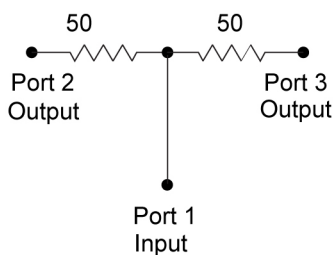
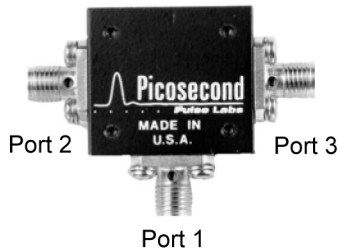


# 6 dB Power Splitter, 20 GHz

## PSPL5336 Datasheet

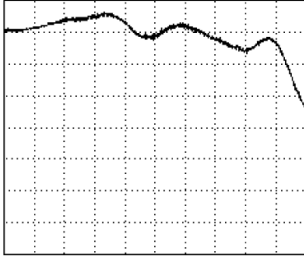


The PSPL5336 6 dB Power Splitter is a very broadband, resistive tee. It is useful for splitting a signal into two identical signals. The output is attenuated by 6 dB. This is an impedance-matched tee that presents a 50  $\Omega$  input impedance when both outputs are terminated in 50  $\Omega$ . Power splitter tees are built using two 50  $\Omega$  resistors and present a 50  $\Omega$  impedance only at the input port. The resistors in this tee have 1% tolerance so it has excellent symmetry and very close impedance match to 50  $\Omega$ . It has a rise time of 20 ps and bandwidth from DC to >20 GHz.

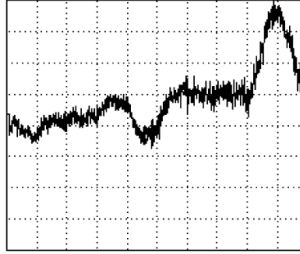
## Typical performance

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

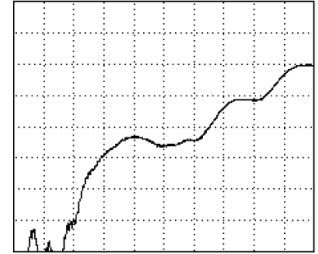
**Insertion Loss,  $S_{21}$**   
0.5 dB/div



**Group Delay,  $S_{21}$**   
5 ps/div

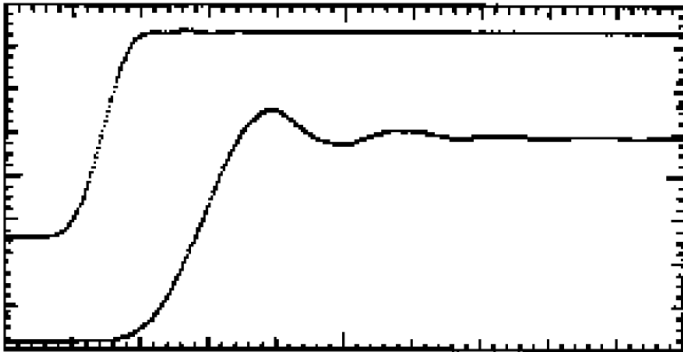


**Return Loss,  $S_{11}$**   
5 dB/div



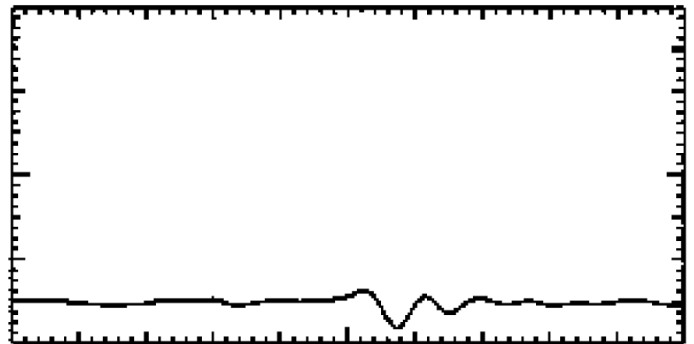
## Transmission Responses, 20 ps/div

$S_{21}$  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

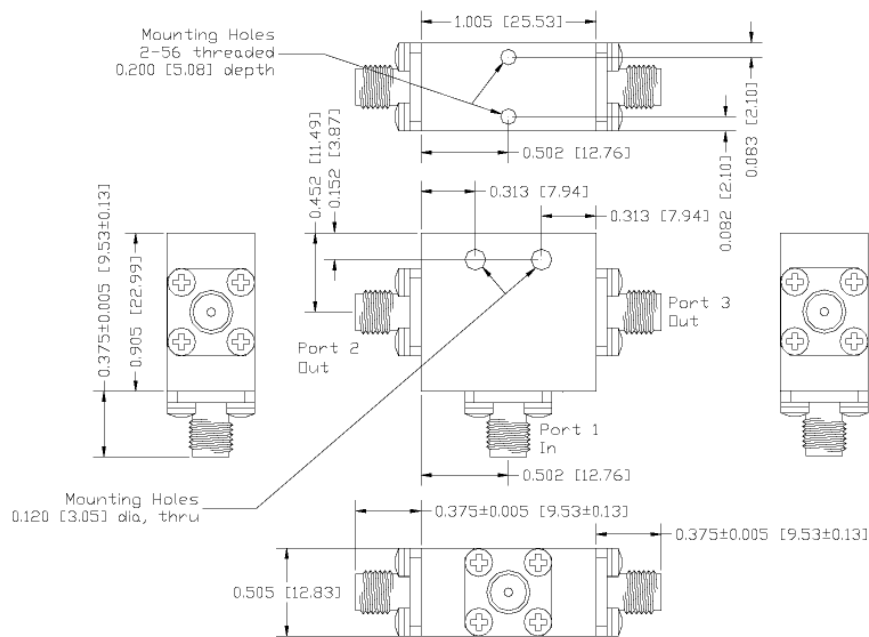
$S_{11}$  Input TDR Response to 25 ps rise time TDR pulse



# Specifications

Parameter <sup>1</sup>	Description
Rise time	≤20 ps
Insertion loss (-3 dB)	DC to 20 GHz
Insertion loss <sup>2</sup> , DC	6.02 dB ±0.05 dB maximum
Insertion loss, AC	6.0 dB ±0.05 dB maximum, for f < 4 GHz, see S <sub>21</sub> plots
Insertion loss, Asymmetry	0.09 dB, maximum, DC <sup>2</sup> <0.2 dB, F < 10 GHz <0.4 dB, f < 18 GHz
Phase tracking	< 2 deg, F < 6 GHz < 4 deg, f < 18 GHz
Delay	180 ps
Input impedance, DC <sup>2</sup>	50 Ω, ±3 Ω maximum
S <sub>11</sub> Return loss	See S <sub>11</sub> plots for typical vs. frequency
Maximum input power, average	1 W
Power temperature curve	Full power up to +70 °C, linearly derated to 0 W at +125 °C
Peak power	50 W t < 100 ns
Connectors	SMA jacks (f)
Warranty	One year

## Mechanical dimensions



Dimensions in inches and [millimeters]      Connectors are SMA  
Tolerance = ± .010 [0.26] unless noted otherwise

<sup>1</sup> All parameters listed are typical unless maximum or minimum guaranteed limits are provided.  
<sup>2</sup> The DC specifications are based upon resistor tolerances and only when used with 50 Ω source and terminations.

# Ordering information

## Models

PSPL5336

Power Splitter, 6 dB

**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\*  
**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\*

**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

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).

Copyright © Tektronix, Inc. All rights reserved. Tektronix products are covered by U.S. and foreign patents, issued and pending. Information in this publication supersedes that in all previously published material. Specification and price change privileges reserved. TEKTRONIX and TEK are registered trademarks of Tektronix, Inc. All other trade names referenced are the service marks, trademarks, or registered trademarks of their respective companies.



11 Aug 2014

1PW-30598-0

[www.tektronix.com](http://www.tektronix.com)

