

12.5 GHz Bias Tee

PSPL5530B Datasheet

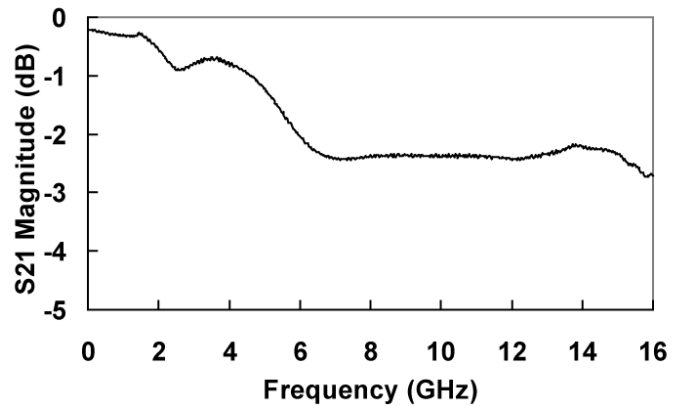


The PSPL5530B is a broadband coaxial bias insertion tee for low current applications such as biasing avalanche photo diodes. It is rated for 200 V. It is designed to pass fast rise time pulses with minimum waveform distortion. The rise time is 35 ps, with a -3 dB bandwidth extending from 20 kHz to 12.5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

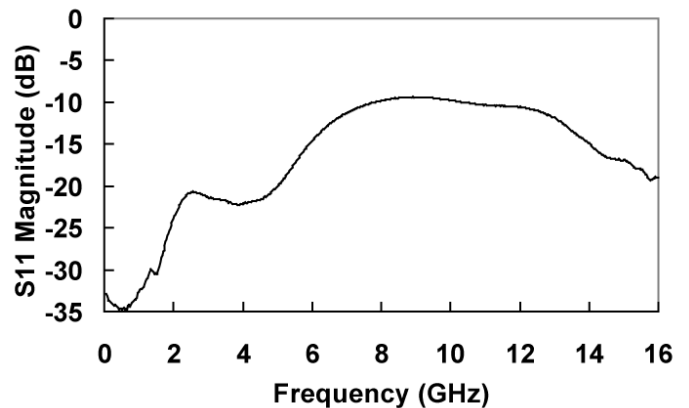
Key performance specifications

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

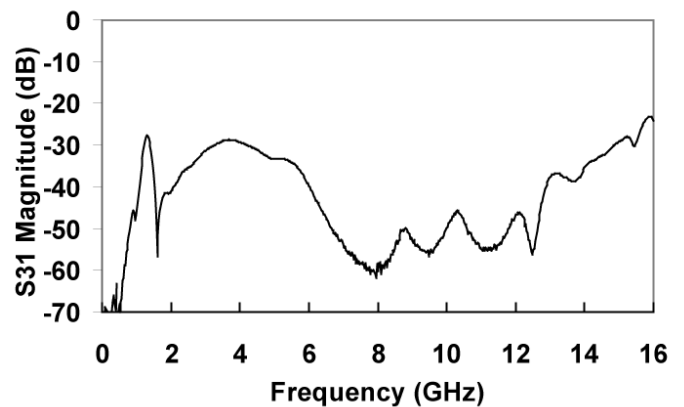
Typical performance



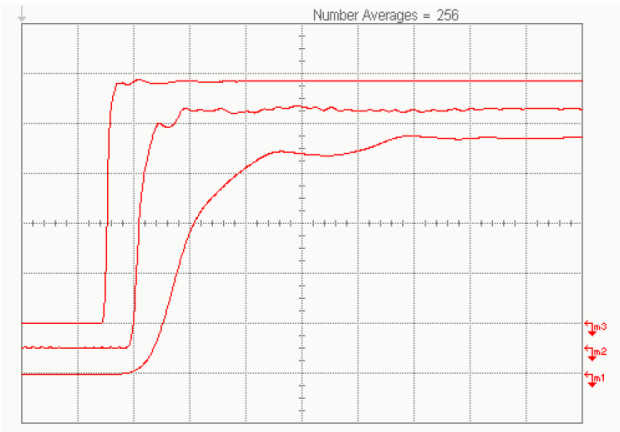
Insertion Loss, AC to AC+DC



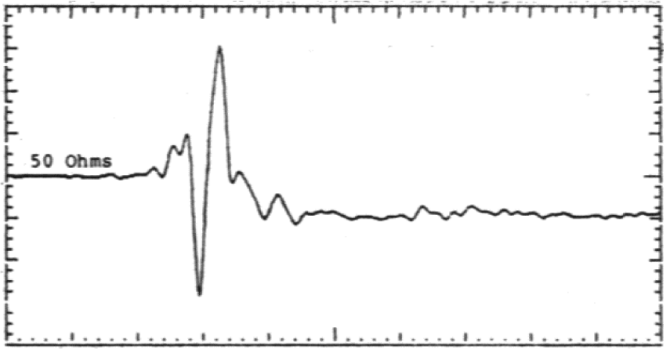
Return Loss, AC Port



Isolation, AC to DC



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	Minimum	Typical	Maximum	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)	Γ	%		± 8 –2.5		t < 200 ps t > 200 ps
DC voltage	V	V			200	
DC current	I	mA			10	
Capacitance	C	μ F		0.082		$\pm 20\%$
Resistance	R	k ohms		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					

Mechanical dimensions

