

Phillips Scientific

DC-300 MHz Bipolar Amplifier

MODEL 6950

FEATURES

- * Voltage Gain of 10
- * Wideband Performance DC to 300 MHz
- * Excellent Stability – Low Distortion
- * Inputs and Outputs Protected

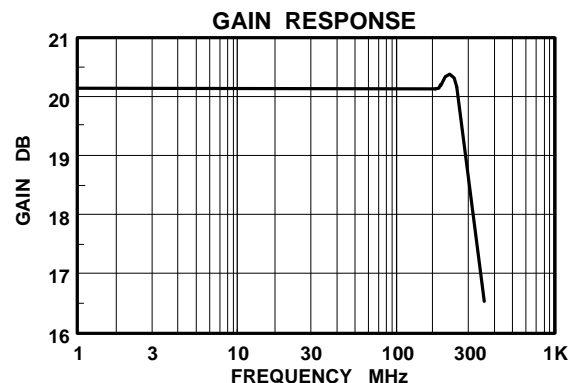
DESCRIPTION

The Model 6950 is a wideband bipolar amplifier housed in a small, rugged aluminum enclosure. It is direct coupled, has a non-inverting voltage gain of 10, and bandwidth over 300 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. 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 ± 100 Volt transients for $1\mu\text{Sec}$.
- Outputs** : Two; Capable of driving ± 2 Volts into a 50 ohm load and ± 1.5 Volts into 25 ohms.
- Voltage Gain** : 10, $\pm 2\%$, Non-inverting.
- Gain Stability** : $\pm 0.01\%/^{\circ}\text{C}$ above 1 MHz.
- DC Stability** : Typically $\pm 5 \mu\text{Volt}/^{\circ}\text{C}$, referred to the input;
- Non-Linearity** : $\pm 0.1\%$ for ± 2 Volt output into 50 ohms; ± 1.5 Volt into two 50 ohm loads.
- Bandwidth (3db)** : DC to 300 MHz, 3 db point; 1 Volt output excursion. DC to 200 MHz full power.
- Risetime** : Less than 1.1nSec for a 1 Volt output excursion.
- Insertion Delay** : Typically 3.5 nSec.
- Wideband Noise** : Less than 25 $\mu\text{Volts RMS}$; Referred to the input. ($1.5\text{nV}/\sqrt{\text{Hz}}$.)
- Overdrive Recovery** : Less than 20nSec to recover from a ± 1 Volt input pulse.
- DC Offset Control** : Variable with a 15-turn screwdriver adjustment; $\pm 25\text{mVolt}$ 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 @ 50 mA. **Note:** Power supplies are internally regulated and are not required to be balanced.
- 8 Volts to -28 Volts @ 50 mA.
An 18 inch 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°C to 70°C ambient.

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