

# Phillips Scientific

## DC-100 MHz Bipolar Amplifier

### MODEL 6931

#### FEATURES

- \* Voltage Gain of 100
- \* Wideband Performance DC to 100 MHz
- \* Excellent Stability - Low Distortion
- \* Input and Output Protection

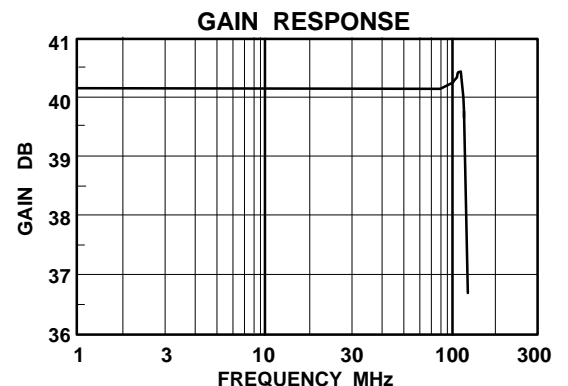
#### DESCRIPTION

The Model 6931 is a wideband bipolar amplifier housed in a small, rugged aluminum enclosure. It is direct coupled, has a non-inverting voltage gain of 100, and bandwidth over 100 MHz. The amplifier exhibits excellent gain stability, linearity, and noise characteristics. To ensure reliable operation, the input stage is protected from transients and the output stage is short circuit protected. Also the output stage is capable of driving two 50 ohm loads for fan-out of the amplified signal.

#### SPECIFICATIONS

- Input** : One; 50 ohms  $\pm 1\%$ , Direct Coupled. Protected from  $\pm 100$  Volt transients for  $1\mu\text{Sec}$ .
- Outputs** : Two; Capable of driving  $\pm 2$  Volts into a 50 ohm load and  $\pm 1.5$  Volts into 25 ohms.
- Voltage Gain** : 100,  $\pm 2\%$ , Non-inverting.
- Gain Stability** :  $\pm 0.01\%/^{\circ}\text{C}$  above 1 MHz.
- DC Stability** : Typically  $\pm 4 \mu\text{Volt}/^{\circ}\text{C}$ , referred to the input;
- Non-Linearity** :  $\pm 0.1\%$  for  $\pm 2$  Volt output into 50 ohms;  $\pm 1$  Volt into two 50 ohm loads.
- Bandwidth (3db)** : DC to 100 MHz, 3 db point; 1 Volt output excursion.
- Risetime** : Less than  $3.5\text{nSec}$  for a 1 Volt output excursion.
- Insertion Delay** : Typically  $6.0\text{nSec}$ .
- Wideband Noise** : Less than  $10 \mu\text{Volts RMS}$ ; Referred to the input.
- Overdrive Recovery** : Less than  $25\text{nSec}$  to recover from a  $\pm 1$  Volt input pulse.
- DC Offset Control** : Variable with a 15-turn screwdriver adjustment;  $\pm 2.5\text{mVolt}$  referred to the input, ( $\pm 250\text{mV}$  at output). A test point provides a DC Voltage equal to the threshold setting.
- Output Protection** : Outputs can be continuously shorted to ground without damaging the output stage.
- Power Supply Requirements** : +8 Volts to +28 Volts @ 30 mA. **Note:** Power supplies are internally regulated, and are not required to be balanced.  
- 8 Volts to -28 Volts @ 10 mA.  
An 18" three-wire cable is provided, unless otherwise specified.
- Connector Type** : BNC unless otherwise specified. LEMO or SMA optional. (Specify when ordering)
- Packaging** : Black anodized aluminum enclosure. 2.25" x 3" x 1.75", (5.72cm x 7.6cm x 4.45cm).
- Operating Temp.** :  $0^{\circ}\text{C}$  to  $70^{\circ}\text{C}$  ambient.

4/96



**Phillips Scientific**

"A THEORY DEVELOPMENT COMPANY"

31 Industrial Ave. \* Mahwah, NJ 07430 \* (201) 934-8015 \* Fax (201) 934-8269