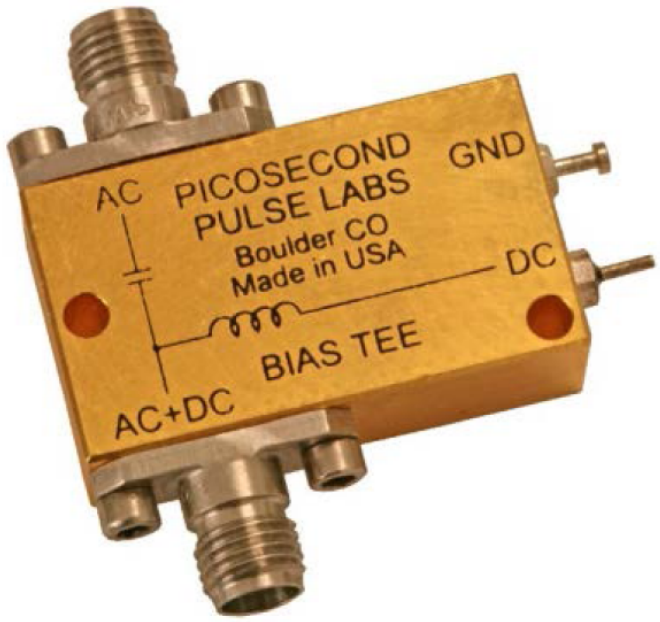
100 V Bias Tee

PSPL5543 Datasheet



The PSPL5543 is an ultra-broadband, 500 mA current, coaxial bias insertion tee and 100 V DC blocking capacitor that passes high bandwidth pulses with very low waveform distortion. Its rise time is only 7 ps and its frequency response is flat over many decades from 20 kHz to beyond 50 GHz.

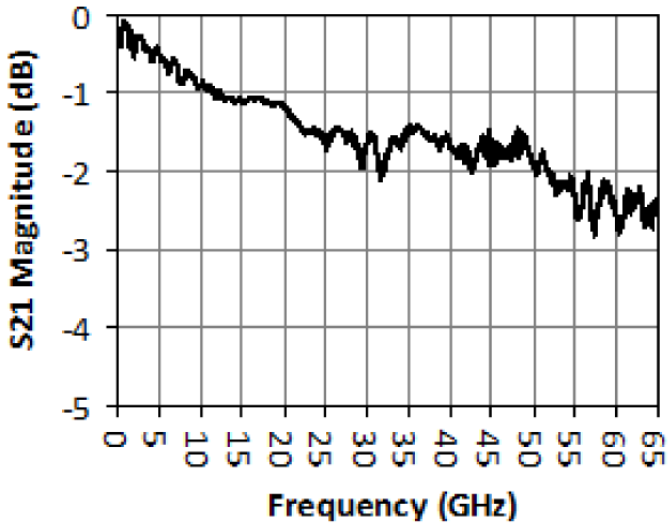
Key performance specifications

- 25 kHz to >50 GHz
- 7 ps rise time
- 100 V, 500 mA

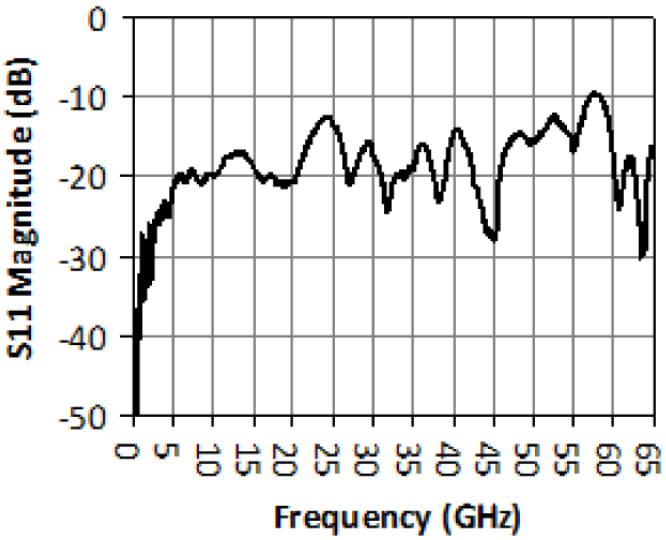
Typical performance

The following figures show the linear sweep from 40 MHz to 65 GHz. The AC connector is input (port 1) and the AC + DC connector is output (port 2).

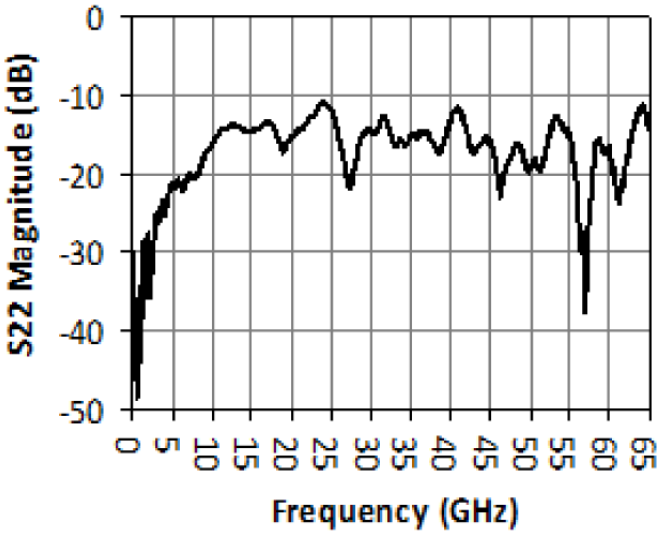
The following figure shows the S21 insertion loss.



The following figure shows the S11 return loss.



The following figure shows the S22 return loss.

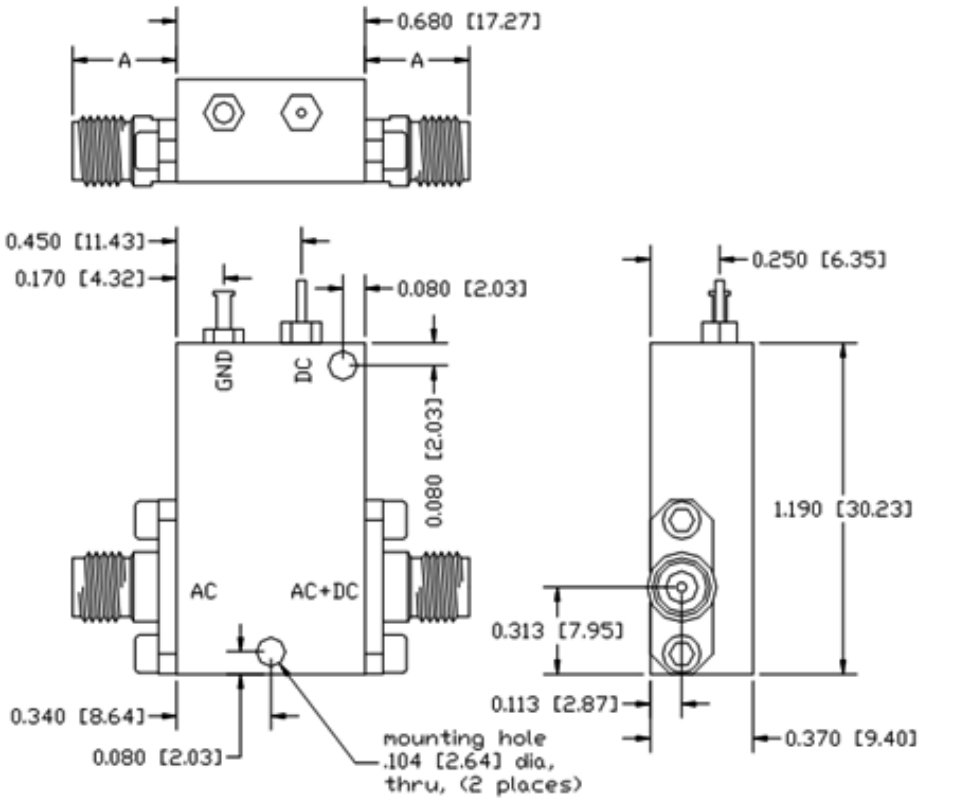


Specifications

Parameter	Symbol	Units	Minimum [1]	Typical	Maximum [1]	Comments
Impedance	Z	ohms		50		
Upper 3 dB frequency	$f_{c,h}$	GHz	50			
Lower 3 dB frequency	$f_{c,l}$	kHz		20		
Rise time	t_r	ps		7		10 – 90%
Insertion loss (see S21 plot)	S_{21}	dB		See plot	3	2.4 mm f < 50 GHz
Input (AC), Return Loss	S_{11}	dB	10	See plot		2.4 mm f < 50 GHz
Output (AC+DC), Return Loss	S_{22}	dB	8	See plot		2.4 mm f < 50 GHz
DC voltage	V	V			100	
DC current	I	mA			500	
Capacitance	C	µF		0.2		
Inductance	L	mH		0.5		
Resistance	R	ohms		1.5		
RF power	P	W			5	Average power
Isolation	S_{13}	dB		> 30		f > 100 MHz
DC path bandwidth	$f_{c,DC}$	kHz		22		
RF Connectors	2.4 mm jacks (f)					
DC Connector	Solder pin					
Warranty	One year					

1 Maximum and minimum values are based on manufacturing test limits at 25 °C.

Mechanical dimensions



Connector Type	Dimension A female
2.4mm	.430 [10.92]

All dimensions in inches and [millimeters]
Tolerance = ±.005 inches [0.13mm]

Ordering information

Models

PSPL5543	BIAS TEE, 100 V, 500 mA

Options

PSPL5543 240JJ	2.4 mm connectors on AC and AC + DC ports, solder pin on DC port

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