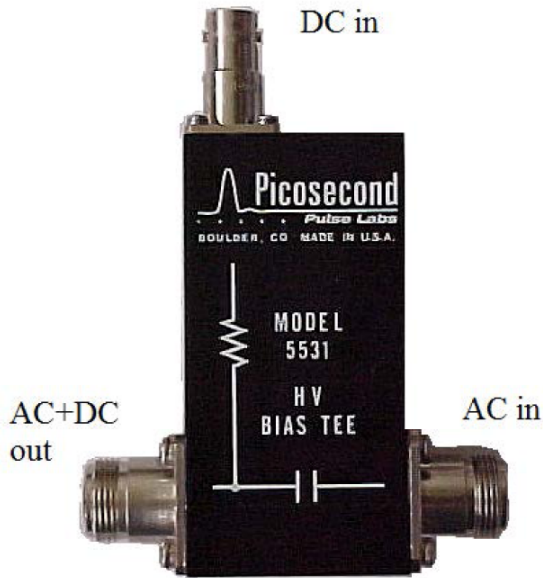


# 10 GHz Bias Tee

## PSPL5531 Datasheet

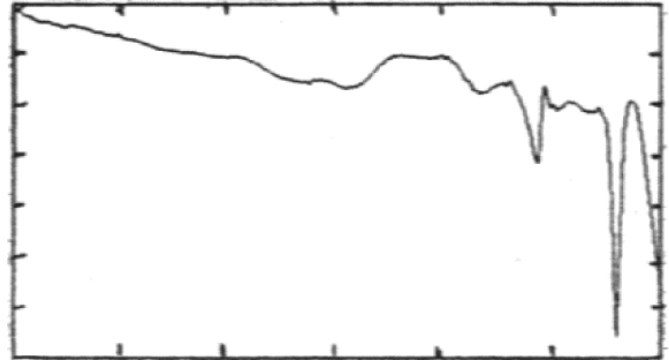


The PSPL5531 is a broadband coaxial bias insertion tee for low current applications such as biasing photodetectors. It is rated for 1.5 kV. It is designed to pass fast rise time pulses with minimum waveform distortion. The rise time is 35 ps with a -3 dB bandwidth extending from 750 kHz to 10 GHz.

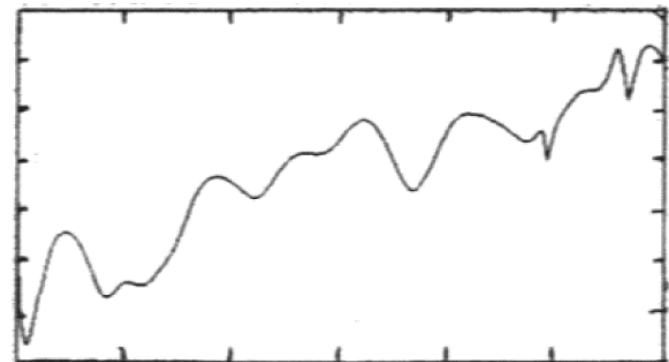
### Key performance specifications

- 750 kHz to 10 GHz
- 35 ps rise time
- 1.5 kV, 20 mA

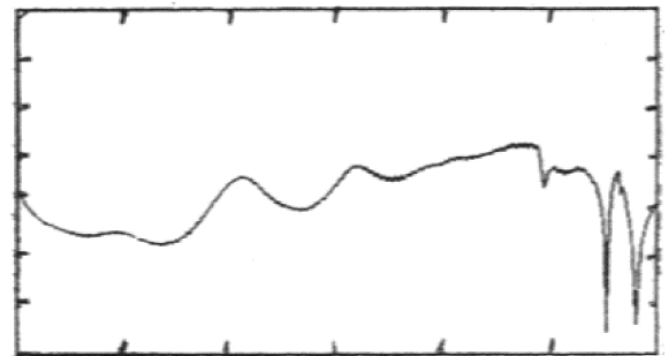
### Typical performance



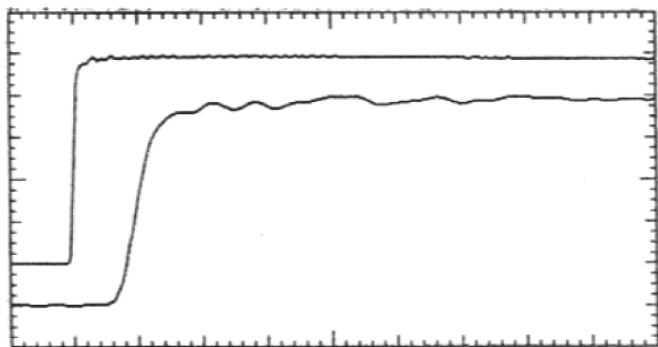
Insertion Loss, AC to AC+DC; 1 dB/div and 2 GHz/div



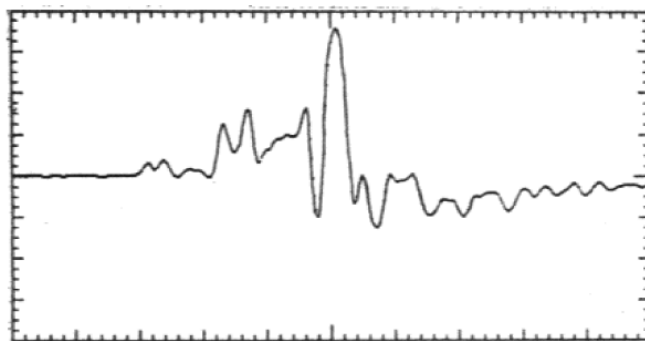
Return Loss, AC Port; 5 dB/div and 2 GHz/div



Isolation, AC to DC; 10 dB/div and 2 GHz/div



20%/div, 500 ps/div, and 50 ps/div. Response to 20 ps rise time input step



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		
Lower 3 dB frequency	$f_{c,l}$	kHz		750		
Rise time	$t_r$	ps		35	45	10 – 90%
Insertion loss	$S_{21}$	dB		0.3	0.8	(0.01 – 1 GHz)
Return loss	$S_{11}$	dB	RL > 15 dB -1 dB / GHz * f (GHz)			0.1 < f < 8 GHz
Refl. Coefficient (35 ps TDR)	$\Gamma$	%		$\pm 8$ -2.5		t < 200 ps t > 200 ps
DC voltage	V	V			1.5k	
DC current	I	mA			20	
Capacitance	C	nF		2.2		-20%, +80%
Resistance	R	ohms		3000		
RF power	P	W			20	Average power
Isolation	$S_{13}$	dB		>20		
DC path bandwidth	$f_{c,DC}$	MHz		1		
RF Connectors	N jacks (f)					
DC Connector	SHV jack (f)					
Dimensions	3 in x 3.8 in x 1 in (7.6 cm x 9. cm x 2.5 cm)					
Warranty	One Year					

## Ordering information

### Models

PSPL5531

BIAS TEE, 10 GHz, 1.5 kV

**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

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**France** 00800 2255 4835\*  
**India** 000 800 650 1835  
**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\*

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**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

Updated 10 April 2013

**For Further Information.** Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit [www.tektronix.com](http://www.tektronix.com).

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