

USB Controlled Programmable Attenuator, 63 dB, from 200 MHz to 8 GHz, 0.5 dB Steps, SMA Female



PE70A8010

Features

- USB Controlled 7 Bit Solid State Programmable Attenuator
- Frequency Range 200 MHz to 6 GHz
- Attenuation Range: 0 to 63 dB in 0.5 dB steps
- Attenuation Steps: 0.5, 1, 2, 4, 8, 16, 32 dB
- Insertion Loss 3 dB typ
- Attenuation Accuracy +/- 0.5 dB typ
- Switching Speed 0.35 microseconds typ
- Max RF Input Power +33 dBm
- DC Voltage +5 Vdc
- DC Current 2 mA typ
- 50 Ohm Design
- -40°C to +85°C Operating Temperature
- SMA Female Connectors
- USB Mini-B connector for DC and TTL controls
- Rugged Mil Grade Package Design

Applications

- Military & Commercial Communication Systems
- Microwave Radio Systems
- Radar Systems
- Test & Measurement
- Research & Development
- RF Wideband Front Ends

Description

The PE70A8010 is a 7 Bit USB Controlled Solid State Programmable Attenuator which operates over a broadband frequency range of 200 MHz to 8000 MHz. The 50 ohm solid state design supports a USB interface and MS .NET 4.0+ framework. A downloadable USB test software manual is available. The PE70A8010 has an attenuation range that covers 0 to 63 dB in 0.5 dB steps. Attenuation steps are 0.5, 1, 2, 4, 8, 16, and 32 dB. Insertion loss is 3 dB typical with a maximum RF input power of +25 dBm. Additional typical performance includes +/- 0.5 dB attenuation accuracy, and switching speed of 0.35 microseconds. Operational temperature range is -40°C to +85°C, and the DC supply is +5 Vdc @ 2 mA nominal. The compact and rugged package design supports SMA female RF input/output connectors, and a USB Mini-B connector for DC and TTL controls. A 6' USB A to USB Mini-B cable is included.

Electrical Specifications (Values at +25°C, sea level)

| Description | Min | Typ | Max | Unit |
|---|-----|-------|-------|------|
| Frequency Range | 0.2 | | 8 | GHz |
| Impedance | | 50 | | Ohms |
| Attenuation Range | 0 | | 63 | dB |
| Insertion Loss | | 3 | 4.2 | dB |
| VSWR | | 1.4:1 | 1.6:1 | |
| Survival Power Average -40 to +85 deg C | | | | |
| DC Voltage | | +5 | | Vdc |
| DC Current | 2 | | | mA |
| Accuracy of Attenuation | | | | |
| 0.5 dB to 6.5 dB | | ±0.25 | | dB |
| 7 dB to 14.5 dB | | ±0.5 | | dB |
| 15 dB to 63 dB | | ±1 | | dB |
| TTL Low for Thru Path | | | | Vdc |
| TTL High for Attenuation | | | | Vdc |
| Step Size | | 1 | | dB |
| Switching Time | | 350 | 1,000 | ns |

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Electrical Specifications (Values at +25°C, sea level)

| Description | Min | Typ | Max | Unit |
|--|-----|-----|-----|------|
| RF Input Power (Operating- Input Side) | | | 24 | dBm |
| RF Input Power (Operating-Output Side) | | | 15 | dBm |
| RF Input Power (No Damage- Input Side) | | | 25 | dBm |
| RF Input Power (No Damage-Output Side) | | | 16 | dBm |

Performance by Frequency

| Description | F1 | F2 | F3 | F4 | F5 | Units |
|---------------------|---------|-------|----|----|----|-------|
| Frequency Range | 0.2-0.2 | 0.2-8 | | | | GHz |
| Insertion Loss, Typ | 2.1 | 3.7 | | | | dB |

Electrical Specification Notes:

0.5, 1, 2, 4, 8, 16, and 32 dB bit Attenuation Steps

Mechanical Specifications

Size

| | |
|-------------|---------------------|
| Length | 0 in [0 mm] |
| Width | 0 in [0 mm] |
| Height | 0 in [0 mm] |
| Weight | 0.35 lbs [158.76 g] |
| Connector 1 | SMA Female |
| Connector 2 | SMA Female |

Environmental Specifications

Temperature

| | |
|-----------------|------------------|
| Operating Range | -40 to +85 deg C |
|-----------------|------------------|

Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

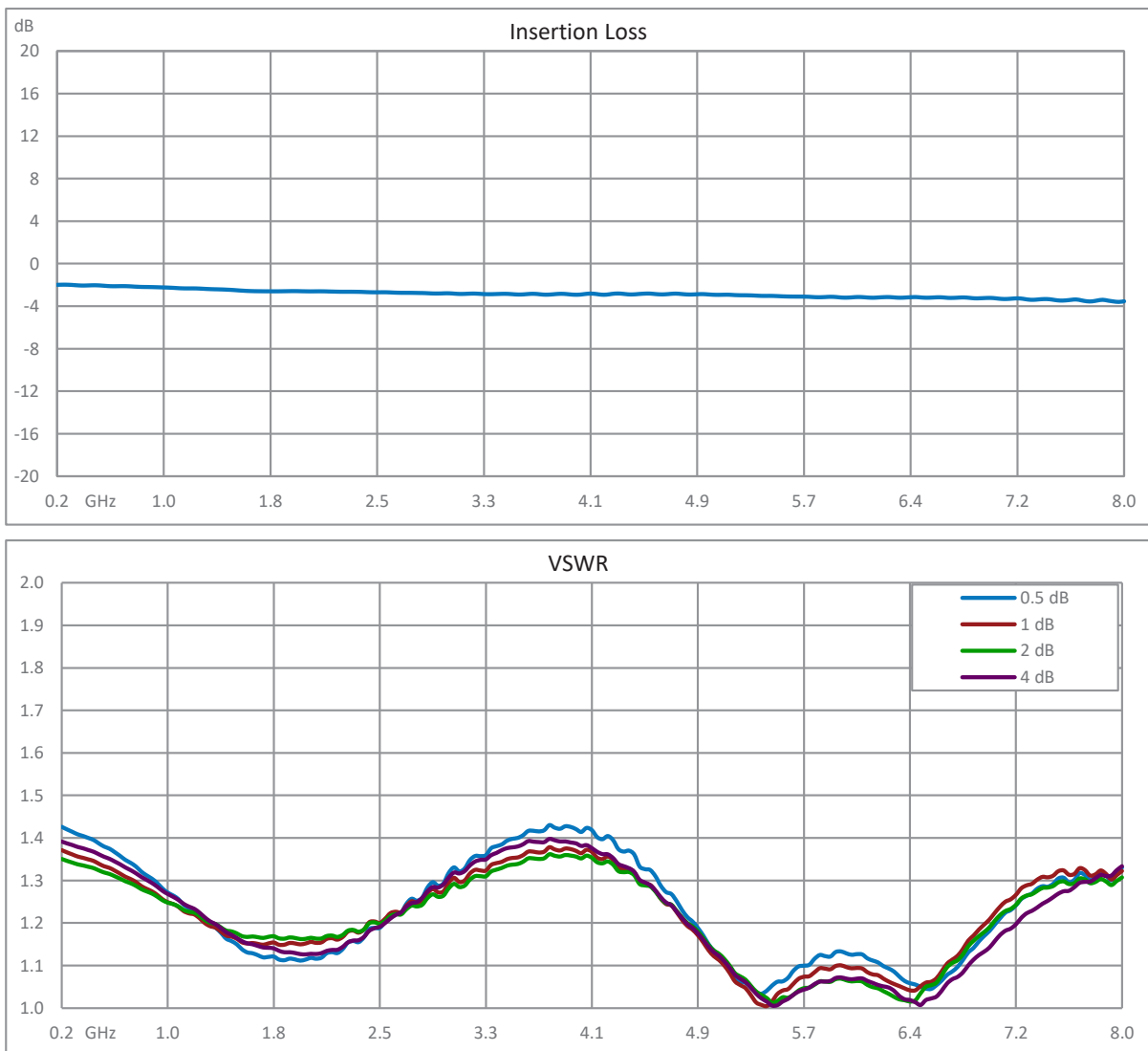
- Values at 25 °C, sea level

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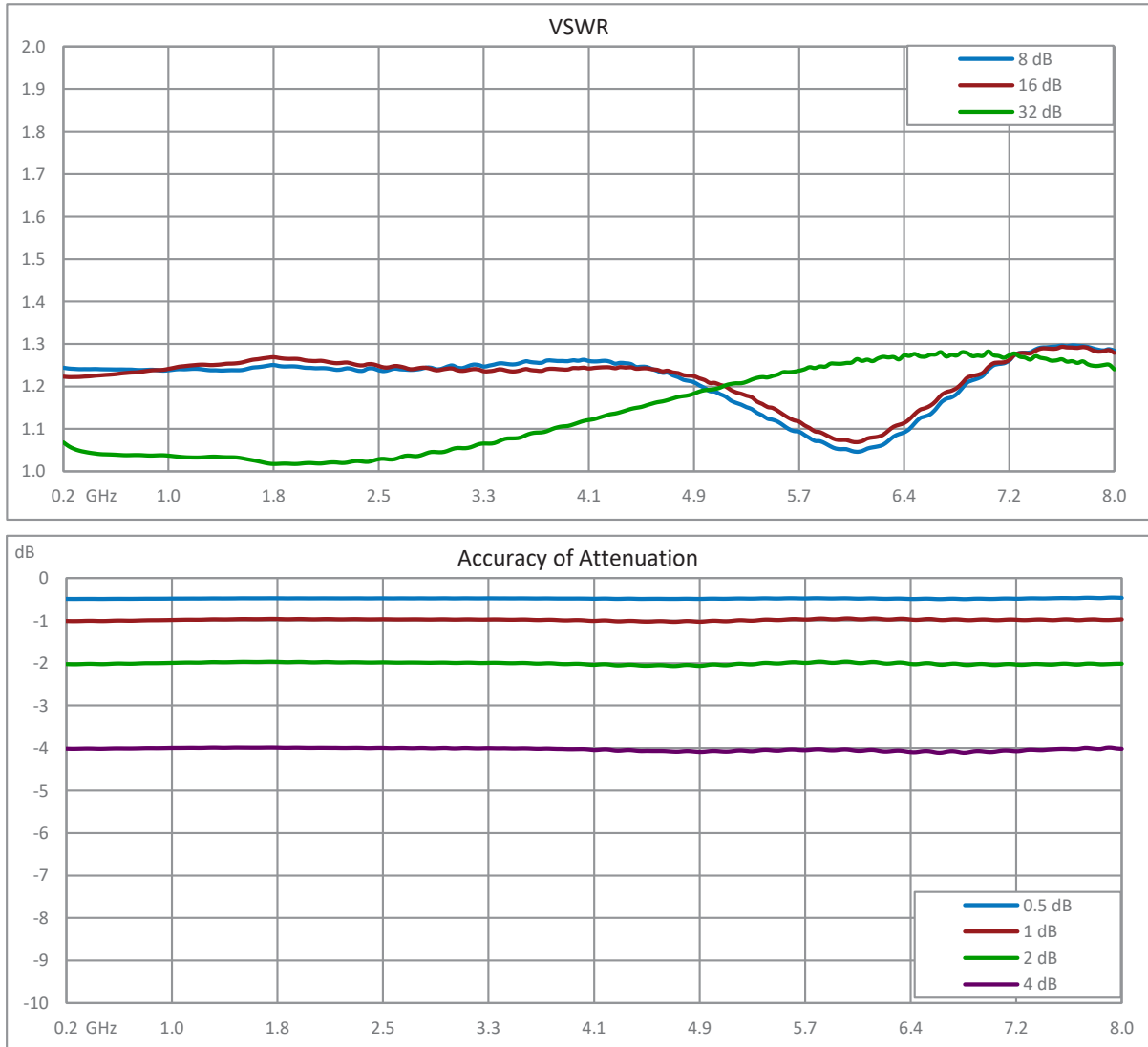
Typical Performance Data



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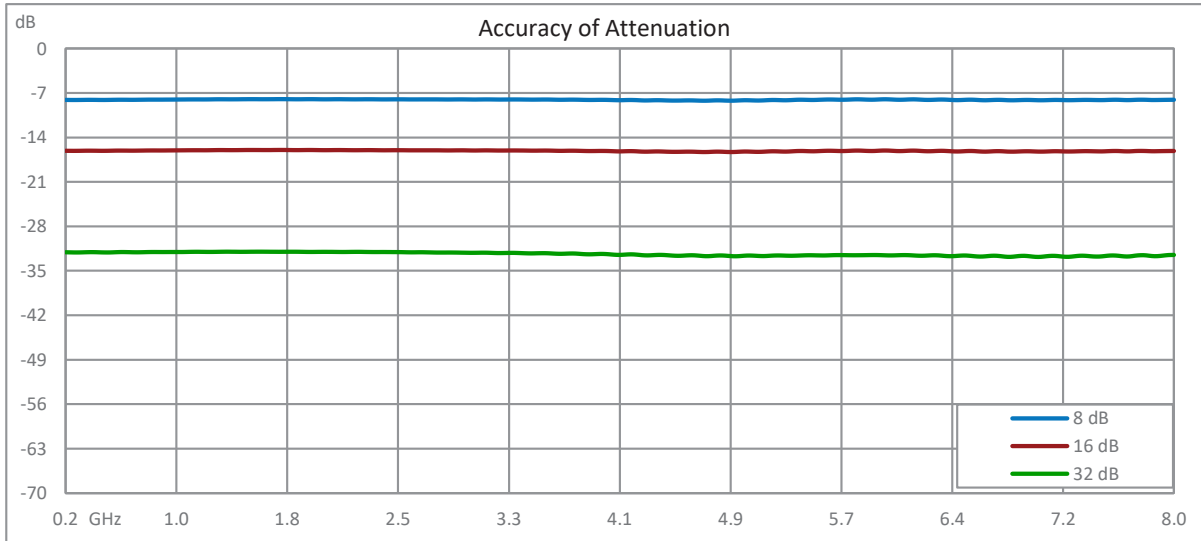
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Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [USB Controlled Programmable Attenuator, 63 dB, from 200 MHz to 8 GHz, 0.5 dB Steps, SMA Female PE70A8010](https://www.pasternack.com/63db-relay-controlled-sma-female-sma-female-24-watts-attenuator-pe70a8010-p.aspx)

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PE70A8010 CAD Drawing

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