

Four Channel RTD/Strain Gage Conditioner

2B34

FEATURES

- Low Input Offset Drift: $\pm 1.0\mu V/^{\circ}C$
- Low Gain Drift: $\pm 25\text{ppm}/^{\circ}C$
- Low Nonlinearity: $+0.01\%$ max ($\pm 0.005\%$ typ)
- Differential Input Protection: $\pm 130V$ rms
- Channel Multiplexing: 3000 chan/sec Scanning Speed
- Solid State Reliability
- Internal RTD Excitation/Lead Wire Compensation

APPLICATIONS

- Multichannel Signal Conditioning
- Data Acquisition
- Industrial Process Monitoring

GENERAL DESCRIPTION

The model 2B34 is a four-channel signal conditioner providing input protection, multiplexing, and amplification in a single, low cost package. A multi-purpose device, the 2B34 is designed to effectively condition low-level signals ($\pm 30\text{mV}$ to $\pm 100\text{mV}$) such as those produced by RTD and strain gage sensors. The superior design of the 2B34 provides low input drift ($\pm 1.0\mu V/^{\circ}C$), high common mode rejection (94dB @ 60Hz), and extremely stable gain ($\pm 25\text{ppm}/^{\circ}C$). Other features include low nonlinearity ($\pm 0.01\%$ max), excitation and lead wire compensation for RTD inputs, and a wide operating temperature range ($-25^{\circ}C$ to $+85^{\circ}C$).

APPLICATIONS

The 2B34 is a superior alternative to the relay multiplexing technique used in multichannel data acquisition systems, computer interface systems, and measurement and control instrumentation. Advantages over relay circuits include functional versatility, superior signal conditioning, and solid state speed and reliability.

DESIGN FEATURES AND USER BENEFITS

Solid State Design: Complete solid state construction offers both high performance and reliability.

Ease of Use: The multichannel, functionally complete design in a compact (2" X 4" X 0.4") module, conserves board space and eliminates the need for a number of discrete components that would otherwise be required.

FUNCTIONAL BLOCK DIAGRAM

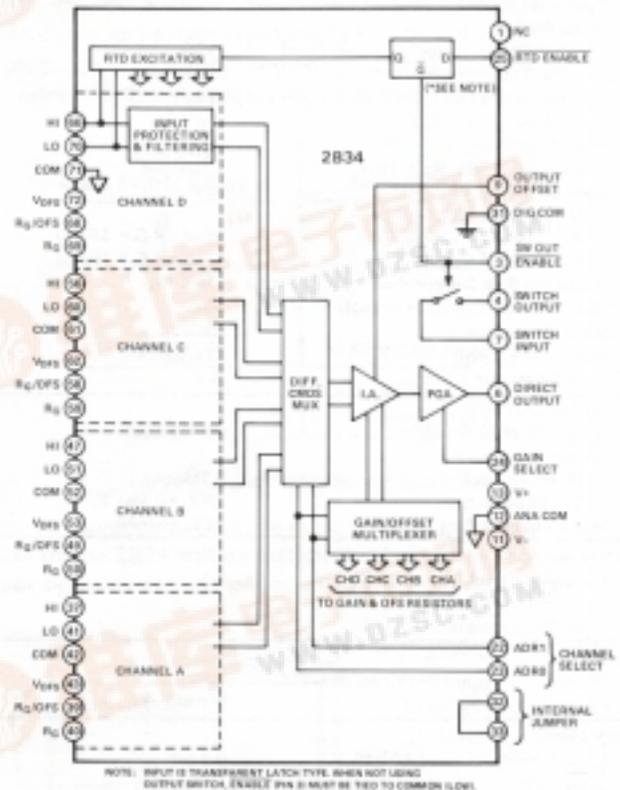


Figure 1.

Low Cost: The 2B34 offers the lowest cost per channel for solid state, low level sensor signal conditioning.

Wide Operating Temperature Range: The 2B34 has been designed to operate over $-25^{\circ}C$ to $+85^{\circ}C$ ambient temperature range.