

# 12 GHz Bias Tee

## PSPL5575A Datasheet

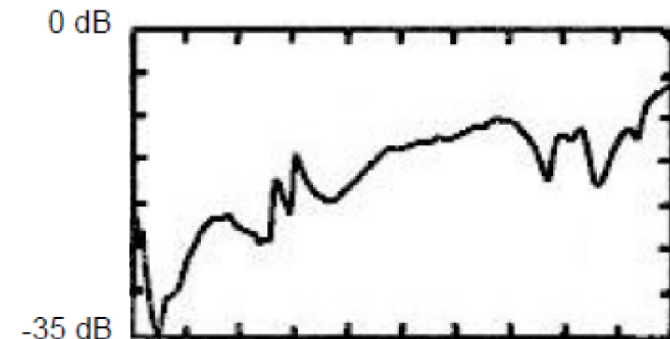


The PSPL5575A is a broadband coaxial bias insertion tee and DC blocking capacitor designed to pass fast rise pulses with minimum waveform distortion. The rise time is 30 ps with a -3 dB bandwidth extending from 10 kHz to 12 GHz. The PSPL5575A will safely carry 500 mA of DC current. However, core saturation limits the low frequency response at DC currents above 20 mA.

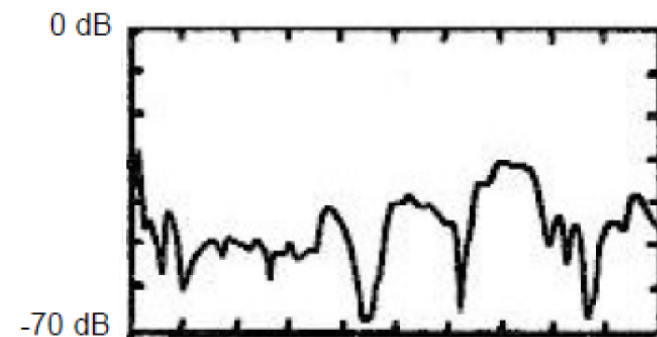
### Key performance specifications

- 10 kHz to 12 GHz
- 30 ps rise time
- 50 V, 500 mA

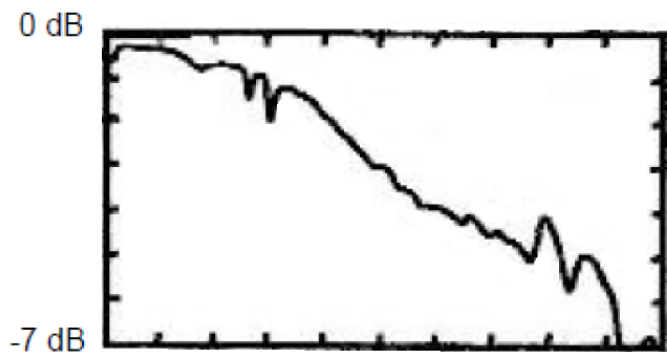
### Typical performance



5 dB/div and 2 GHz/div Return Loss



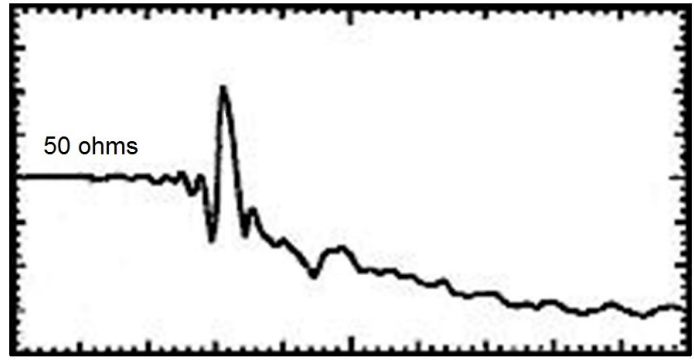
10 dB/div and 2 GHz/div Isolation (AC-DC)



1 db/div and 2 GHz/div Insertion Loss



Top to bottom: 500 ps/div, 100 ps/div, and 20 ps/div; 10 ps Step Response

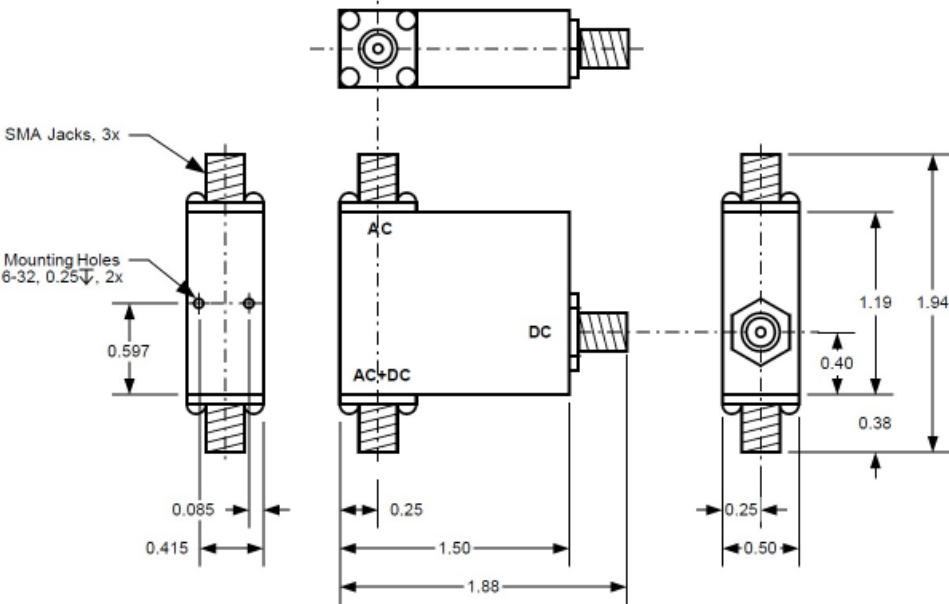


2.5% rho/div and 200 ps/div; 35 ps TDR of AC port.

## Specifications

Parameter	Symbol	Units	Minimum	Typical	Maximum	Comments
Impedance	Z	ohms		50		
Upper 3 dB frequency	$f_{c,h}$	GHz	10	12		
Lower 3 dB frequency	$f_{c,l}$	kHz		10		
Rise time	$t_r$	ps		30	35	10 – 90%
Insertion loss	$S_{21}$	dB		0.6		0.01 – 3 GHz
Input (AC), Return Loss	$S_{11}$	dB	RL > 18 dB – 1.2 dB / GHz * f (GHz)			0.1 < f < 10 GHz
Refl. Coefficient (35 ps TDR)	$\Gamma$	%		±5 -6		t ≤ 100 ps t > 100 ps
DC voltage	V	V			50	
DC current	I	mA			500	
Capacitance	C	μF		0.02		- 50%, + 80%
Inductance	L	mH		8		±30%
Resistance	R	ohms		0.6		
RF power	P	W			3.5	Average power
Isolation	$S_{13}$	dB		≥30		
DC path bandwidth	$f_{c,DC}$	kHz		10		
Core Saturation (-3 dB low freq.)	$f_{c,lsat}$	kHz		≤10 70 300		DC Current < 20 mA 100 mA 500 mA
RF Connectors	SMA jacks (f)					
DC Connector	SMA jack (f)					
Warranty	One Year					

Mechanical dimensions



Dimensions in inches; Tolerances: .XX = 0.01, .XXX = 0.05

# Ordering information

## Models

PSPL5575A

BIAS TEE, 12 GHz, 50 V

**ASEAN / Australasia** (65) 6356 3900  
**Belgium** 00800 2255 4835\*  
**Central East Europe and the Baltics** +41 52 675 3777  
**Finland** +41 52 675 3777  
**Hong Kong** 400 820 5835  
**Japan** 81 (3) 6714 3010  
**Middle East, Asia, and North Africa** +41 52 675 3777  
**People's Republic of China** 400 820 5835  
**Republic of Korea** 001 800 8255 2835  
**Spain** 00800 2255 4835\*  
**Taiwan** 886 (2) 2722 9622

**Austria** 00800 2255 4835\*  
**Brazil** +55 (11) 3759 7627  
**Central Europe & Greece** +41 52 675 3777  
**France** 00800 2255 4835\*  
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**Luxembourg** +41 52 675 3777  
**The Netherlands** 00800 2255 4835\*  
**Poland** +41 52 675 3777  
**Russia & CIS** +7 (495) 6647564  
**Sweden** 00800 2255 4835\*  
**United Kingdom & Ireland** 00800 2255 4835\*

**Balkans, Israel, South Africa and other ISE Countries** +41 52 675 3777  
**Canada** 1 800 833 9200  
**Denmark** +45 80 88 1401  
**Germany** 00800 2255 4835\*  
**Italy** 00800 2255 4835\*  
**Mexico, Central/South America & Caribbean** 52 (55) 56 04 50 90  
**Norway** 800 16098  
**Portugal** 80 08 12370  
**South Africa** +41 52 675 3777  
**Switzerland** 00800 2255 4835\*  
**USA** 1 800 833 9200

\* European toll-free number. If not accessible, call: +41 52 675 3777

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