

The model 5530B is a broadband coaxial bias insertion tee for low current applications such as biasing avalanche photodiodes. It is rated for 200 V. It is designed to pass fast risetime pulses with minimum waveform distortion. The risetime is 35 ps, with a -3 dB bandwidth extending from 20 kHz to 12.5 GHz.



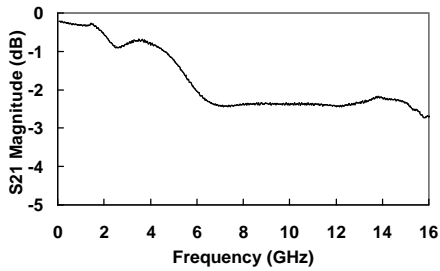
<b>Risetime (10%-90%)</b>	35 ps, 40 ps max.
<b>Bandwidth (-3 dB)</b>	12.5 GHz, 10 GHz min.
<b>Insertion Loss</b> (0.01 – 1 GHz)	0.2 dB 0.5 dB max.
<b>Low Frequency (-3 dB)</b>	20 kHz
<b>Isolation (AC-DC)</b>	> -45 dB, f < 1 GHz >20 dB, f > 1 GHz
<b>Return Loss</b>	0.1 < f < 5 GHz RL > 25 dB -3 dB/GHz*f(GHz) 5 GHz < f < 10 GHz RL > 15 dB -1 dB/GHz*f(GHz)
<b>DC Voltage</b>	200 V max.
<b>DC Current</b>	10 mA max.
<b>Resistance</b>	1 kΩ
<b>Capacitance</b>	0.082 μF, ±20%
<b>Impedance</b>	50 Ω
<b>Refl. Coeff.</b> (35 ps TDR)	±8%, t < 200 ps -2.5%, t > 200 ps
<b>RF Power</b>	2 W average max.
<b>DC Path Bandwidth</b>	30 kHz typical
<b>Connectors</b>	SMA jacks (f)
<b>Dimensions</b>	1.95" x 0.5" x 1.82" (4.9 x 1.3 x 4.6 cm)
<b>Warranty</b>	One year. See Terms and Conditions of Sale for details

### Note

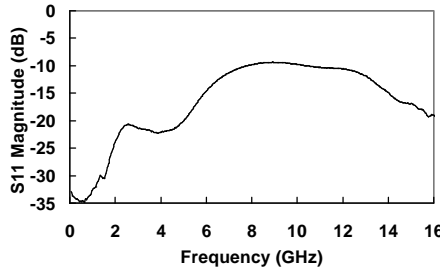
Parameters listed are typical values. They are guaranteed only when maximum and/or minimum limits are given.

## Ordering Information

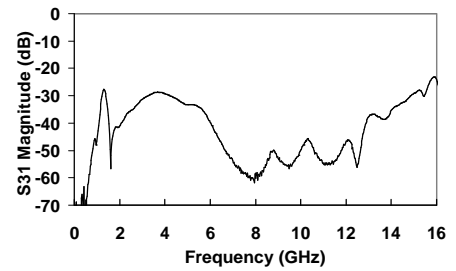
<b>Model Number</b>
5530B-104



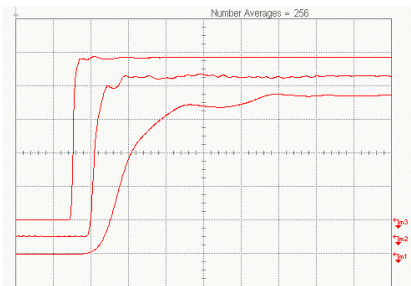
Insertion Loss, AC to AC+DC



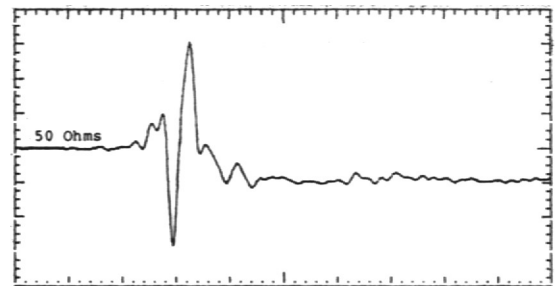
Return Loss, AC Port



Isolation, AC to DC



Time Scales (Top to Bottom): 500 ps/div, 100 ps/div, 20 ps/div  
Response to Step with 15 ps Risetime

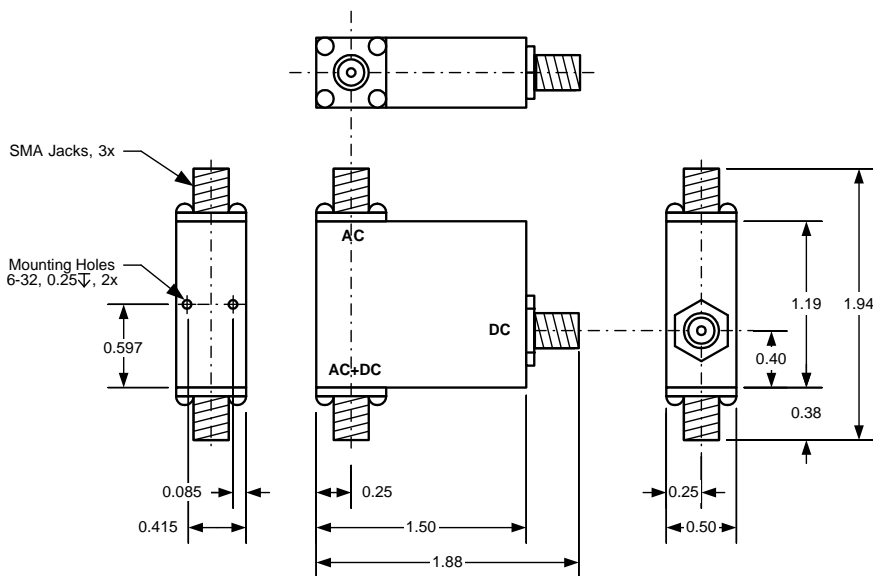


2.5% rho/div and 200 ps/div  
35 ps TDR of AC port

**Notes**

10 ps risetime step response and TDR waveform measured using a PSPL Model 4015B pulse generator and HP-54124A, 50 GHz, 9.4 ps digital sampling oscilloscope.  
Frequency response measured using an Anritsu 37397C, 40 MHz-65 GHz network analyzer.

**5530B Mechanical Drawing**



**Tolerances**  
.XX = .01  
.XXX = .005