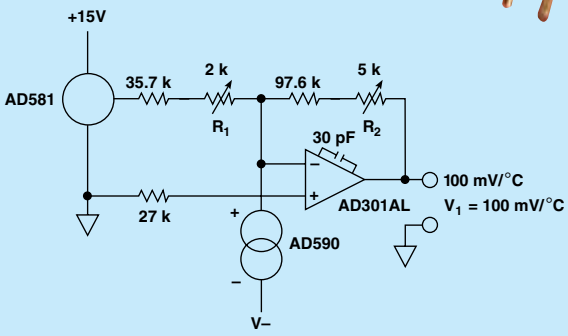
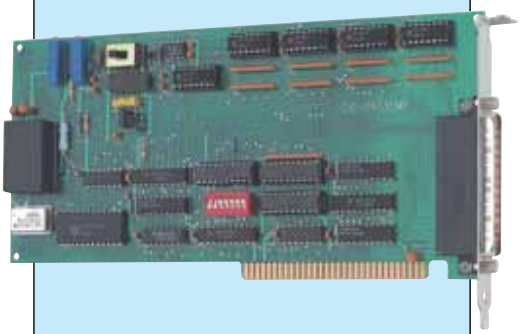


Fig. 2 *Simple Amplified Circuit*

Specifications

Absolute Maximum Ratings
Forward Voltage (E+ to E-): +44V
Reverse Voltage (E+ to E-): -20V
Breakdown Voltage (case to E+ or E-): ±200V
Lead Temperature: 300°C
Voltage Range: 4 to 30 Vdc
Nominal Current Output at 25°C (298.2 K): 298.2 µA
Nominal Temperature Coefficient: 1 µA/K
Calibration Error: J: ±5.0°C maximum (K: ±2.5°C)
Absolute Error: Without external **Calibration Adjustment:** J: ±10.0°C max (K: ±5.5°C); W/25°C error set to zero J: ±3.0°C max (K: ±2.0°C)
Repeatability: ±0.1°C max
Long-Term Drift: ±0.1°C/month max

Compatible Product
CIO-DAS-TEMP 32-Channel Plug-In Board for IBM PCs



Visit us online for further details.

To Order

Model Number	Flat Pack	TO-52 Case	Linearity
AD590J	AD590JF	AD590JH	±1.5°C
AD590K	AD590KF	AD590KH	±0.8°C

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