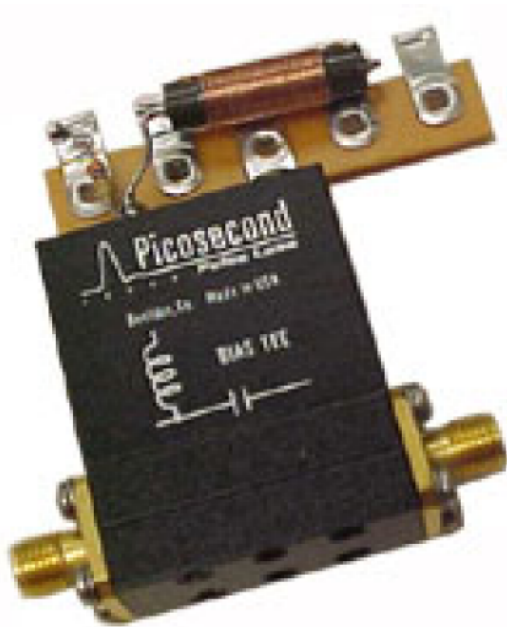


15 GHz Bias Tee

PSPL5580 Datasheet

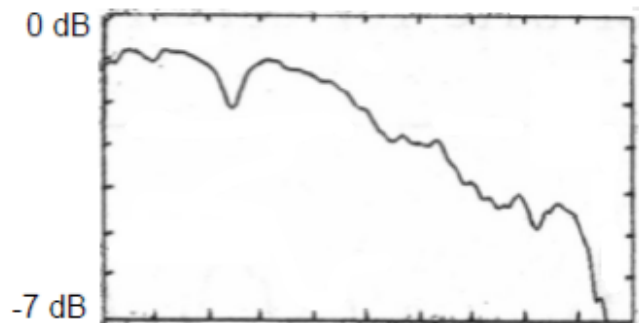


The PSPL5580 is a broadband coaxial bias insertion tee and DC blocking capacitor designed to pass fast rise pulses without waveform distortion. The rise time is 28 ps with a -3 dB bandwidth extending from 10 KHz to 15 GHz. The PSPL5580 is designed to handle DC currents up to 2 A. The PSPL5580 is supplied with an external choke mounted to a terminal strip and an additional inductive circuit on an external PCBA.

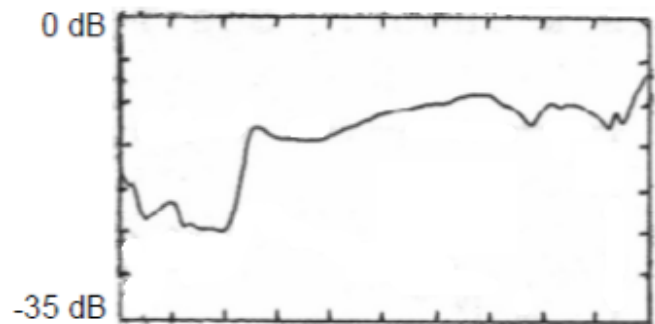
Key performance specifications

- 10 kHz to 15 GHz
- 28 ps rise time
- 50 V, 2 A

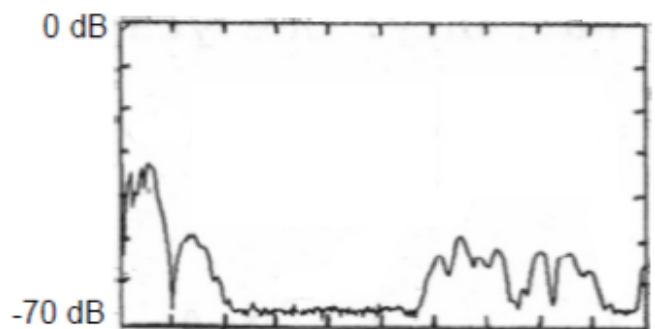
Typical performance



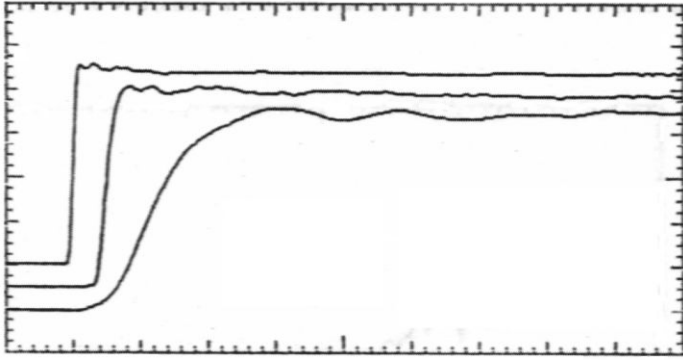
1 dB/div and 2 GHz/div Insertion Loss



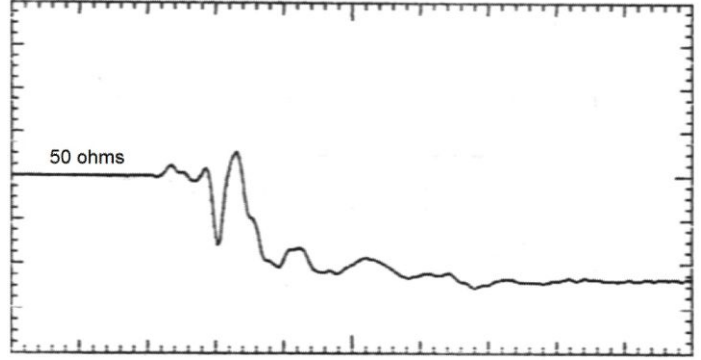
5 dB/div and 2 GHz/div Return Loss



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



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



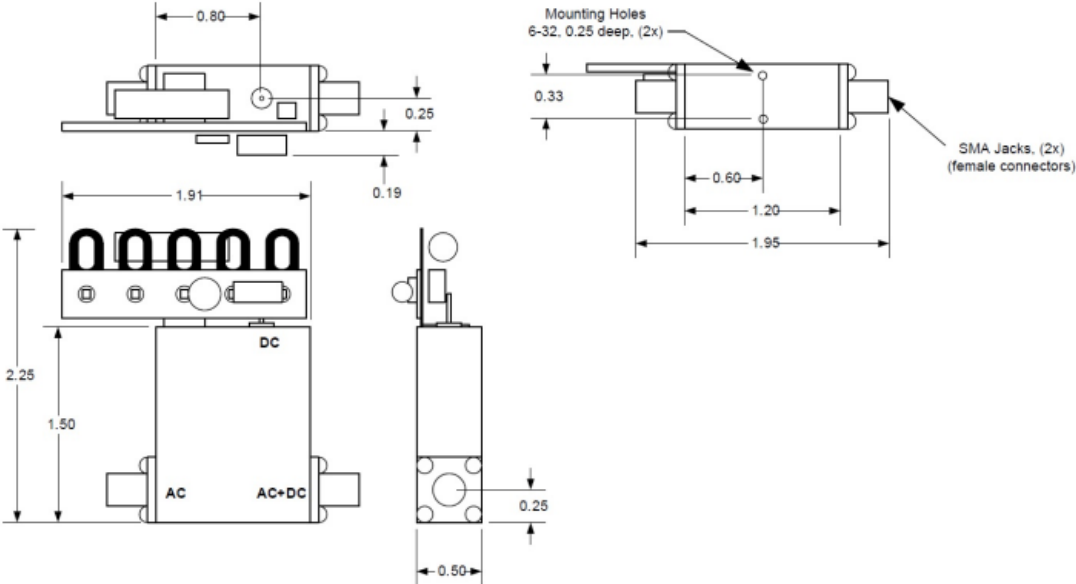
5% rho/div and 200 ps/div 35 ps TDR of AC port

Specifications

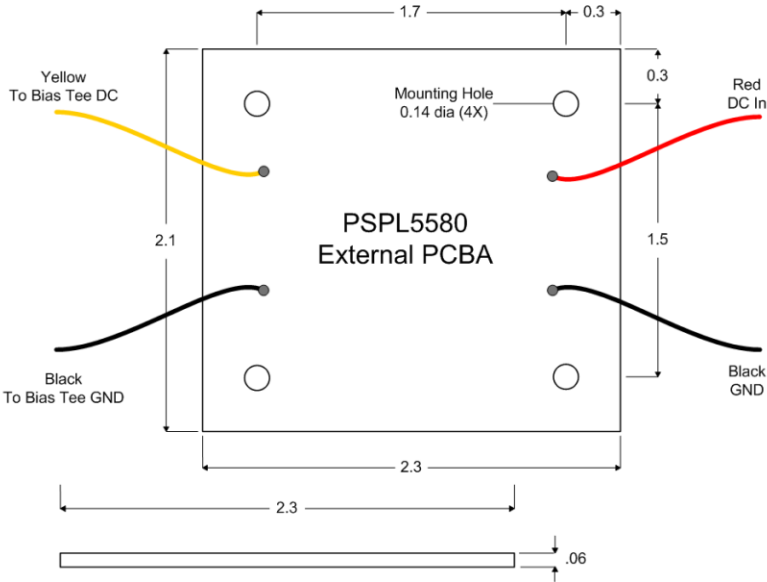
Parameter	Symbol	Units	Minimum	Typical	Maximum	Comments
Impedance	Z	ohms		50		
Upper 3 dB frequency	$f_{c,h}$	GHz	10	15		
Lower 3 dB frequency	$f_{c,l}$	kHz		10		
Rise time	t_r	ps		28	35	10 - 90%
Insertion loss	S_{21}	dB		1		0.1 - 3 GHz, ± 0.5 dB
Input (AC) Return Loss	S_{11}	dB	RL > 15 dB - 1 dB / GHz * f (GHz)			0.1 < f < 10 GHz
Refl. Coefficient (35 ps TDR)	Γ	%		+8 -13		$t \leq 100$ ps $t > 100$ ps
DC voltage	V	V			50	
DC current	I	A			2	
Capacitance	C	μ F		0.22		- 50%, + 80%
Inductance	L	mH		1.1		$\pm 25\%$
Resistance	R	ohms		0.8		
RF power	P	W			2.5	Average power
Isolation	S_{13}	dB		30		
DC path bandwidth	$f_{c,DC}$	kHz		9		
RF Connectors	SMA jacks (f)					
DC Connector	Wires to PC Board and DC ¹					
Warranty	One year					

¹ The PSPL5580 consists of a coaxial unit, external coil and a separate pc board. These are hi-z circuits. To prevent undesired HF resonances, do not use coax or long wires. If the pc board is not used, the low frequency cut-off is 500 kHz.

Mechanical dimensions



Dimensions in inches, Tolerance = 0.01



Ordering information

Models

PSPL5580

BIAS TEE, 15 GHz, 50 V, 2 A

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People's Republic of China 400 820 5835
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* European toll-free number. If not accessible, call: +41 52 675 3777

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