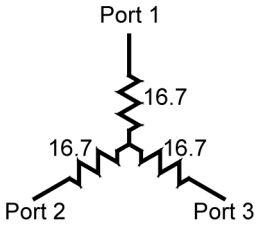
6 dB Power Divider, 50 GHz

PSPL5350 Datasheet

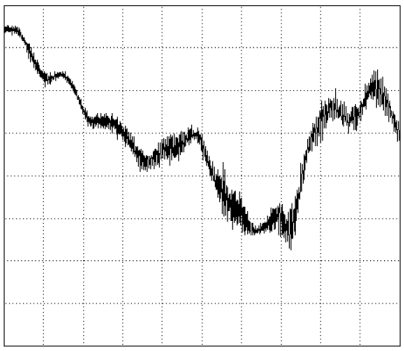


The PSPL5350 6 dB Power Divider provides excellent amplitude and phase performance power division from DC to frequencies over 40 GHz. The outputs are nominally attenuated by 6 dB. All ports are impedance matched to 50 Ω when both outputs are terminated in 50 Ω. Power dividers are built using a three-resistor network. The resistors have 1% tolerances, resulting in precise 50 Ω impedance matches at any port. This divider is engineered to provide excellent amplitude and phase symmetry throughout the operating range, regardless of port selection. Maximum division symmetry is obtained when port 1 is used as input, with ports 2 and 3 providing the divided signal output.

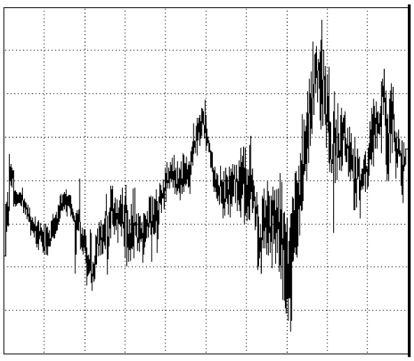
Typical performance

Frequency responses from 40 MHz to 40 GHz, liniear sweep at 4 GHz/div

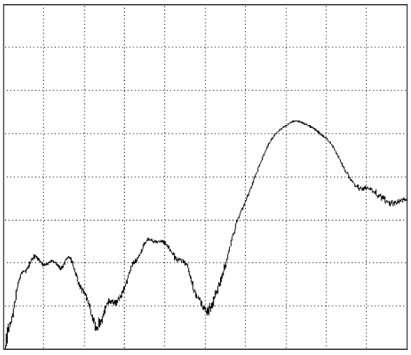
Insertion Loss, S_{21}
0.2 dB/div



Group Delay, S_{21}
2 ps/div

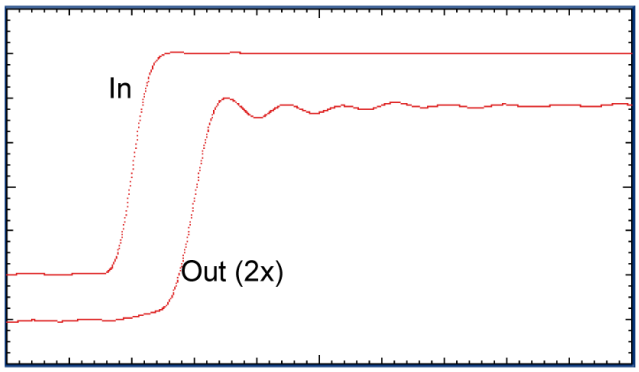


Return Loss, S_{11}
5 dB/div



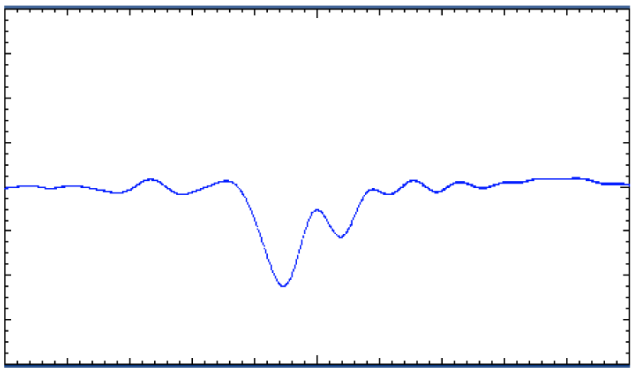
Transmission Responses, 20 ps/div

S_{21} or S_{31} Transmission Responses to 10 ps rise time step into port 1.



Input TDR Response, 2.5% rho/div, 50 ps/div

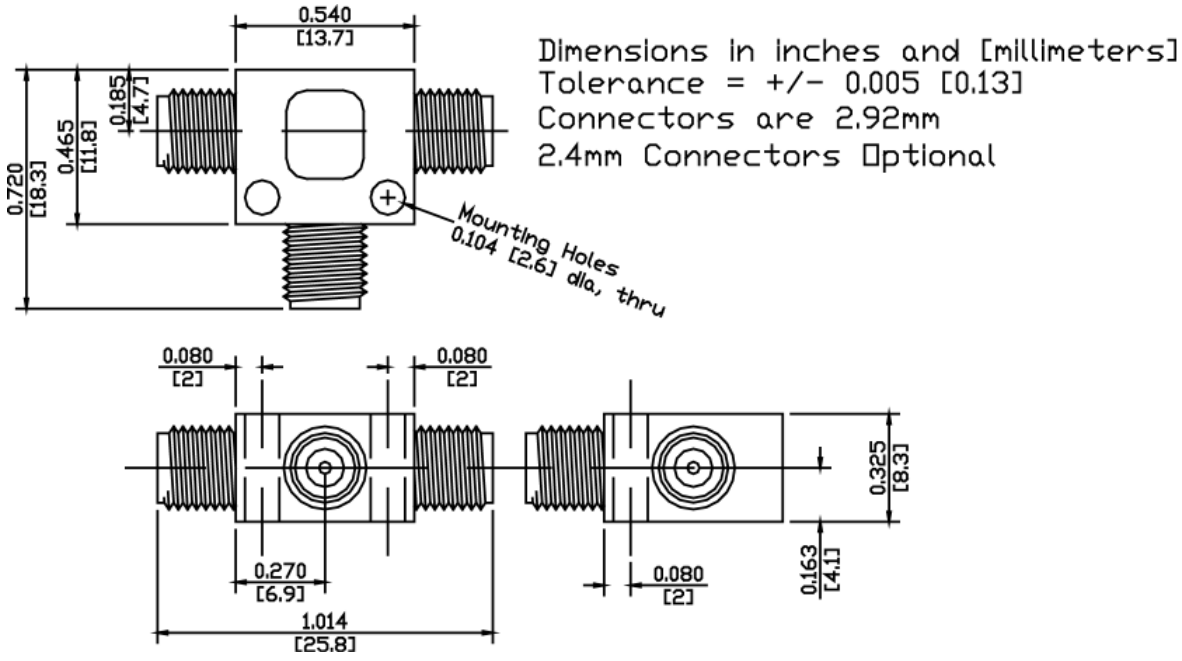
S_{11} Input TDR Response to 25 ps rise time TDR pulse



Specifications

Parameter [1]	Value
Rise time	8 ps, typical
Insertion Loss BW (-1.5 dB)	DC to >40 GHz
Insertion Loss, DC	6.02 ± 0.08 dB max, DC
Insertion Loss, AC	<6.5 dB, 0 – 5 GHz <7.0 dB, 5 – 15 GHz <7.5 dB, 15 – 40 GHz 5.8<IL<7.8 dB, 0 – 40 GHz, guaranteed 7.2 dB, typical at 50 GHz, 2.4 mm connectors
Insertion Loss Asymmetry	0.05 dB maximum, DC <0.25 dB, 0 – 20 GHz <0.40 dB, 20 – 40 GHz
Phase Tracking	<4 deg, 0 – 20 GHz <10 deg, 20 – 40 GHz
Delay	100 ps, typical
Input Impedance, DC	50 ± 0.5 Ω max
Return Loss	>30 dB, 0 – 1 GHz >17 dB, 1 – 15 GHz >12.5 dB, 15 – 40 GHz
Max Input Power, avg	2.5 Watts, CW
Temperature Range	-55 to 90 °C @ 2.5 W, operating case temperature linearly derated to 0 W @ 110 °C
Warranty	One Year

Mechanical dimensions



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

Ordering information

Models

PSPL5350	Power Divider, 6 dB

Options

PSPL5350 240JJJ	2.4 mm connectors, jacks (f)
PSPL5350 292JJJ	2.92 mm connectors, jacks (f)

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