

18 GHz Attenuator

PSPL5510 Datasheet



The PSPL5510 Attenuators address a need that has been totally ignored by other microwave component manufacturers who specify their products in the frequency domain, but ignore the time domain responses. For time domain measurements, it is important to also know the transient response of attenuators used in a test set-up. These SMA attenuators have 8 ps risetimes and are recommended for measuring pulses with risetimes of 25 ps or slower. For frequency domain measurements, the useful frequency range is DC to 18 GHz. The 6 dB, 12 dB, 14 dB, and 20 dB values are popular for use as oscilloscope attenuators because they give simple, integer, voltage ratios of 2x, 4x, 5x, and 10x, respectively.

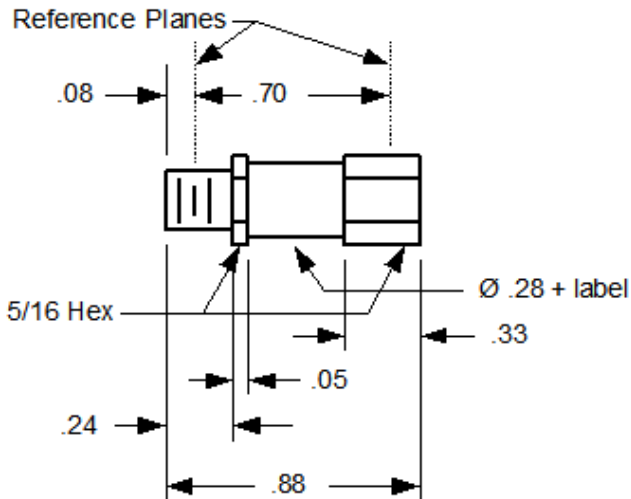
Key performance specifications

- SMA DC to 18 GHz
- 8 ps Risetime

Specifications

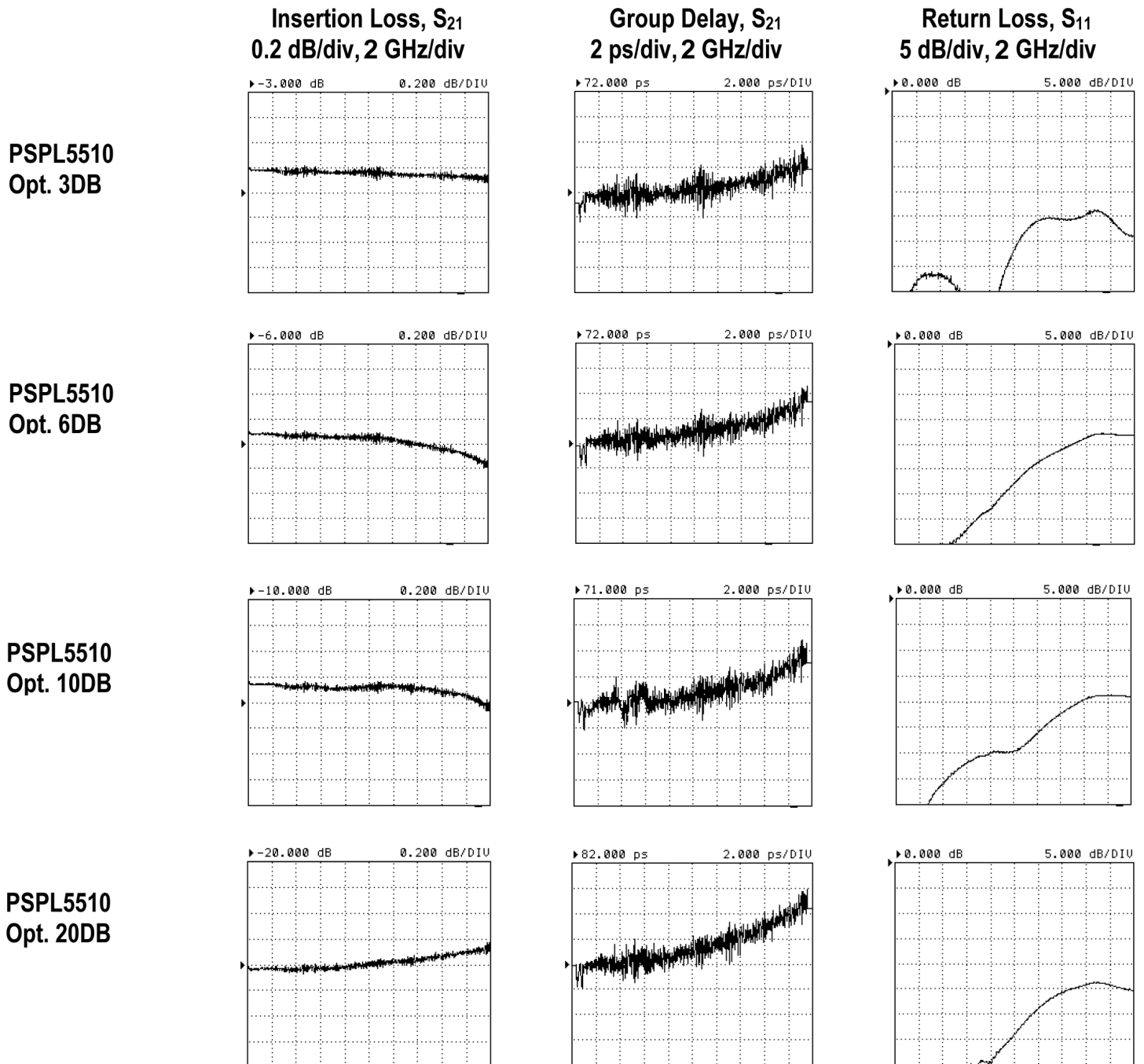
Parameter ¹	Value
Values available	1,2, 3, 6, 10, 12, 14, and 20 dB
Frequency range	DC to 18 GHz
Connectors	SMA jack (f) & plug (m)
Rise time (10% to 90%)	8 ps typical, when tested with 20 ps rise time pulse
Impedance - DC	50 Ω, < ±1 Ω typical, +7.5 Ω / -6.5 Ω maximum
Delay	74 ps, 1 – 12 dB (see Typical performance delay plots) 83 ps, 14 & 20 dB (see Typical performance delay plots)
DC Attenuation accuracy	±0.3 dB, (1 – 6 dB) ±0.5 dB, (10 – 20 dB), maximum limits
Return loss –DC VSWR – DC	> 40 dB typ, 23 dB minimum < 1.02 typ, 1.15 maximum
Attenuation Flatness (see Typical performance plots)	< ±0.3 dB, (1-6 dB) < ±0.6 dB, (10-20 dB)
Return Loss – AC (see Typical performance plots)	> 23 dB, f < 4 GHz > 15 dB, f < 18 GHz
Maximum Power Input	2 W avg at 25 °C, derated linearly to 0.5 W at 125C, 250 W peak, < 5 μs pulse
Temperature Range	-65 to +125 °C operating and storage, 0.0001 dB/dB/°C temp. coeff.
Length & Weight	19.2 mm, 4.1 gm (1-12 dB) 22.5 mm, 4.9 gm (14 & 20 dB), 5/16" hex body
Material	stainless steel
Serial Number	no
Warranty	One Year

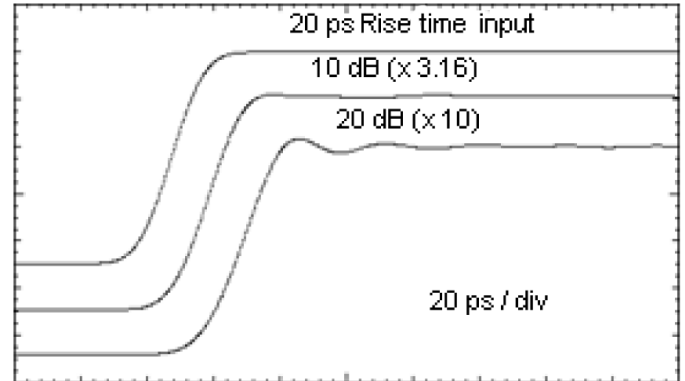
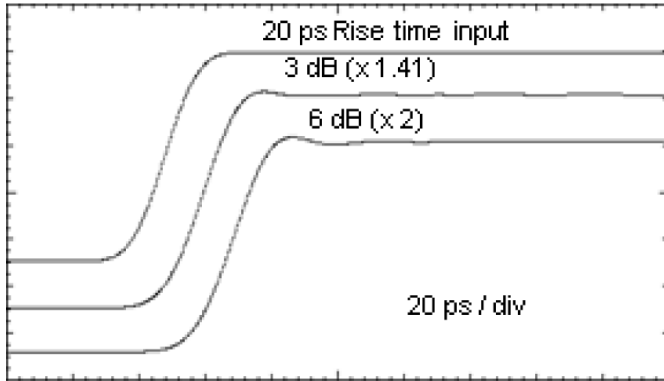
5510-110 SMA Attenuators 14dB to 20dB



¹ All parameters listed are typical unless maximum or minimum guaranteed limits are provided.

Typical performance





Ordering information

Models

PSPL5510 18 GHz Attenuator

Options

Opt. 1DB	1 dB attenuation
Opt. 2DB	2 dB attenuation
Opt. 3DB	3 dB attenuation
Opt. 6DB	6 dB attenuation
Opt. 10DB	10 dB attenuation
Opt. 12DB	12 dB attenuation
Opt. 14DB	14 dB attenuation
Opt. 20DB	20 dB attenuation

ASEAN / Australasia (65) 6356 3900
Belgium 00800 2255 4835*
Central East Europe and the Baltics +41 52 675 3777
Finland +41 52 675 3777
Hong Kong 400 820 5835
Japan 81 (3) 6714 3010
Middle East, Asia, and North Africa +41 52 675 3777
People's Republic of China 400 820 5835
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Taiwan 886 (2) 2722 9622

Austria 00800 2255 4835*
Brazil +55 (11) 3759 7627
Central Europe & Greece +41 52 675 3777
France 00800 2255 4835*
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Luxembourg +41 52 675 3777
The Netherlands 00800 2255 4835*
Poland +41 52 675 3777
Russia & CIS +7 (495) 6647564
Sweden 00800 2255 4835*
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Balkans, Israel, South Africa and other ISE Countries +41 52 675 3777
Canada 1 800 833 9200
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Portugal 80 08 12370
South Africa +41 52 675 3777
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* European toll-free number. If not accessible, call: +41 52 675 3777

Updated 10 April 2013

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14 Aug 2014

1PW-30545-0

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