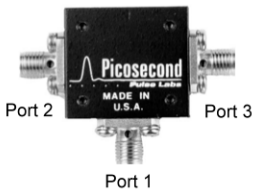
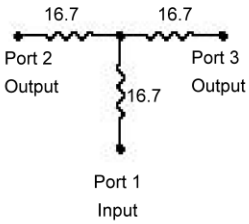
6 dB Power Divider, 18 GHz

PSPL5331 Datasheet



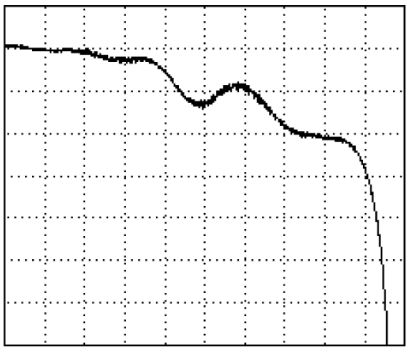


The PSPL5331 6 dB Power Divider is a very broadband, resistive tee. It is useful for splitting a signal into two identical signals or for combining two signals. The output is attenuated by 6 dB. These are impedance-matched tees that present a 50 Ω input impedance when both outputs are terminated in 50 Ω. Power Divider tees are built using three 16.7 Ω resistors and thus present a 50 Ω impedance at any port. The resistors in this tee have 1% tolerances and thus this tee has excellent symmetry and very close impedance match to 50 Ω. It has a rise time of 17 ps and bandwidth from DC to >18 GHz.

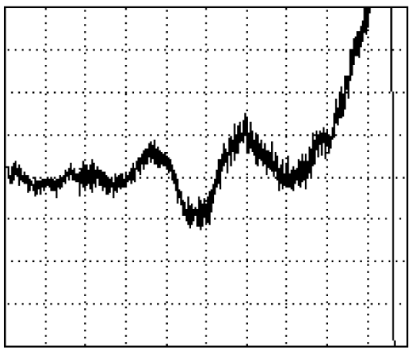
Typical performance

Frequency responses from 40 MHz to 20 GHz, linear sweep at 2 GHz/div

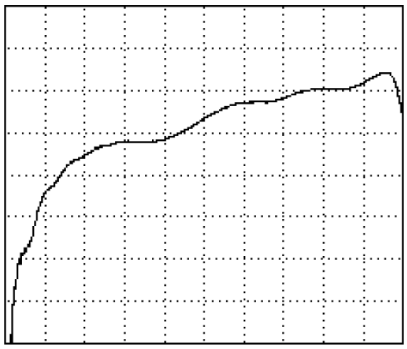
Insertion Loss, S_{21}
0.5 dB/div



Group Delay, S_{21}
5 ps/div

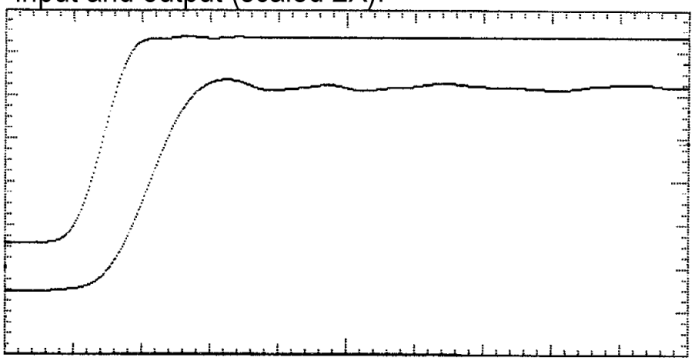


Return Loss, S_{11}
5 dB/div



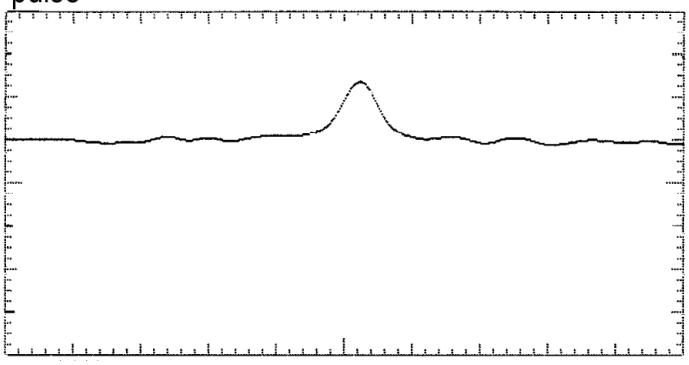
Transmission Responses, 20 ps/div

S_{21} or S_{31} Transmission Responses to 15 ps rise time step into port 1. Traces top to bottom are input and output (scaled 2X).



Input TDR Response, 10% rho/div, 50 ps/div

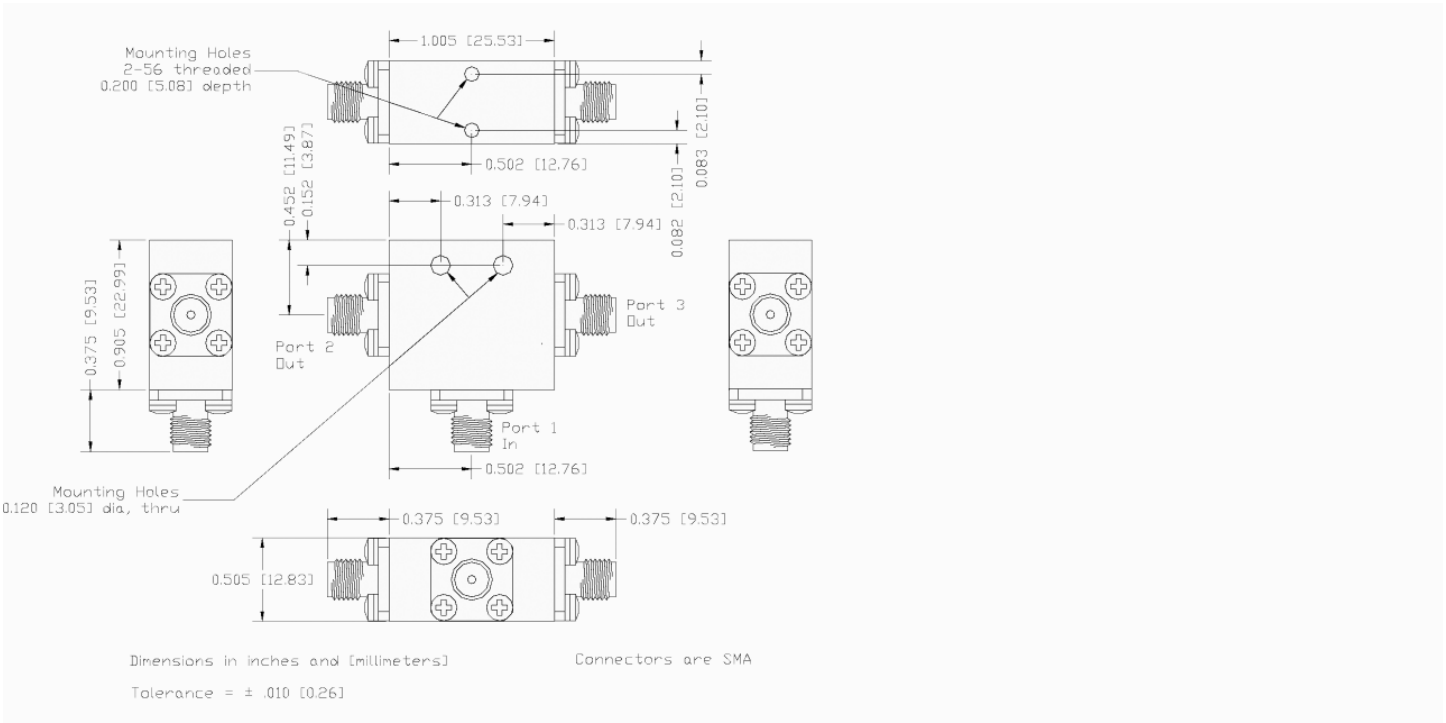
S_{11} Input TDR Response to 25 ps rise time TDR pulse



Specifications

Parameter [1]	Value
Rise time	17 ps
Insertion Loss Bandwidth (-3 dB)	DC to 18 GHz
Insertion Loss, DC	6.0 dB ±0.05 dB maximum
Insertion Loss, AC	6.0 dB ± 0.5 dB maximum for f < 4 GHz, see S21 plots
Insertion Loss, Asymmetry	0.05 dB, maximum, DC < 0.2 dB, f < 12 GHz < 0.5 dB, f < 18 GHz
Phase Tracking	< 2 deg, f < 6 GHz < 4 deg, f < 14 GHz
Delay	178 ps
Input Impedance, DC	50 Ω, ± 0.4 Ω maximum
S11 Return Loss	See S11 plots for typical responses vs. frequency
Max Input Power, average	0.75 W
Power Temp Curve	Full power-up to +70 °C, linearly derated to 0 W at +125 °C
Peak Power	50 W, t < 100 ns
Temperature Range	-55 to +125 °C, operating and storage
Connectors	SMA jacks (f)
Warranty	One year

Mechanical dimensions



[1] All parameters listed are typical unless max/min guaranteed limits are provided. The DC specs are based on resistor tolerances and only when used with 50 Ω source and terminations.

Ordering information

Models

PSPL5331	Power Divider, 6 dB

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Updated 10 April 2013

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04 Sep 2014

1PW-30595-0