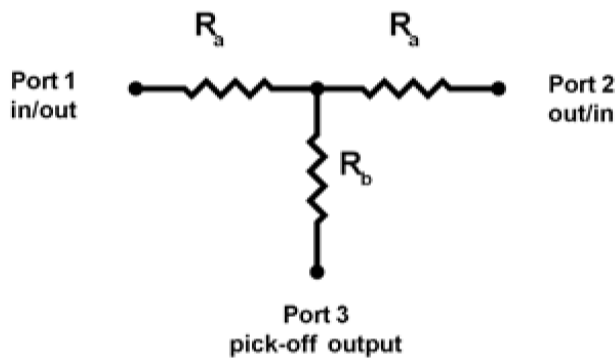


# 10 dB Pick-off Tee

## PSPL5340 Datasheet



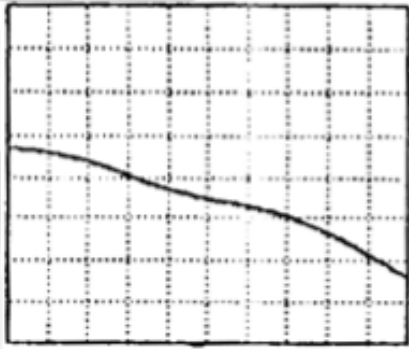
The PSPL5340 is a broadband, resistive, Pick-Off, Power Divider Tee. The pick-off port 3 output is a small replica of the signal passing through the tee. The PSPL5340 is an impedance-matched tee consisting of three precision, 1% tolerance resistors. The PSPL5340 input/output impedance seen either on port 1 or port 2 is precisely  $50 \Omega$ .

### Key performance specifications

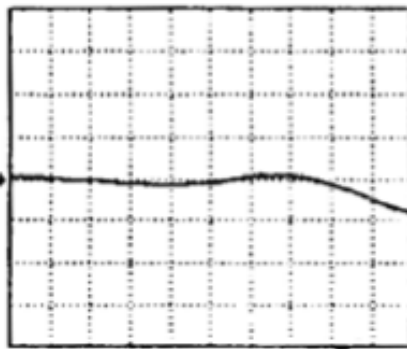
- 10 dB
- 50 ps, 8 GHz
- Z-matched

Typical performance

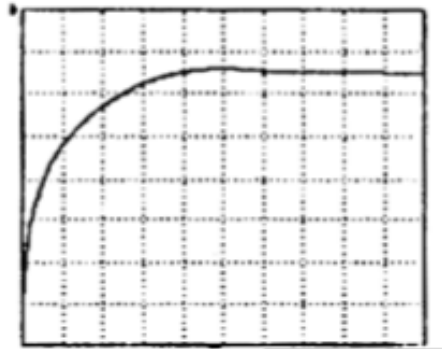
Thru-Line  
Insertion Loss



Pick-Off  
Insertion Loss



Thru-Line  
Return Loss

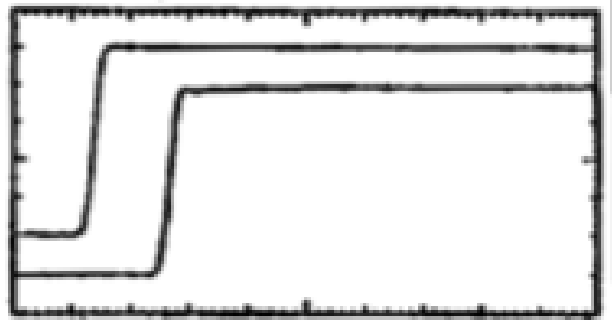


Frequency Domain Responses from 40 MHz to 10 GHz  
1 GHz/div Insertion Loss plots = 1 dB/div, Return Loss plot = 6 dB/div

Thru-Line  
25 ps in, 50 ps/div



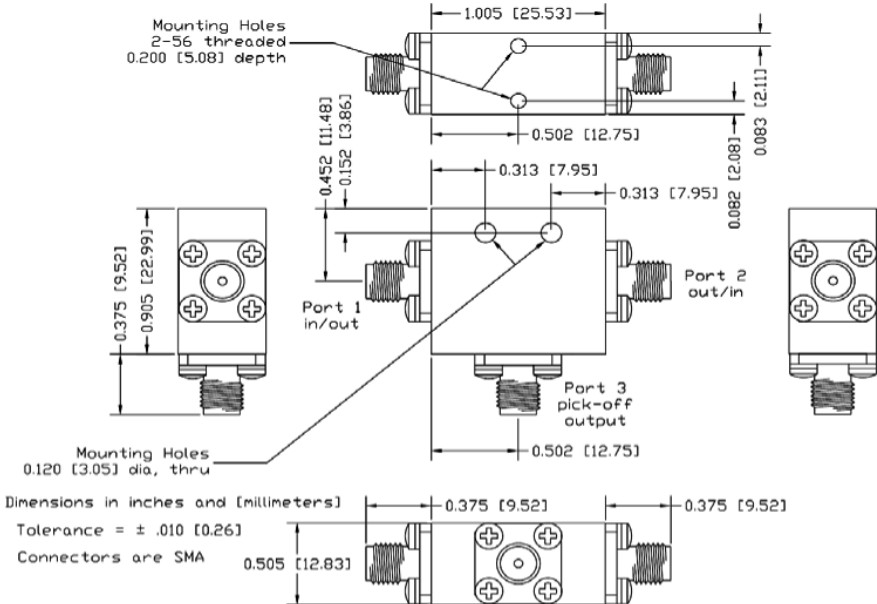
Pick-Off  
50 ps in, 200 ps/div



# Specifications

Parameter <sup>1</sup>	Value
Pick-Off Insertion Loss DC (port 1 or 2 to port 3)	10 dB ±0.1 dB
Pick-Off Voltage Ratio	3.16 x
Thru Line Insertion Loss at DC S21 (port 1 to port 2)	3.3 dB ±0.05 dB
Thru Line Rise time	50 ps
Pick-Off Rise time	Not specified; see notes for details
Minimum Signal Rise time	80 ps
Thru Line Bandwidth (-3 dB)	8 GHz
Pick-Off Bandwidth (1 dB)	10 GHz
Pick-Off Bandwidth (3 dB)	13 GHz
Temperature Range	-55 to +70 °C operating at full power, derate to 0 W at 125 °C
In / Out Impedance at DC (port 1 or port 2)	50.0 Ω ±0.3 Ω
S11 or S22 Return Loss, DC	50 dB
S11 or S22 Return Loss, AC	(See Typical performance)
Thru Line Resistors, R <sub>a</sub>	9.38 Ω
Pick-Off Resistor, R <sub>b</sub>	78.4 Ω
Maximum Power Input, average	0.6 W
Connectors	SMA jacks (f)
Warranty	One Year

## Mechanical dimensions



<sup>1</sup> All parameters listed are typical unless max/min guaranteed limits are provided. Using the pick-off tee for input signals with rise times faster than 80 ps is not recommended. This tee can be used with faster rise times, but there will be waveform distortions. With faster rise times, either the thru-line bandwidth is insufficient and/or the pick-off output will no longer be a faithful representation of the input signal. The pick-off output rise time will be too fast and there will be some overshoot and ringing.

## Ordering information

### Models

PSPL5340

Pick-Off Tee, 10 dB

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**Republic of Korea** 001 800 8255 2835  
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**India** 000 800 650 1835  
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**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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