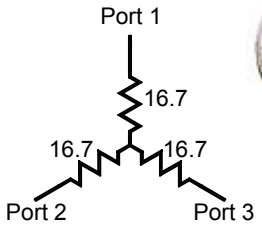
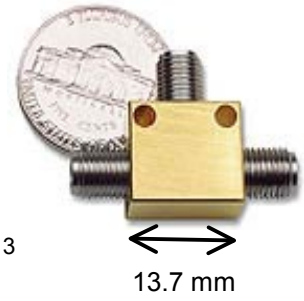
Model 5350
6 dB Power Divider





The PSPL 5350 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.

Parameter	Performance	Comments
Risetime	≤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 <7.0 dB <7.5 dB 5.8<IL<7.5 dB 7.2 dB, typical at 50 GHz	0-5 GHz 5-15 GHz 15-40 GHz 0-40 GHz, guaranteed 2.4mm connectors
Insertion Loss Asymmetry	0.05dB max, DC <0.25 dB <0.40 dB	 0-20 GHz 20-40 GHz
Phase Tracking	<4 deg <10 deg	0-20 GHz 20-40 GHz
Delay	100 ps, typical	See Group Delay plot
Input Impedance, DC	50 ± 0.5 Ω max	Any port
Return Loss	>30 dB >17 dB >12.5 dB	0-1 GHz 1-15 GHz 15-40 GHz
Max Input Power, avg	2.5 Watts, CW	
Temperature Range	-55 to 110 °C -55 to 90 °C @ 2.5 W linearly derated to 0 W @ 110°C	Storage Operating case temperature
Warranty	One Year	See PSPL Terms of Sale for details

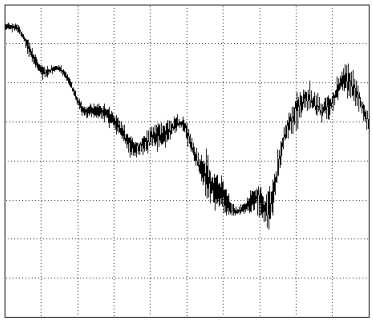
NOTE: The parameters listed above are typical values. They are only guaranteed when max/min limits are provided. The DC specs are valid only when used with 50 Ω source and terminations.

Ordering Information

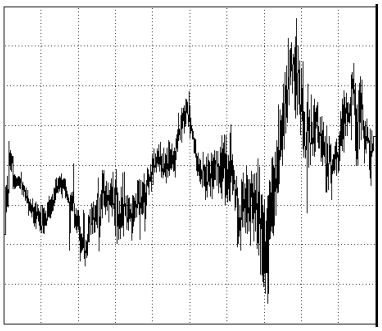
Model Number	Connector Configuration *	
5350-218	2.92 mm	Jack — Jack — Jack
5350-201	2.4 mm	Jack — Jack — Jack

* Other connector combinations are available on request.

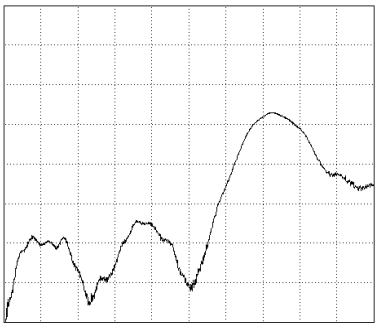
Frequency Responses from 40 MHz to 40 GHz linear sweep at 4 GHz/div
Measured by Anritsu 37369A Vector Network Analyzer



Insertion Loss, S_{21}
0.2 dB/div

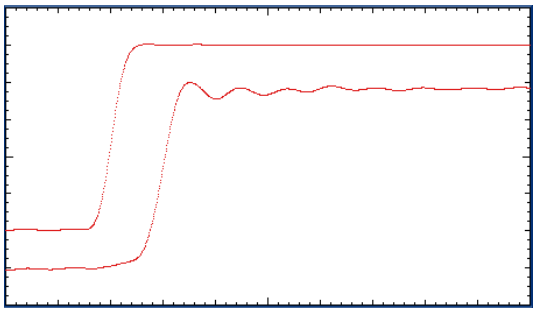


Group Delay, S_{21}
2 ps/div

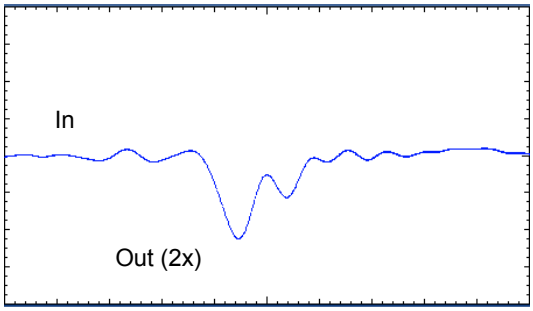


Return Loss, S_{11}
5 dB/div

Time Domain Responses
Measured with HP54750, 50 GHz Oscilloscope



S_{21} or S_{31} Transmission Responses to 10 ps risetime step into Port 1. Timebase 20 ps/div. Pulse generated by PSPL 4015C, 15 ps Pulse Generator. See AN-5c for details.



S_{11} Input TDR Response to 25 ps risetime TDR Pulse. Scale 2.5% rho/div, Timebase 50 ps/div

5350 Mechanical Drawing