

USB Controlled Programmable Attenuator, 63 dB, from 100 MHz to 18 GHz, 0.5 dB Steps SMA Female



PE70A8012

Features

- USB Controlled 7 Bit Solid State Programmable Attenuator
- Frequency Range 100 MHz to 18 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 4 dB typ
- Attenuation Accuracy +/- 0.5 dB typ
- Switching Speed 0.35 microseconds typ
- Max RF Input Power +25 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 PE70A8012 is an 7 Bit USB Controlled Solid State Programmable Attenuator which operates over a wide band frequency range of 100 MHz to 18 GHz. The 50 ohm solid state design supports a USB interface and MS .NET 4.0+ framework. A downloadable USB test software manual available. The PE70A8012 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 4 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	0.1		18	GHz
Impedance		50		Ohms
Attenuation Range	0		63	dB
Insertion Loss		4	7	dB
VSWR		1.5:1	2:1	
Survial Power Average -40 to +85 deg C				
DC Voltage		+5		Vdc
DC Current	2			mA
Accuracy of Attenuation				
0.5 dB to 3.5 dB		±0.25		dB
4 dB to 14.5 dB		±0.5		dB
15 dB to 31.5 dB		±0.75		dB
32 dB to 63 dB		±1		dB
TTL Low for Thru Path				Vdc
TTL High for Attenuation				Vdc
Step Size		1		dB

USB Controlled Programmable Attenuator, 63 dB, from
100 MHz to 18 GHz, 0.5 dB Steps SMA Female



PE70A8012

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

Description	Min	Typ	Max	Unit
Switching Time		350	1,000	ns
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	0.1-1	1-3	3-6	6-12.4	12.4-18	GHz
Insertion Loss, Typ	2	2.7	3.2	4.5	6.4	dB
VSWR, Max	1.6	1.6	1.6	2	2	
VSWR, Typ	1.3	1.3	1.3	1.6	1.6	

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:

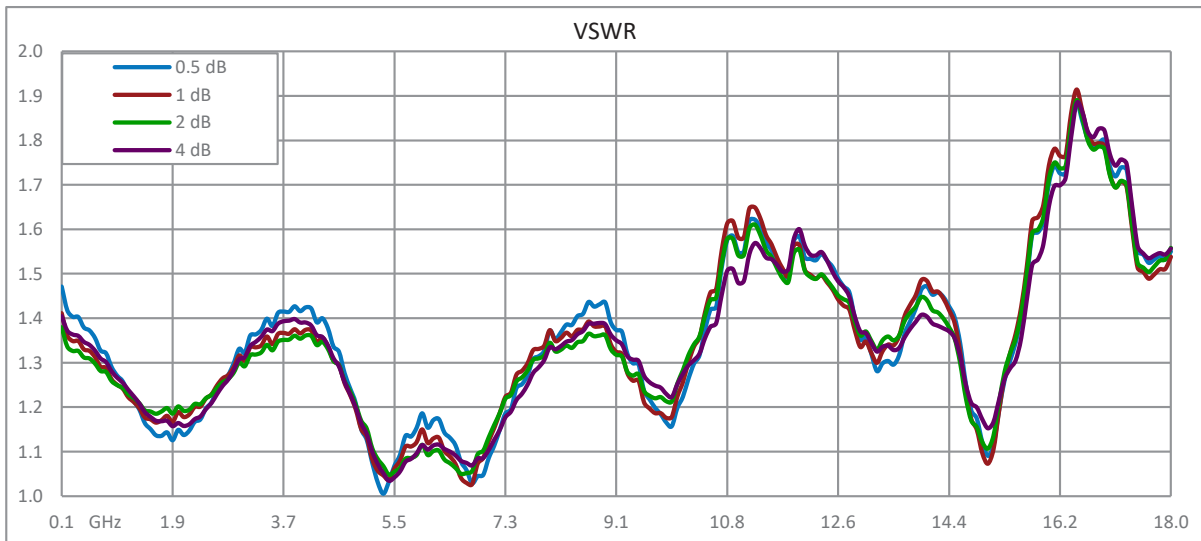
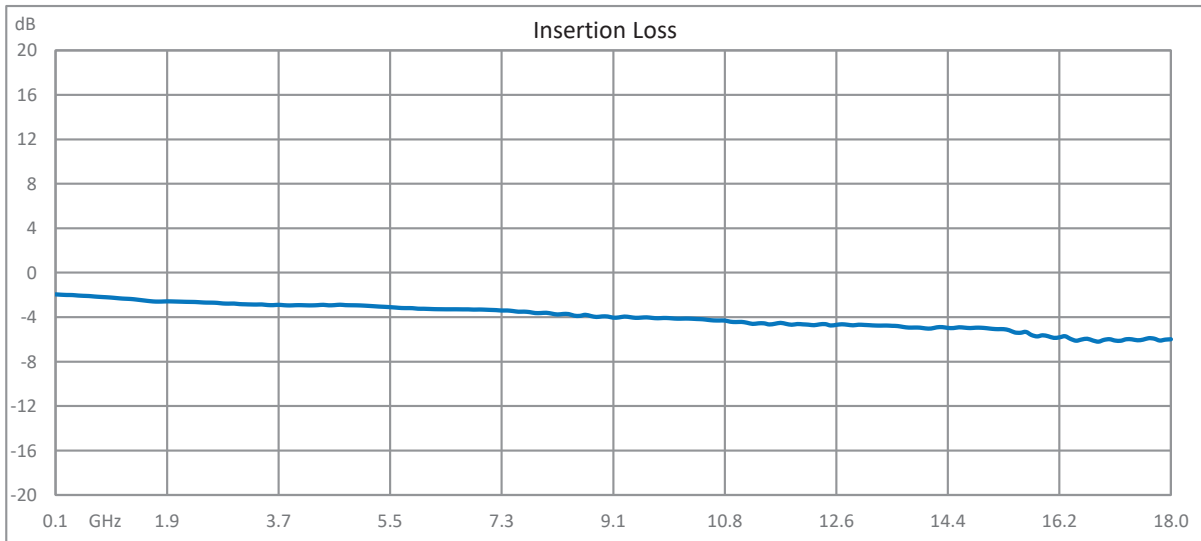
- Values at 25 °C, sea level

USB Controlled Programmable Attenuator, 63 dB, from
100 MHz to 18 GHz, 0.5 dB Steps SMA Female



PE70A8012

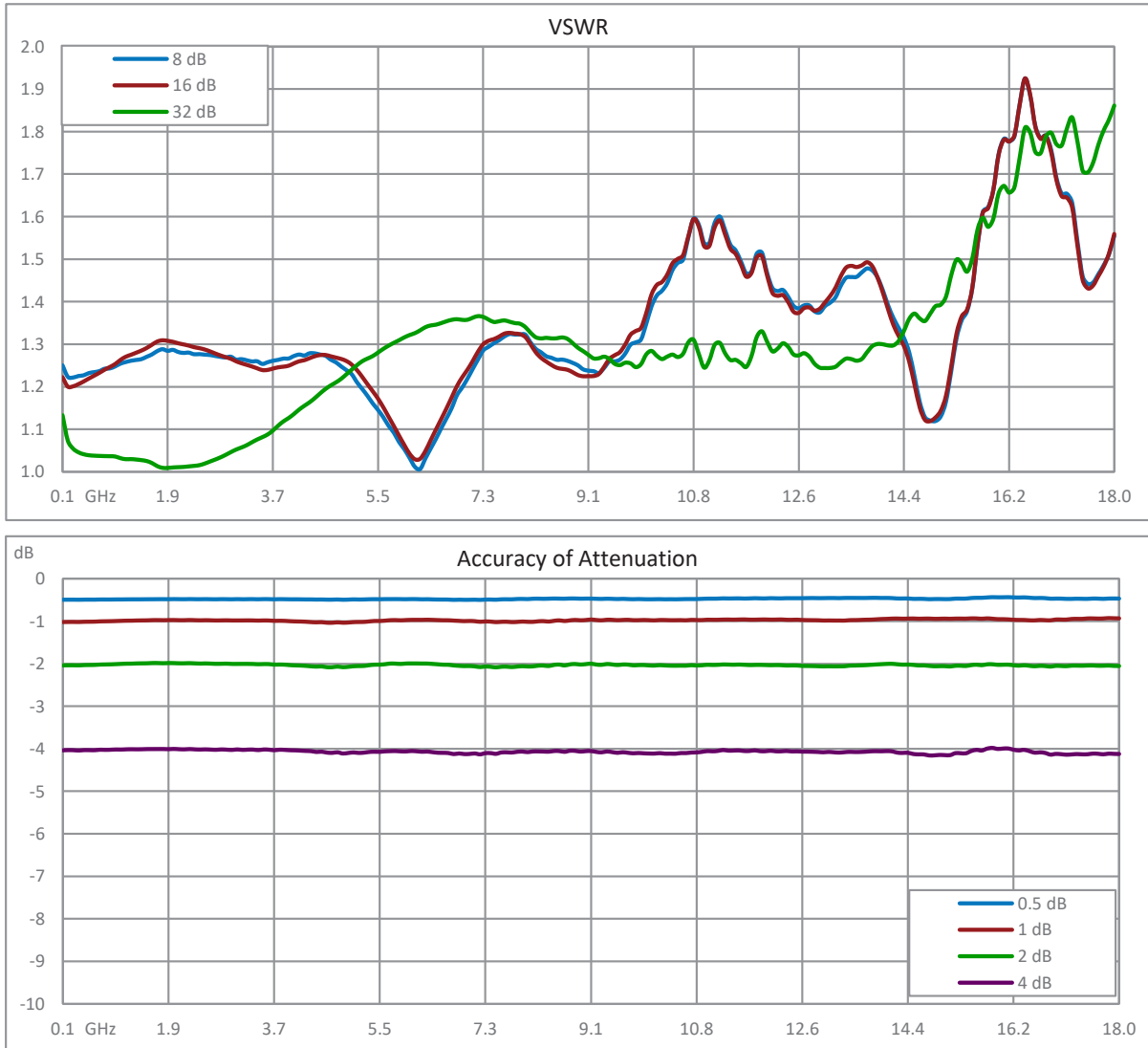
Typical Performance Data



USB Controlled Programmable Attenuator, 63 dB, from
100 MHz to 18 GHz, 0.5 dB Steps SMA Female



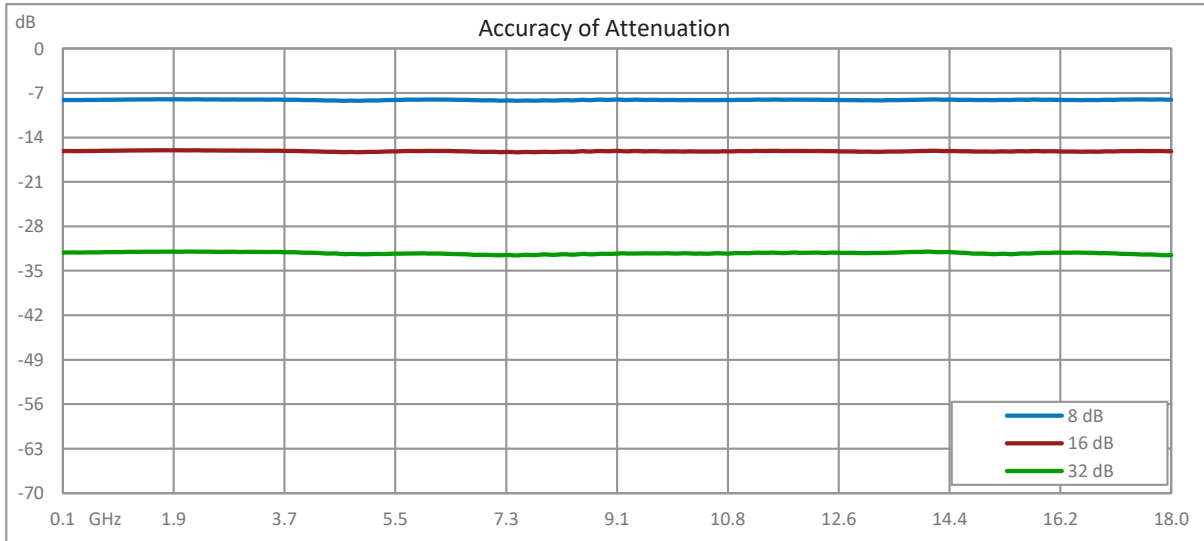
PE70A8012



USB Controlled Programmable Attenuator, 63 dB, from 100 MHz to 18 GHz, 0.5 dB Steps SMA Female



PE70A8012



USB Controlled Programmable Attenuator, 63 dB, from 100 MHz to 18 GHz, 0.5 dB Steps SMA Female from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

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 100 MHz to 18 GHz, 0.5 dB Steps SMA Female PE70A8012](https://www.pasternack.com/63db-relay-controlled-sma-female-sma-female-24-watts-attenuator-pe70a8012-p.aspx)

URL: <https://www.pasternack.com/63db-relay-controlled-sma-female-sma-female-24-watts-attenuator-pe70a8012-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.

PE70A8012 CAD Drawing

USB Controlled Programmable Attenuator, 63 dB, from 100 MHz to 18 GHz, 0.5 dB Steps SMA Female

