# 40GHz Attenuator

## PSPL5510K Datasheet

The PSPL5510K 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 2.92 mm attenuators have 5 ps risetimes and are recommended for measuring pulses with risetimes of 15 ps or slower. They are ideal for use with PSPL's Model 4015C, 15 ps pulse generator. For frequency domain measurements, the useful frequency range is DC to 40 GHz. The 2.92 mm connector is compatible with SMA and 3.5 mm connectors.

## Key performance specifications

- 2.92mm, DC to 40 GHz
- 5 ps Risetime

## Specifications

| Parameter | Value |
|---|---|
| Values available | 3, 6, 10, and 20 dB |
| Frequency range | DC to 40 GHz |
| Connectors | 2.92mm |
| Rise time (10% to 90%)<br>(see *Typical. plots*) | 5 ps typical, when tested with 10 ps rise time pulse |
| Impedance - DC | 50 Ω, < ±1 Ω typical, +7.5 Ω, -6.5 Ω maximum |
| Delay | 87 ps |
| DC Attenuation accuracy | ±0.5 dB, max. limits guaranteed |
| Return loss –DC<br>VSWR – DC | > 36 dB typ, 23 dB min<br>< 1.03 typ, 1.15 max |
| Attenuation Flatness<br>(see *Typical. plots*) | < ±0.5 dB, f < 18 GHz<br>< ±1 dB, f < 40 GHz |
| Return Loss – AC<br>(see *Typical. plots*) | > 20 dB, f < 18 GHz<br>> 15 dB, f < 40 GHz |
| Max. Power Input | 2 W avg at 20C, derated linearly to 1W at 85C, 50 W peak, < 0.1 μs pulse |
| Temperature Range | -65 C to +125 C operating and storage, 0.001 dB/dB/C temp. coeff. |
| Warranty | One Year |

**Note**: All parameters listed are typical unless maximum or minimum guaranteed limits are provided.

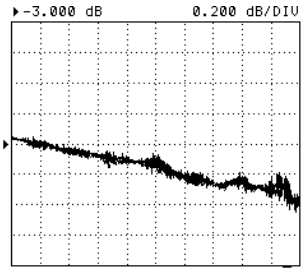
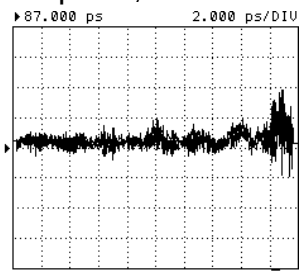
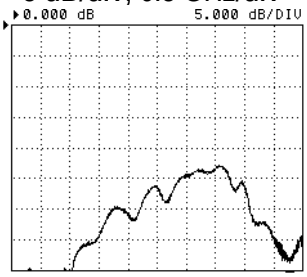
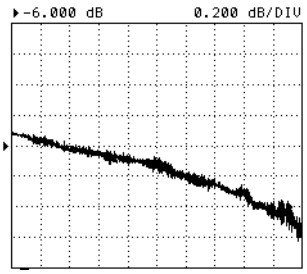
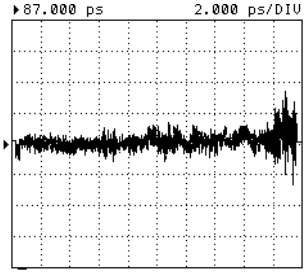
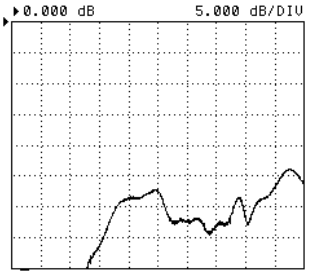
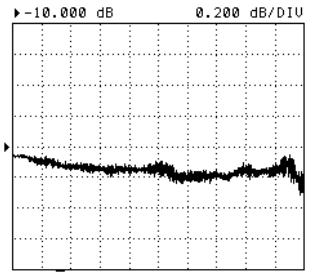
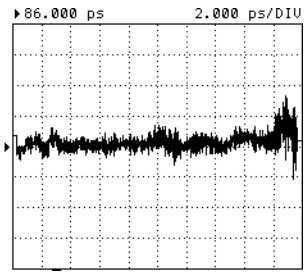
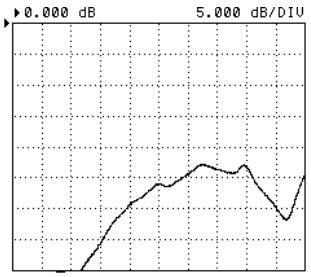
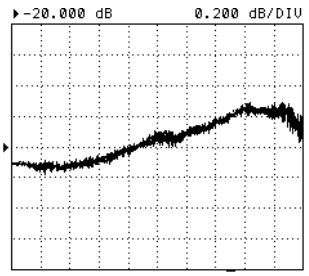
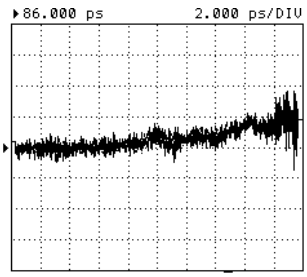
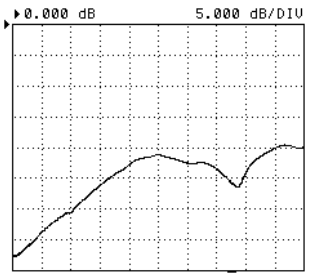
## Ordering information

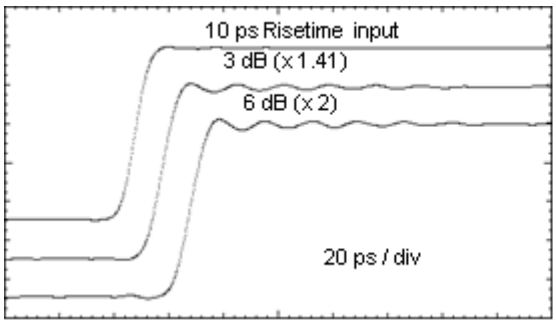
| Model | Description |
|---|---|
| PSPL5510K | 40 GHz Attenuator |

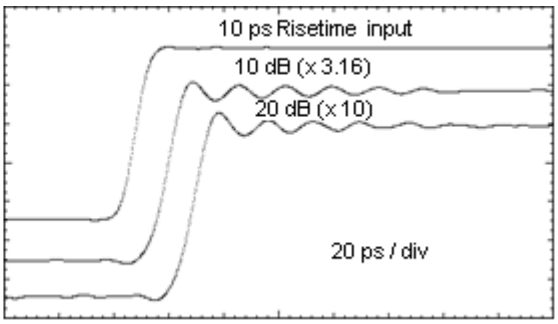
### Options

- Opt. 3DB Attenuation 3dB
- Opt. 6DB Attenuation 6dB
- Opt. 10DB Attenuation 10dB
- Opt. 20DB Attenuation 20dB

## Typical Performance

| | Insertion Loss, $S_{21}$<br>0.2 dB/div, 6.5 GHz/div | Group Delay, $S_{21}$<br>2 ps/div, 6.5 GHz/div | Return Loss, $S_{11}$<br>5 dB/div, 6.5 GHz/div |
|---|---|---|---|
| PSPL5510K<br>Opt. 3DB |  |  |  |
| PSPL5510K<br>Opt. 6DB |  |  |  |
| PSPL5510K<br>Opt. 10DB |  |  |  |
| PSPL5510K<br>Opt. 20DB |  |  |  |



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