HEWLETT PACKARD

# Microwave Bias Network 0.1-18 GHz

## Technical Data

**33150A**

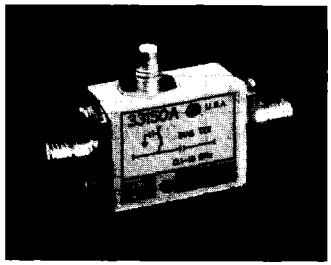
### Features

- **Wideband**
- **Low Insertion Loss**
- **High RF to DC Isolation**

### Description

The broadband DC return is designed for use as a bias tee or DC return in microwave laboratory and systems applications.

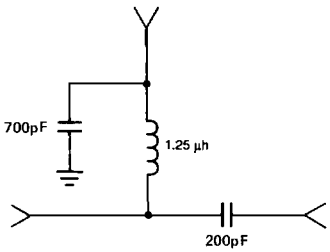
Examples of microwave bias applications include FET or Bipolar transistor amplifiers, SRD multipliers, mixers and detectors, and limiters. This device is ideal for use in device and circuit test setups in the laboratory, where minimum disturbance of the RF circuit is desired.



### Maximum Ratings

| Parameter | Total |
|---|---|
| Operating Temperature | -65°C to +95°C |
| Storage Temperature | -65°C to +125°C |
| Bias Voltage | 100 V |
| Bias Current | 200 mA |

### Schematic Diagram




### Electrical Specifications at $T_{CASE}$ = 25°C

| Parameter | Frequency Range (GHz) | | | |
|---|---|---|---|---|
| | 0.1-3.5 | 3.5-11 | 11-18 | 18-26 Option 002 |
| Maximum Insertion Loss (dB) | 0.4 | 0.6 | 1.1 | 1.5 |
| Maximum SWR | 1.5:1 | 1.5:1 | 1.8:1 | 2.8:1 |
| Maximum DC Bias Resistance (Ω) | 4.0 | | | |

## Ordering Information

The 33150 is a broadband bias network. The standard unit is supplied with SMA jack (female), RF connectors, and SMC jack (male) bias connector. An SMA jack bias connector is available as Option 001.

## Mechanical Specifications

**Body:** Alodined aluminum MIL-C-5541.
**Maximum Weight:** 23 grams (0.8 ounces)

## Environmental Ratings

**Non-Operating Temperature Cycling:** MIL-STD-883, Method 1010, Test Condition B (-55°C to +125°C).
**Shock:** MIL-STD-883. Method 2002, Test Condition B, (0.5 ms, 1500 G).
**Moisture Resistance:** MIL-STD-883, Method 1004.

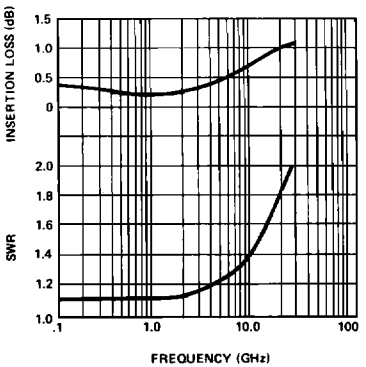



Figure 1. Typical Insertion Loss and SWR.

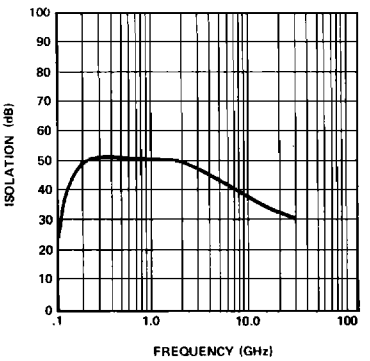



Figure 2. Typical RF to DC Isolation

## Outline Drawing