

# 12.5 GHz Bias Tee

## PSPL5530B Datasheet

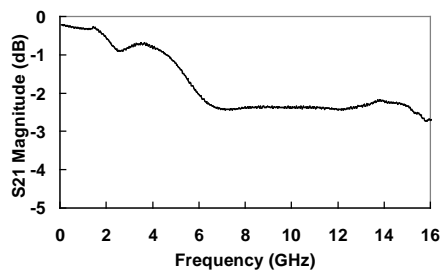


The Model PSPL5530B is a broadband coaxial bias insertion tee for low current applications such as biasing avalanche photodiodes. It is rated for 200 V. It is designed to pass fast rise time pulses with minimum waveform distortion. The rise time is 35 ps, with a -3 dB bandwidth extending from 20 kHz to 12.5 GHz.

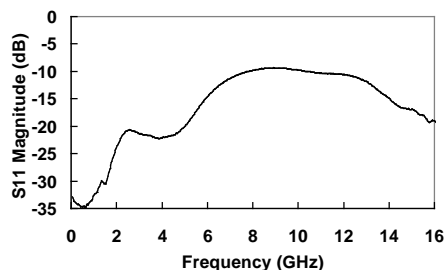
### Key performance specifications

- 20 kHz to 12.50 GHz
- 35 ps rise time
- 200 V, 10 mA

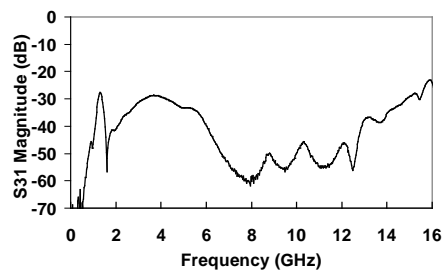
### Microwave frequency response



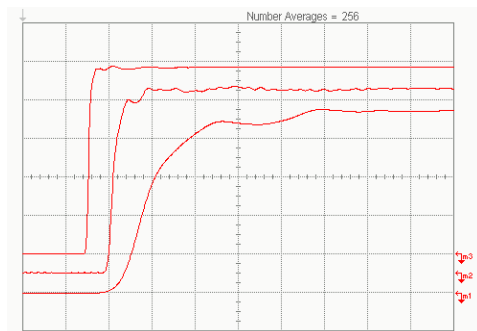
Insertion Loss, AC to AC+DC



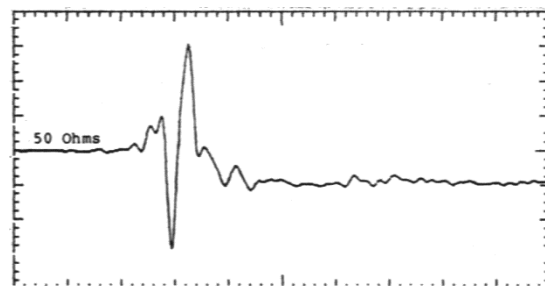
Return Loss, AC Port



Isolation, AC to DC



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

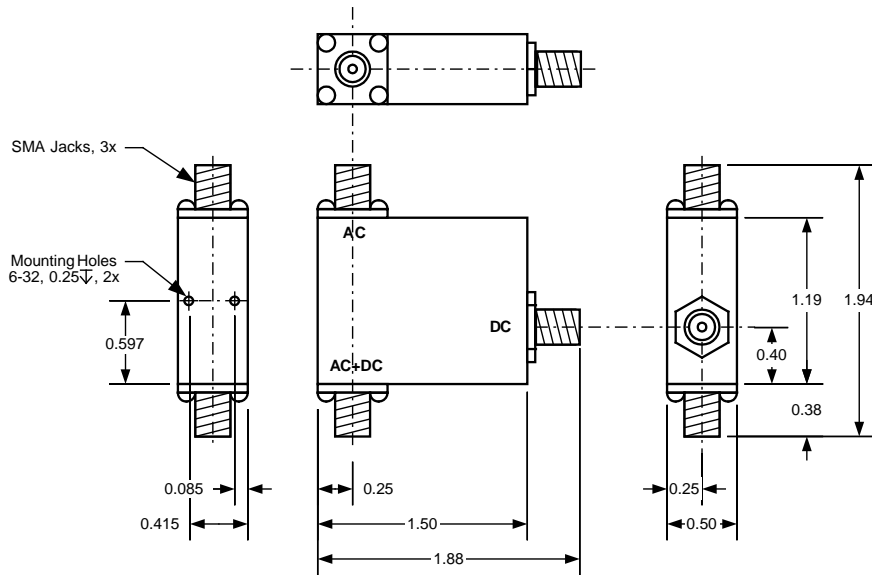


2.5% rho/div and 200 ps/div  
35 ps TDR of AC port

## Specifications

Parameter	Symbol	Units	Min	Typical	Max	Comments
Impedance	Z	Ohms		50		
Upper 3 dB frequency	$f_{c,h}$	GHz	10	12.5		
Lower 3 dB frequency	$f_{c,l}$	kHz		20		
Rise time	$t_r$	ps		35	40	10 – 90%
Insertion loss	$S_{21}$	dB		0.2	0.5	(0.01 – 1 GHz)
Return loss	$S_{11}$	dB	RL > 25 dB – 3 dB / GHz * f(GHz) RL > 15 dB – 1 dB / GHz * f(GHz)			0.1 < f < 5 GHz 5 GHz < f 10 GHz
Refl. Coefficient (35 ps TDR)	$\Gamma$	%		+/-8 -2.5		t < 200 ps t > 200 ps
DC voltage	V	Volts			200	
DC current	I	mA			10	
Capacitance	C	$\mu$ F		0.082		+/-20%
Resistance	R	k Ohm		1		
RF power	P	W			2	Average power
Isolation	$S_{13}$	dB		45 20		f < 1 GHz f > 1 GHz
DC path bandwidth	$f_{c,DC}$	kHz		30		
RF Connectors	SMA jacks (f)					
DC Connector	SMA jack (f)					
Warranty	One Year					

**PSPL5530B Mechanical dimensions**



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

**Ordering information**

<b>Model</b>	<b>Description</b>
PSPL5530B	BIAS TEE, 12.5GHz, 200V, SMA J-J-J

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