

## Voltage Variable PIN Diode Attenuator, 0 to 60 dB, 6 GHz to 12 GHz, SMA, 15-Pin D-Subminiature Control

### PE70A2002



#### Features

- Analog Controlled 60 dB Pin Diode Attenuator
- 6 GHz to 12 GHz Frequency Range
- Insertion Loss 2.8 dB Max
- VSWR 2.0:1 Max
- Input Power 20 dBm Operating
- Input Power 30 dBm Survival
- Switching Time 500 nsec
- Removeable SMA Female Connectors
- 15 Pin Micro-D Female Power/Control Connector

#### Applications

- Electronic Warfare
- Test & Measurement
- Military & Space
- Radar
- Military Communications Systems

#### Description

The PE70A2002 Voltage Variable PIN Diode Attenuator exhibits broadband frequency coverage from 6 GHz to 12 GHz. The highly linear design features exceptional performance that includes an attenuation range of 0 to 60 dB, typical flatness of +/- 1 dB, and excellent VSWR of 2.0:1 max over all attenuation levels. Insertion loss is less than 2.8 dB and switching speed is less than 500 nsec. The rugged coaxial package assembly uses field replaceable SMA connectors along with a 15 pin Micro D female DC power/control connector that includes a mating connector. Operational temperature is rated for -55°C to +85°C, and the design is guaranteed to meet MIL-STD-202 environmental test conditions that includes Humidity, Temperature Cycle, Shock, and Vibration.

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

Description	Minimum	Typical	Maximum	Units
Frequency Range	6		12	GHz
Attenuation Range	0		60	dB
			2.8	dB
VSWR			2:1	
RF Input Power		+20		dBm
Survival Power Rating			+30	dBm
		±0.7		dB
		±1		dB
		±1.5		dB
		±1.6		dB
Switching Time			500	ns
Switching Speed			500	ns
Analog Control		10		dB/Volt
Control Voltage	0		6	Volts
DC Power Supply				
12 to 15 VDC			125	mA
-12 to -15 VDC			50	mA
Attenuation Range	0		60	dB

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### Mechanical Specifications

#### Size

Length	2 in [50.8 mm]
Width	1.8 in [45.72 mm]
Height	0.5 in [12.7 mm]
Weight	0.151 lbs [68.49 g]
Input Connector	Field Replaceable SMA Female
Output Connector	Field Replaceable SMA Female
Power and Control	15-Pin D-Subminiatur

### Environmental Specifications

#### Temperature

Operating Range	-55 to +85 deg C
Storage Range	-65 to +125 deg C
Humidity	MIL-STD-202F, METHOD 103B COND. B
Shock	MIL-STD-202F, METHOD 213B COND. B
Vibration	MIL-STD-202F, METHOD 204D COND. B
Altitude	MIL-STD-202F, METHOD 105C COND. B
Temperature Cycle	MIL-STD-202F, METHOD 107D COND. A
Salt Spray	MIL-STD-202F, METHOD 105C COND. B

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

### Plotted and Other Data

#### Notes:

- Values at +25 °C, sea level  
ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.

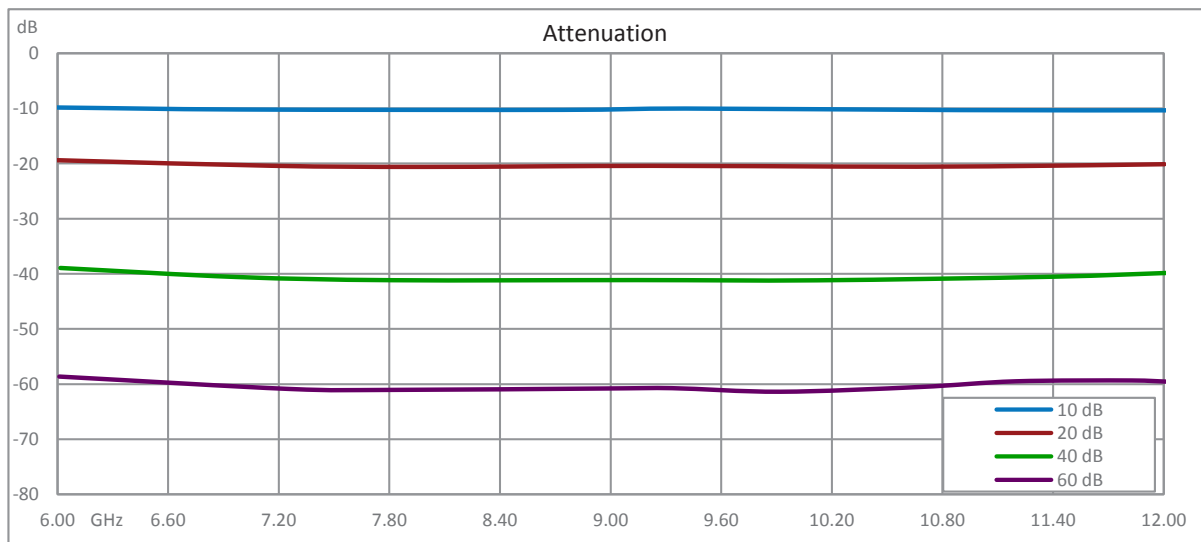
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### Functional Block Diagram

### Performance Data

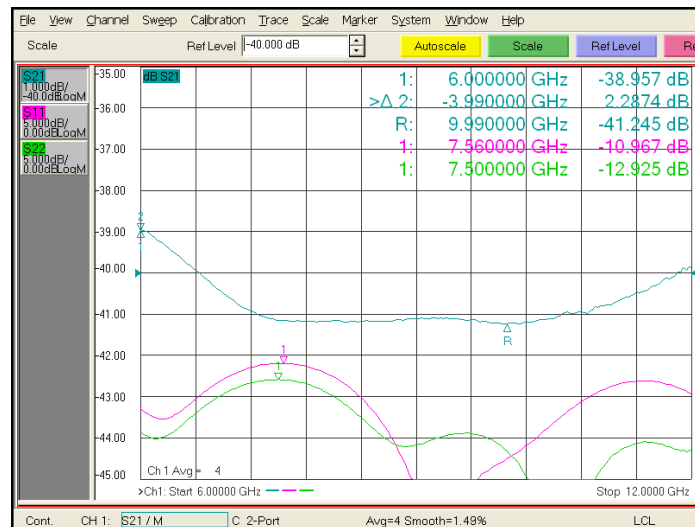


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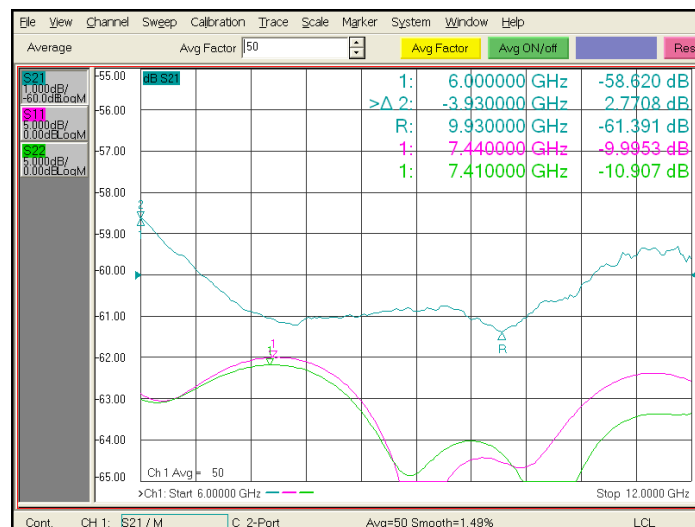
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### 40dB Attenuation



### 60dB Attenuation

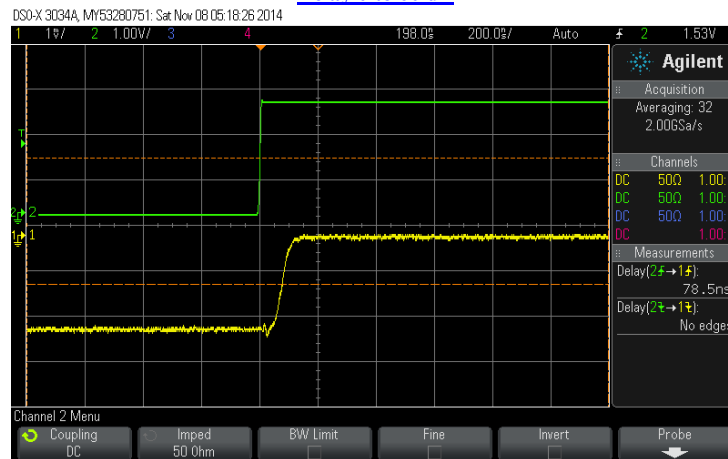


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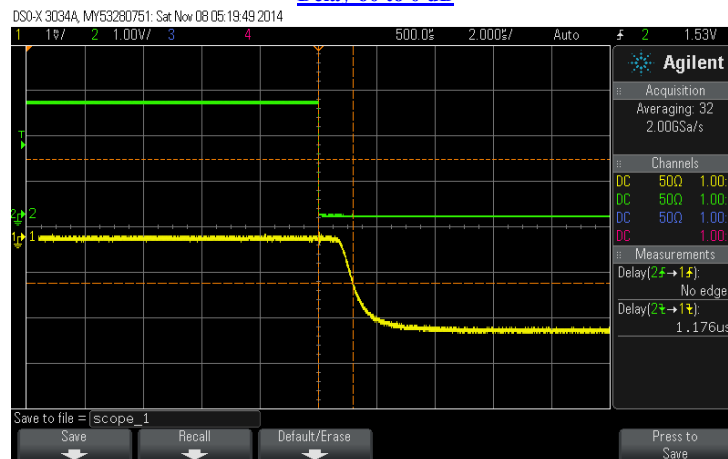


### Delay 0 to 60 dB



Channel 1 (Yellow): RF output  
Channel 2 (Green): TTL Input from Signal Generator

### Delay 60 to 0 dB



Channel 1 (Yellow): RF output  
Channel 2 (Green): TTL Input from Signal Generator

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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: [Voltage Variable PIN Diode Attenuator, 0 to 60 dB, 6 GHz to 12 GHz, SMA, 15-Pin D-Subminiature Control PE70A2002](https://www.pasternack.com/60db-voltage-variable-attenuator-pin-diode-12-ghz-sma-pe70a2002-p.aspx)

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