



## USB Controlled Programmable Attenuator, 95 dB, from 200 MHz to 6 GHz, 1 dB Steps, SMA Female

### TECHNICAL DATA SHEET

PE70A3902

The PE70A3902 is a USB Controlled Programmable Attenuator which operates over the frequency range of 200 MHz to 6000 MHz. The solid state design supports a USB interface and MS .NET 4.0+ framework. The PE70A3902 has an attenuation range that covers 0 to 95 dB in 1 dB steps. Attenuation steps are 1, 2, 4, 8, 16, 32, and 32 dB bit steps. Insertion loss is 8 dB maximum with a maximum operating RF input power +27 dBm. Additional typical performance includes +/- 1.0 dB attenuation accuracy and switching speed of 4 microseconds. The DC supply is +5 Vdc @ 2 mA. The compact and rugged package design supports SMA female RF input/output connectors, and a USB MINI-B connector for DC and serial controls. A 6 ft USB A to USB MINI-B cable is included. The PE70A3902 has an operational temperature range of -40°C to +85°C.

#### Features

- 7 Bit Programmable Attenuator
- 200 to 6000 MHz Bandwidth
- 0-95 dB attenuation
- 1 dB Step Size
- 50 Ohms
- Switching Speed: 4 microseconds max
- Insertion Loss: 8.3 dB max
- Attenuation Accuracy: +/-1.0 dB typ
- DC Bias: +5 Vdc @ 2 mA
- SMA female connectors

#### Applications

- Electronic Warfare
- Electronic Countermeasures
- Microwave Radio
- VSAT
- Radar
- Fiber Optic
- Space Systems
- Test Instrumentation
- Telecom Infrastructure

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

Description	Minimum	Typical	Maximum	Units
Frequency Range	0.2		6	GHz
Mean Attenuation Range	0		95	dB
Insertion Loss			8.3	dB
Input VSWR			2:1	
Survival Power Average			+33	dBm
Power Handling Capacity			+27 CW	dBm
Accuracy of Attenuation				dB
1 dB to 7 dB		±0.5		dB
8 dB to 11 dB		±1		dB
12 dB to 95 dB is ±1.25 dB or 4% whichever is greater				
Step Size	1			dB
Switching Time			4	us
Logic Input				
Logic "0" (Bit Off) @ 0µA	0			Volts
Logic "1" (Bit On) @ 0µA	5			Volts

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, 95 dB, from 200 MHz to 6 GHz, 1 dB Steps, SMA Female PE70A3902](#)



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**Performance by Frequency**

Description	F1	F2	F3	F4	F5	Units
Frequency Range	0.2 to 0.2	0.2 to 0.5	0.5 to 0.7	0.7 to 2	2 to 6	GHz
Insertion Loss, Typ	3.3	3.5	3.6	4.4	7.9	dB

Electrical Specification Notes:  
1, 2, 4, 8, 16, 32, and 32 dB bit Steps

**Mechanical Specifications**

**Size**

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:

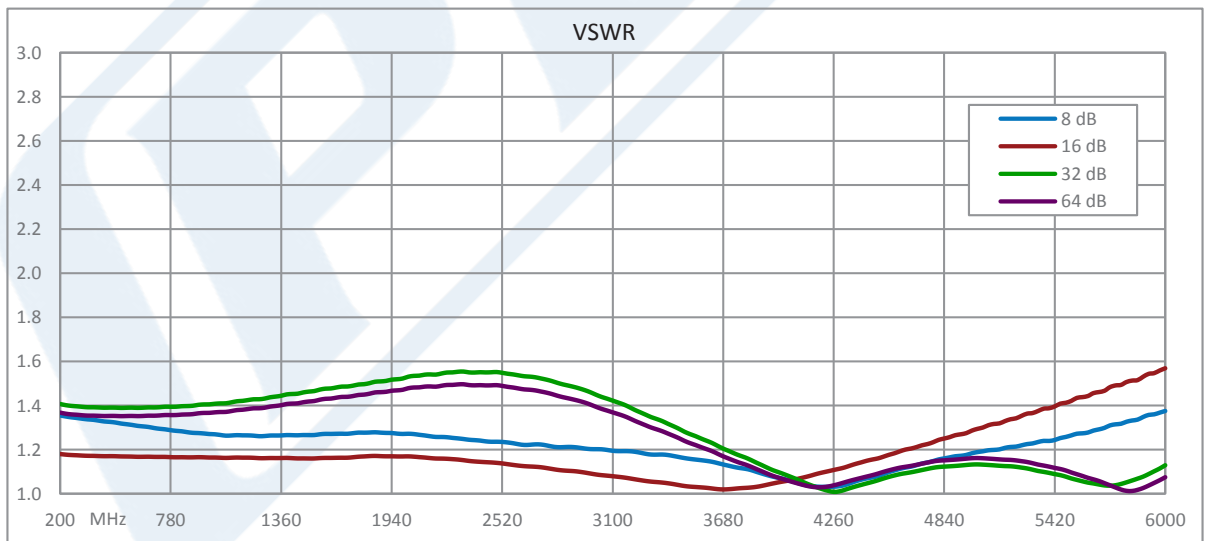
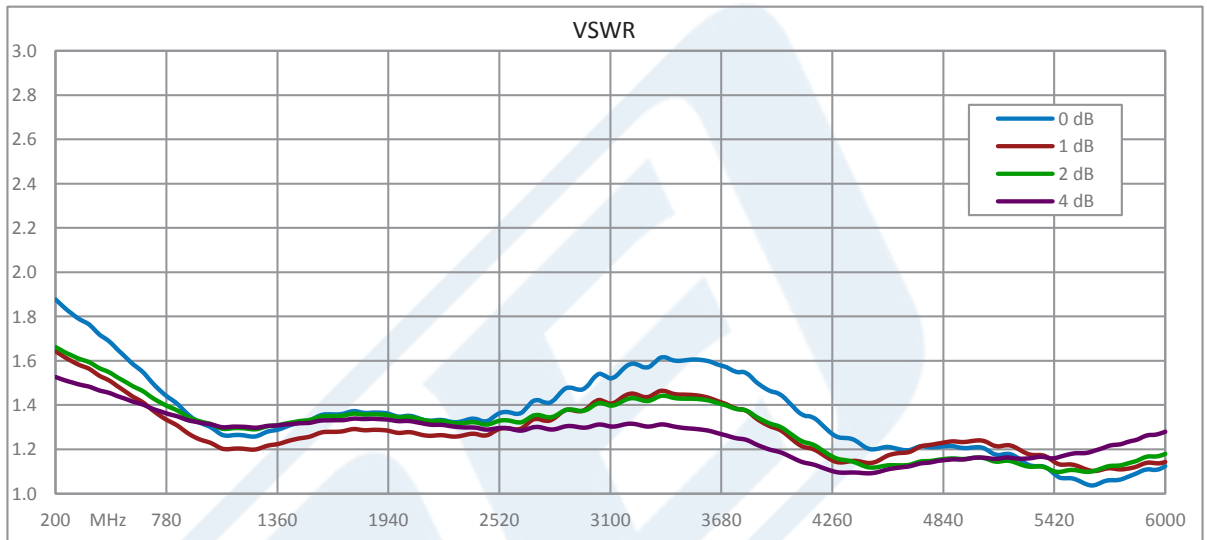
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Performance Data



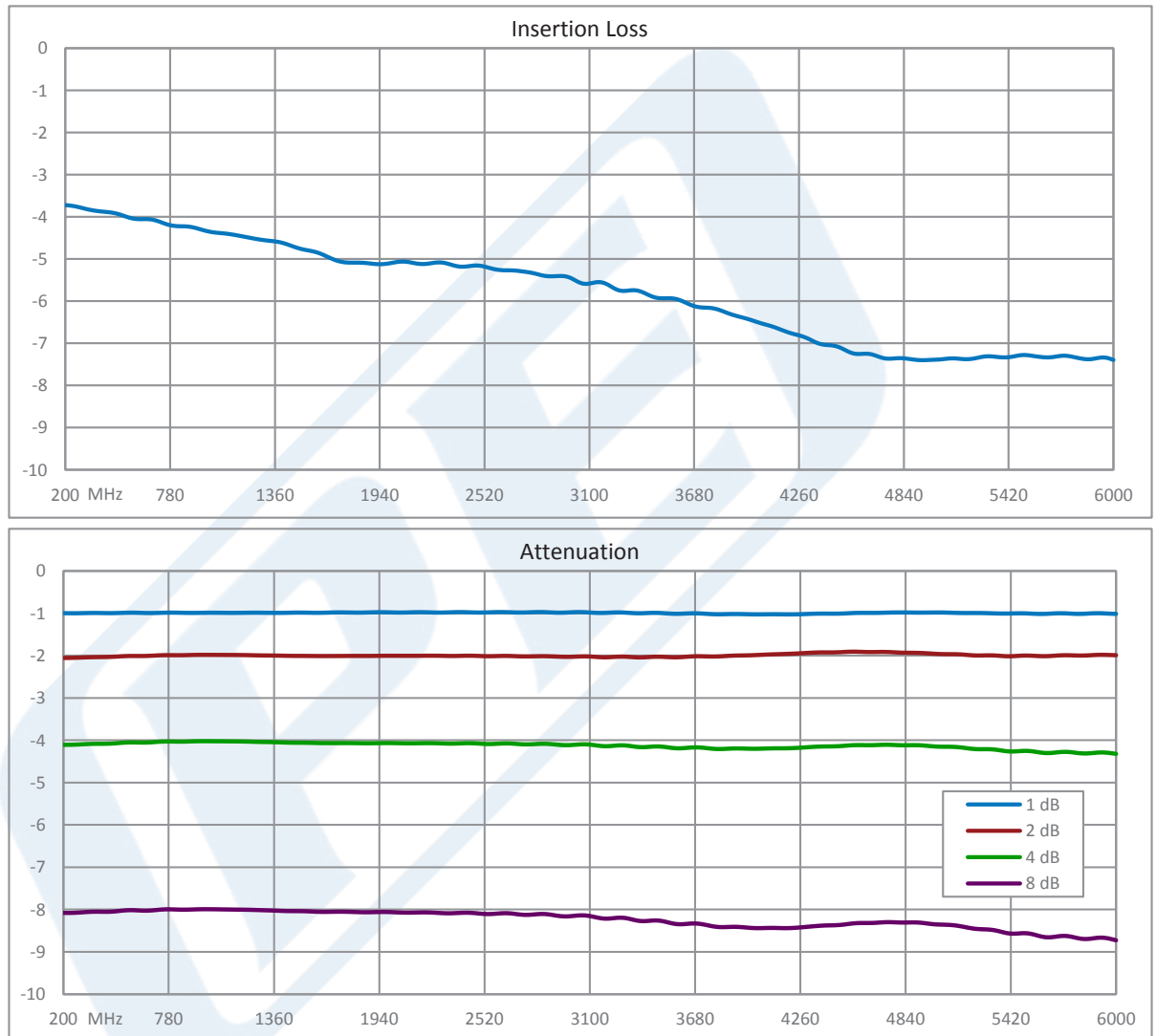
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PE70A3902



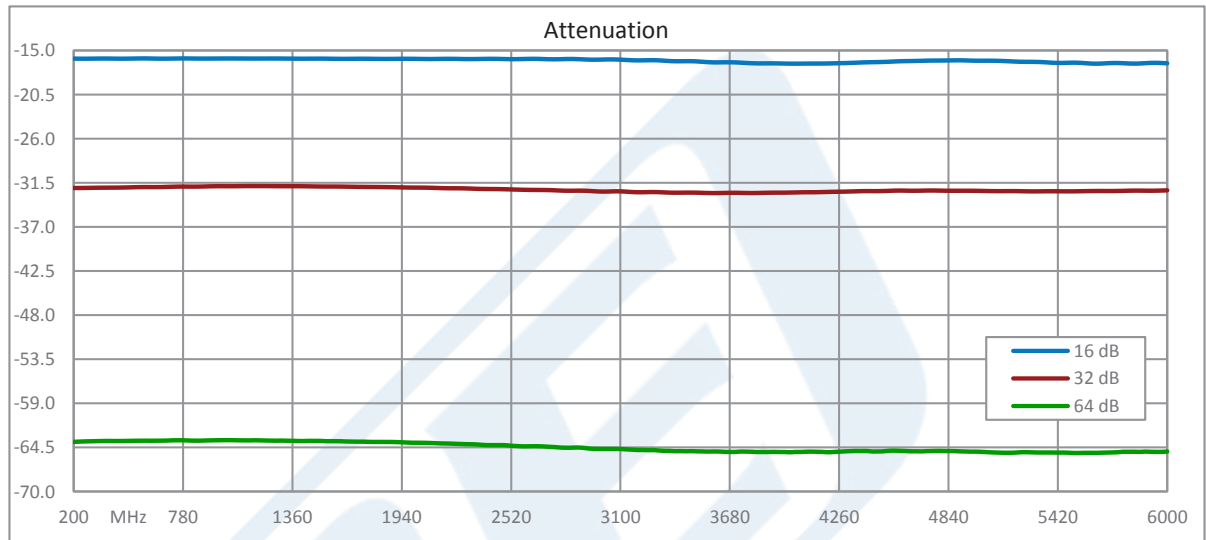
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USB Controlled Programmable Attenuator, 95 dB, from 200 MHz to 6 GHz, 1 dB Steps, SMA Female from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

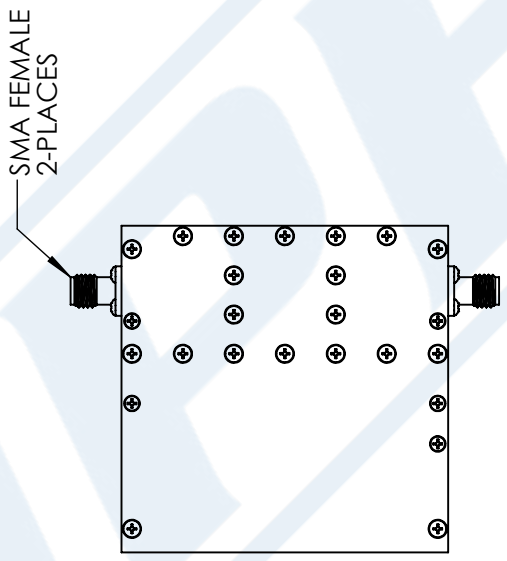
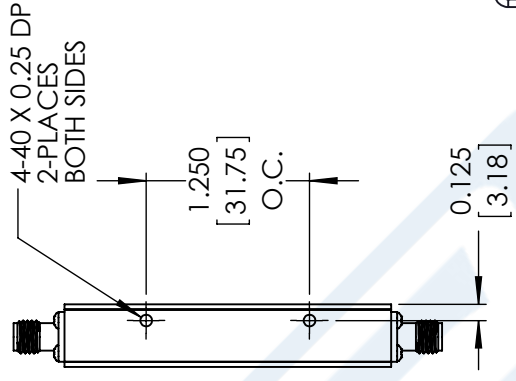
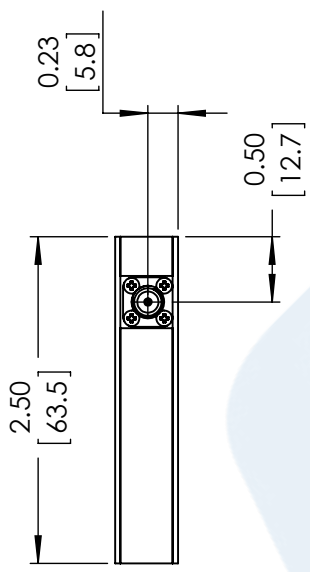
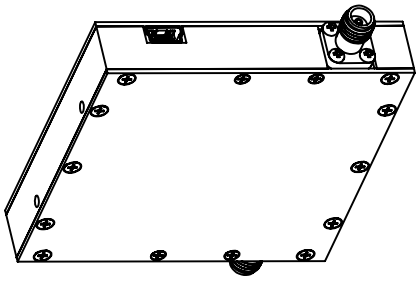
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements.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

# PE70A3902 CAD Drawing

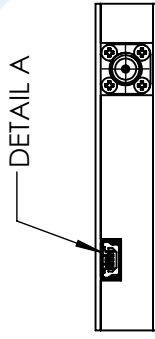
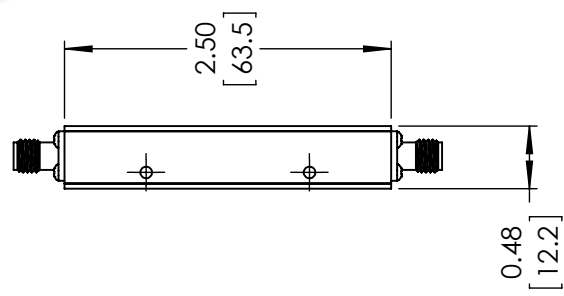
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1 2 3 4 5

**DETAIL A**  
**USB MINI-B**

PIN	FUNCTION
1	+5VDC
2	D-
3	D+
4	NO CONNECTION
5	GROUND



DETAIL A

STANDARD TOLERANCES	
.XX	±0.01
.XXX	±0.005

\*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

NOTES:  
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.  
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME  
3. DIMENSIONS ARE IN INCHES [mm].

DWG TITLE  
**PE70A3902**

CAGE CODE **53919**

CAD FILE 040817 SCALE N/A SIZE A CN\_0992

**PE PASTERNAK®**  
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