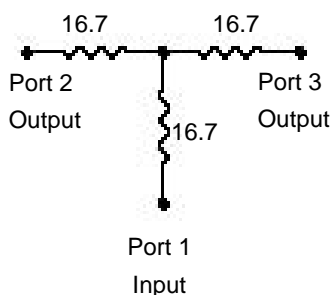
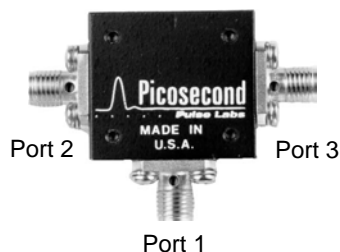


6 dB Power Divider, 18 GHz

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 risetime of 17 ps and bandwidth from DC to >18 GHz.

Specifications

Parameter	Value
Risetime	17 ps, typical
Insertion Loss Bandwidth (-3 dB)	DC to 18 GHz typical
Insertion Loss, DC	6.0 dB \pm 0.05 dB max.
Insertion Loss, AC	6.0 dB \pm 0.5 dB max. for $f < 4$ GHz, see S_{21} plots
Insertion Loss Asymmetry	0.05 dB, max., 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 , \pm 0.4 Ω max.
S_{11} Return Loss	See S_{11} 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 C to +125 C, operating and storage
Warranty	One year

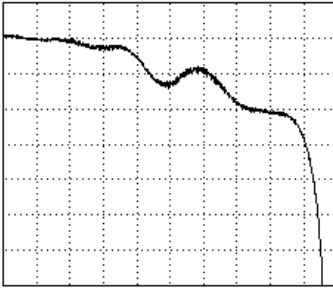
PSPL5331 18 GHz Power Divider

Note: 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.

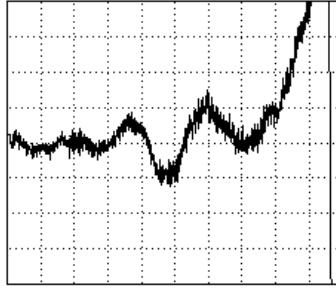
Typical Performance

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

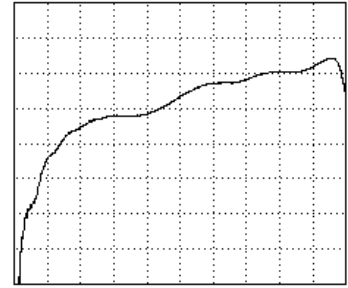
Insertion Loss, S_{21}
0.5 dB/div



Group Delay, S_{21}
5 ps/div

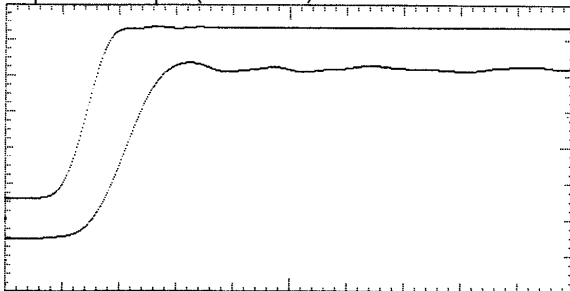


Return Loss, S_{11}
5 dB/div

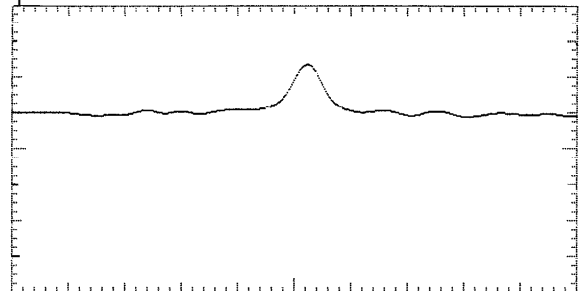


Transmission Responses, 20 ps/div

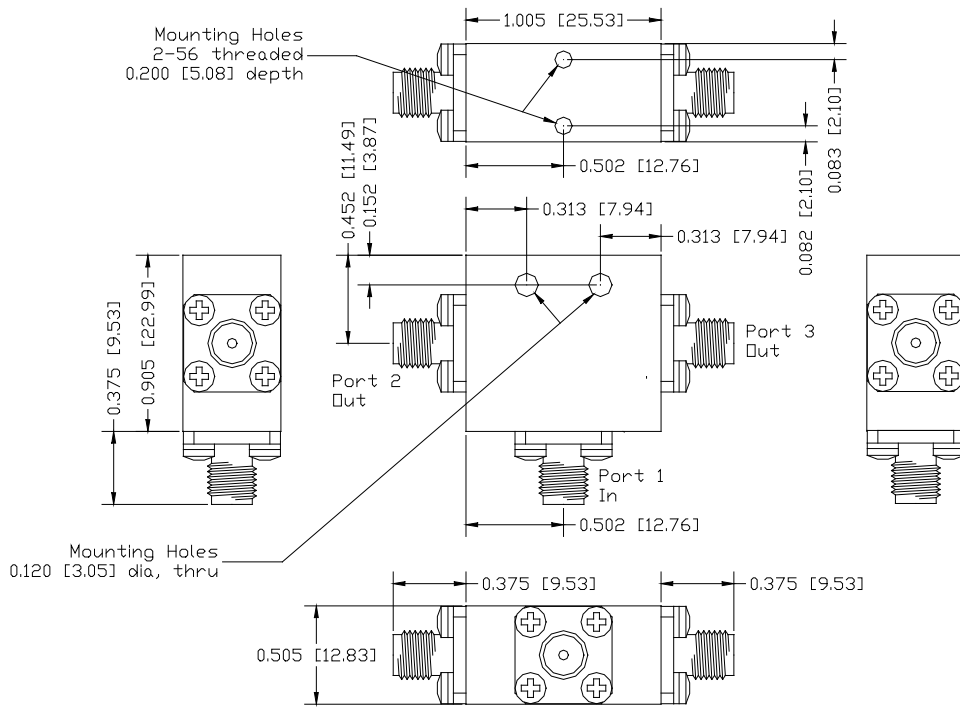
S_{21} or S_{31} Transmission Responses to 15 ps risetime step into port 1. Traces top to bottom are input and output (scaled 2X).



Input TDR Response, 10% rho/div, 50 ps/div
 S_{11} Input TDR Response to 25 ps risetime TDR pulse



PSPL5331 Mechanical dimensions



Dimensions in inches and [millimeters]

Connectors are SMA

Tolerance = ± .010 [0.26]

Ordering information

Model	Description
PSPL5331	6 dB power divider, 18 GHz

PSPL5331 18 GHz Power Divider

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