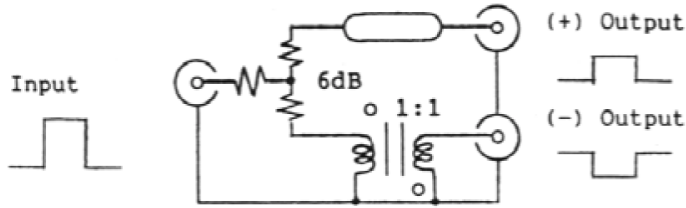


# 11 GHz Differential Pulse Splitter

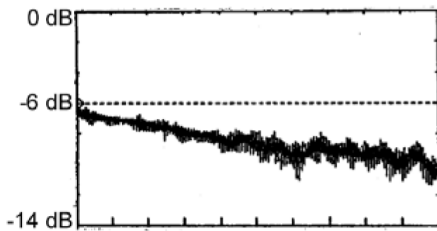
## PSPL5320B Datasheet



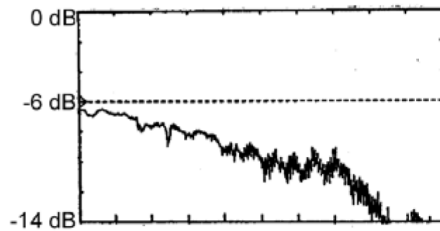
The PSPL5320B BALUN is a broadband differential pulse splitter. A signal fed into the 50 Ω input is split equally into two 50 Ω outputs. One output is the same polarity as the input, while the other output is inverted in polarity. The PSPL5320B has a fast 31 ps rise time and a bandwidth from 5 kHz to 11 GHz. The PSPL5320B can also be used as an algebraic differential signal combiner. All three ports are matched to 50 Ω.

### Typical performance

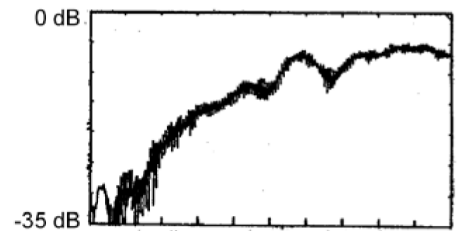
**Insertion Loss: Input to (+) Output**  
2 dB/div and 2 GHz/div



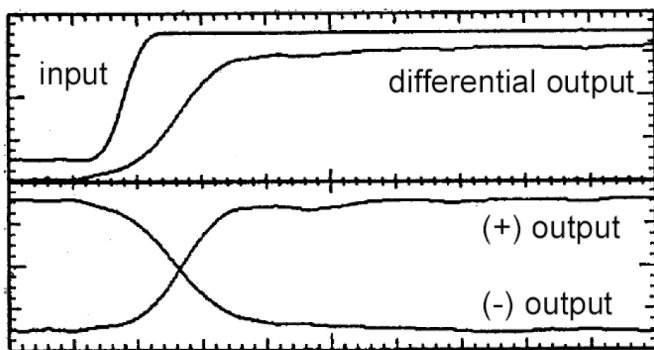
**Insertion Loss: Input to (-) Output**  
2 dB/div and 2 GHz/div



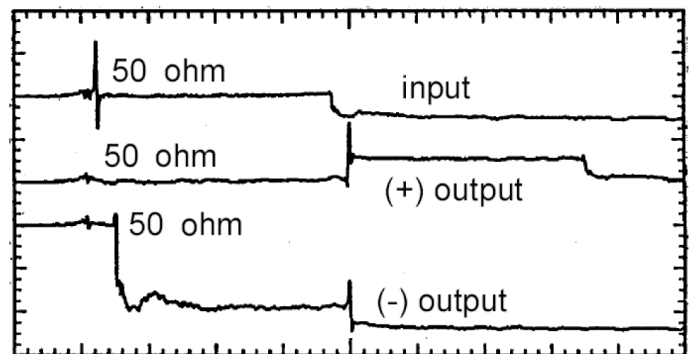
**Input Return Loss**  
5 dB/div and 2 GHz/div



**Transmission Response**  
to 10 ps rise time input step, 20 ps/div



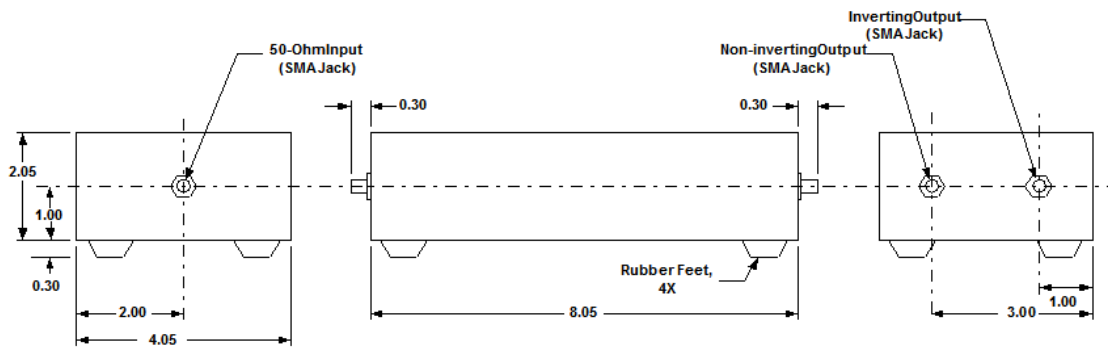
**35 ps TDR**  
5% rho/div and 2 ns/div



# Specifications

Parameter <sup>1</sup>	Value
Rise time (10%-90%)	31 ps typical, 45 ps maximum
Bandwidth (-3 dB)	11 GHz
Insertion Loss	6.5 dB nominal
Impedance	50 Ω
Refl. Coeff. (35 ps TDR)	< 15% peak-to-peak, t < 150 ps
input	-2%, t > 7 ns
(+) output	+3%, t > 8 ns
(-) output	-12%, t > 1 ns
Max. Input	0.75 Watts
Delay	4.1 ns
Diff. Delay Balance (step response)	± 5 ps maximum
Diff. Balance (step response)	< 0.2 dB, t < 7 ns 0.5 dB, t > 7 ns
Sag Time Constant	35 μs (1/e)
Return Loss	0.1 < f < 10 GHz, RL > 20 dB -1.5 dB/GHz*f(GHz)
Low Freq. Cutoff	5 kHz (-3 dB)
Connectors	SMA jacks (f)
Weight	2.7 lbs (1.2 kg)
Dimensions	2 x 4 x 8 in (5.1 x 10.2 x 20.3 cm)
Warranty	One year

## Mechanical dimensions



Notes:  
 All dimensions in inches  
 Screw heads extend typically 0.13 in. from top, bottom and sides but not from ends.

<sup>1</sup> All parameters listed are typical unless max/min guaranteed limits are provided.

## Ordering information

### Models

PSPL5320B

Diff pulse splitter-Balun, SMA, J-J-J

**ASEAN / Australasia** (65) 6356 3900  
**Belgium** 00800 2255 4835\*  
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**People's Republic of China** 400 820 5835  
**Republic of Korea** 001 800 8255 2835  
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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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