

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 | |
| Survial 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

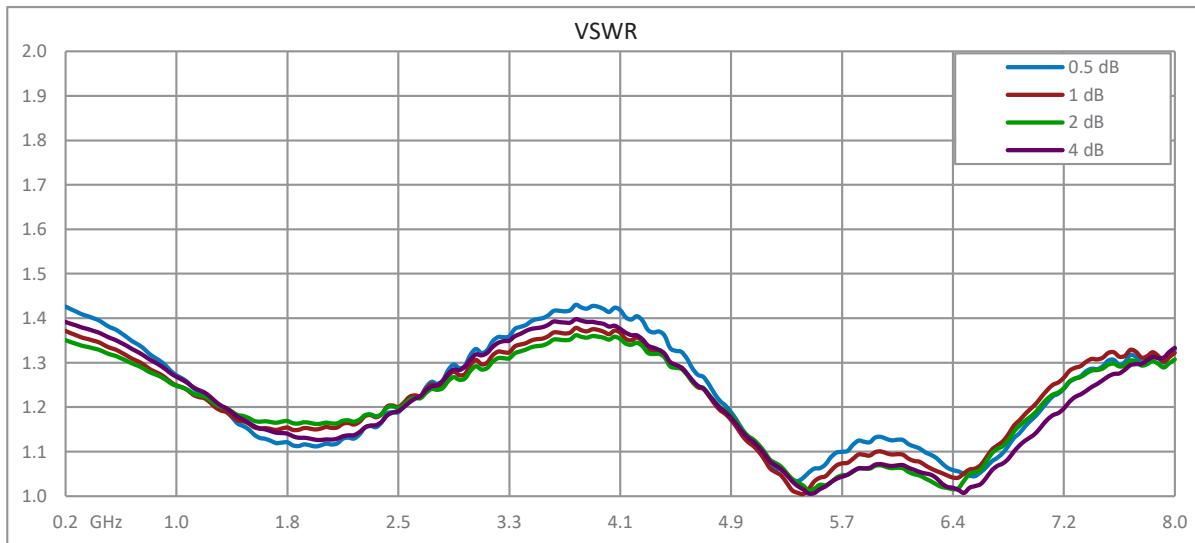
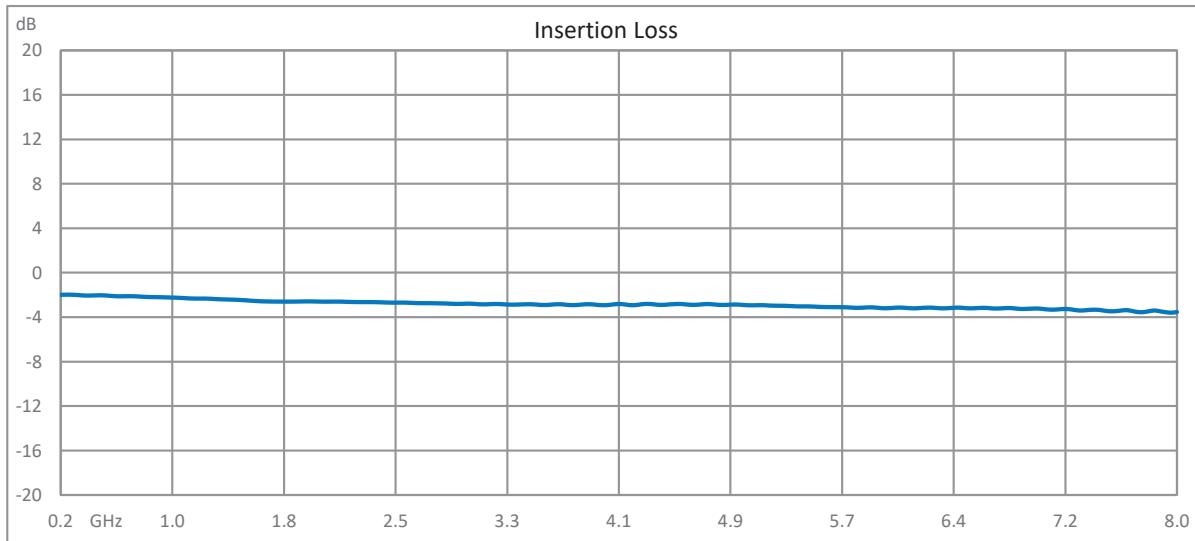
Notes:
• Values at 25 °C, sea level

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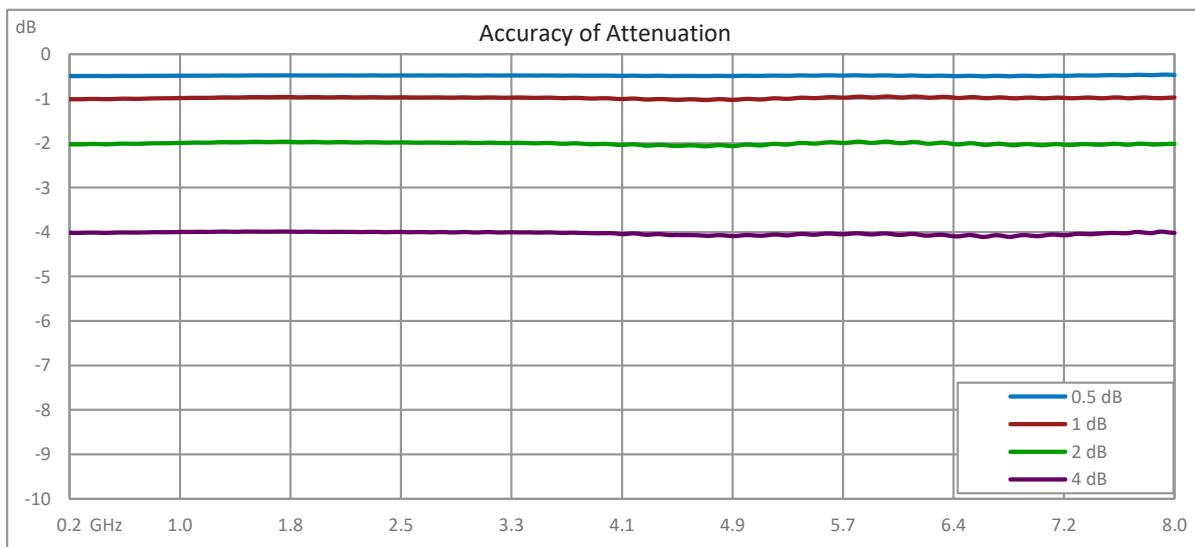
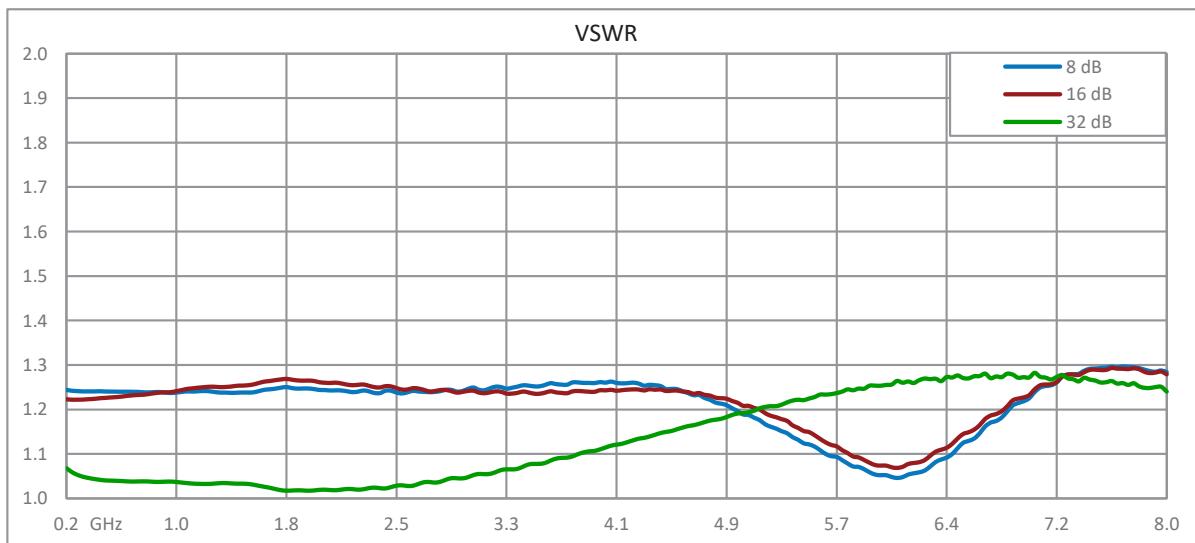
Typical Performance Data



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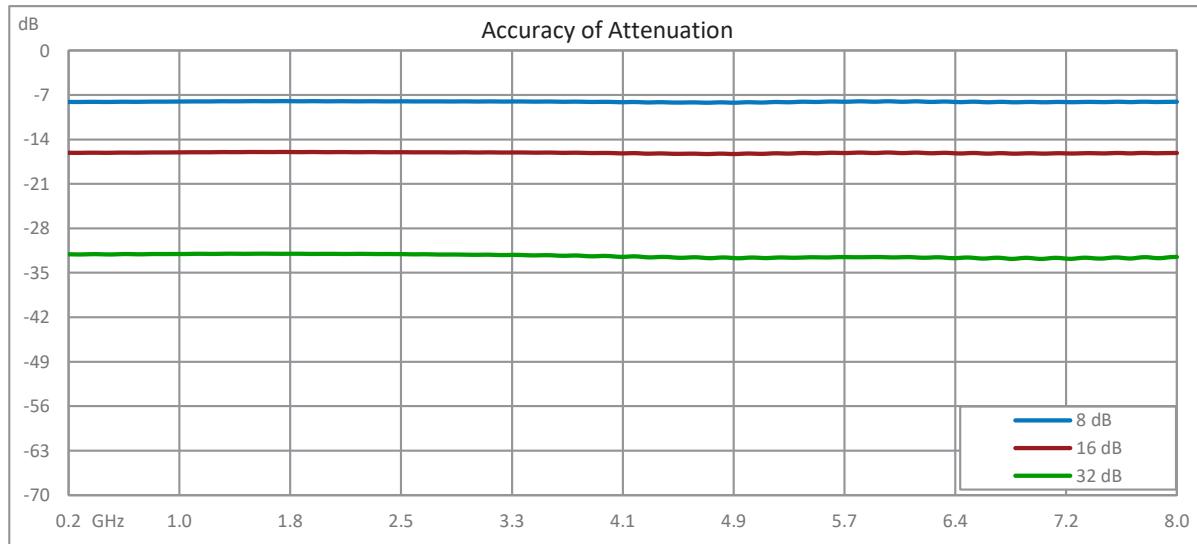
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Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [USB Controlled Programmable Attenuator, 63 dB, from 200 MHz to 8 GHz, 0.5 dB Steps, SMA Female PE70A8010](#)

URL: <https://www.pasternack.com/63db-relay-controlled-sma-female-sma-female-24-watts-attenuator-pe70a8010-p.aspx>

The information contained within this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part in order to implement improvements. Pasternack Enterprises reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack Enterprises does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack Enterprises does not assume liability arising out of the use of any part or document.

PE70A8010 CAD Drawing

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