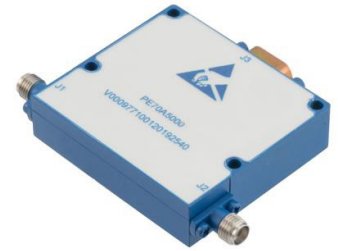


## 60 dB With 8 Bit Programmable TTL Controlled Attenuator, SMA Female To SMA Female, 0.25 dB Steps From 30 MHz To 6 GHz

### PE70A5000



#### Features

- 8 Bit Programmable 60 dB Pin Diode Attenuator
- 0.03 GHz to 6 GHz Frequency Range
- 60 dB Attenuation Range
- Step Resolution of 0.25 dB
- Insertion Loss 4 dB Max
- RF Connectors are SMA Female
- 15 Pin Micro-D Female Connector

#### Applications

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

#### Description

The PE70A5000 is a 8 Bit Programmable 60 dB Pin Diode Attenuator with Step Resolution as Low as 0.25 dB over the Operating Frequency Range from 0.03 GHz to 6 GHz. The RF Input/Output Connectors are SMA Female. Along with a 15 Pin Micro-D Female Control Socket. The unit is shipped with a Micro-D Mating Connector.

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

Description	Min	Typ	Max	Unit
Frequency Range	0.03		6	GHz
Impedance		50		Ohms
Attenuation Range	0		60	dB
Insertion Loss			4	dB
Return Loss			-8.5	dB
VSWR			2.2:1	
Power Rating			20	dBm
Survial Power Average -40 to +85 deg C				
Attenuation Flatness				
@ 10 dB		±1		dB
@ 20 dB		±1.5		dB
@ 40 dB		±3		dB
@ 60 dB		±5		dB
Accuracy of Attenuation				
0 dB to 30 dB		±1		dB
30 dB to 50 dB		±1.3		dB
50 dB to 60 dB		±1.5		dB
Step Size		0.25		dB
Switching Time		50		us
DC Voltage	10.8	±12	13.2	Volts
DC Current		155		mA
Control Bits		8		Bits

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## PE70A5000

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

Description	Min	Typ	Max	Unit
Logic Input "0" (Bit Off)	-0.3		0.8	Volts
Logic Input "1" (Bit On)	2		5	Volts

### Mechanical Specifications

#### Size

Length	2 in [50.8 mm]
Width	1.8 in [45.72 mm]
Height	0.5 in [12.7 mm]
Weight	0.147 lbs [66.68 g]
Connector 1	SMA Female
Connector 2	SMA Female

### Environmental Specifications

#### Temperature

Operating Range	-40 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 107
Salt Spray	MIL-STD-202F, METHOD 105C COND. B

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

### Plotted and Other Data

#### Notes:

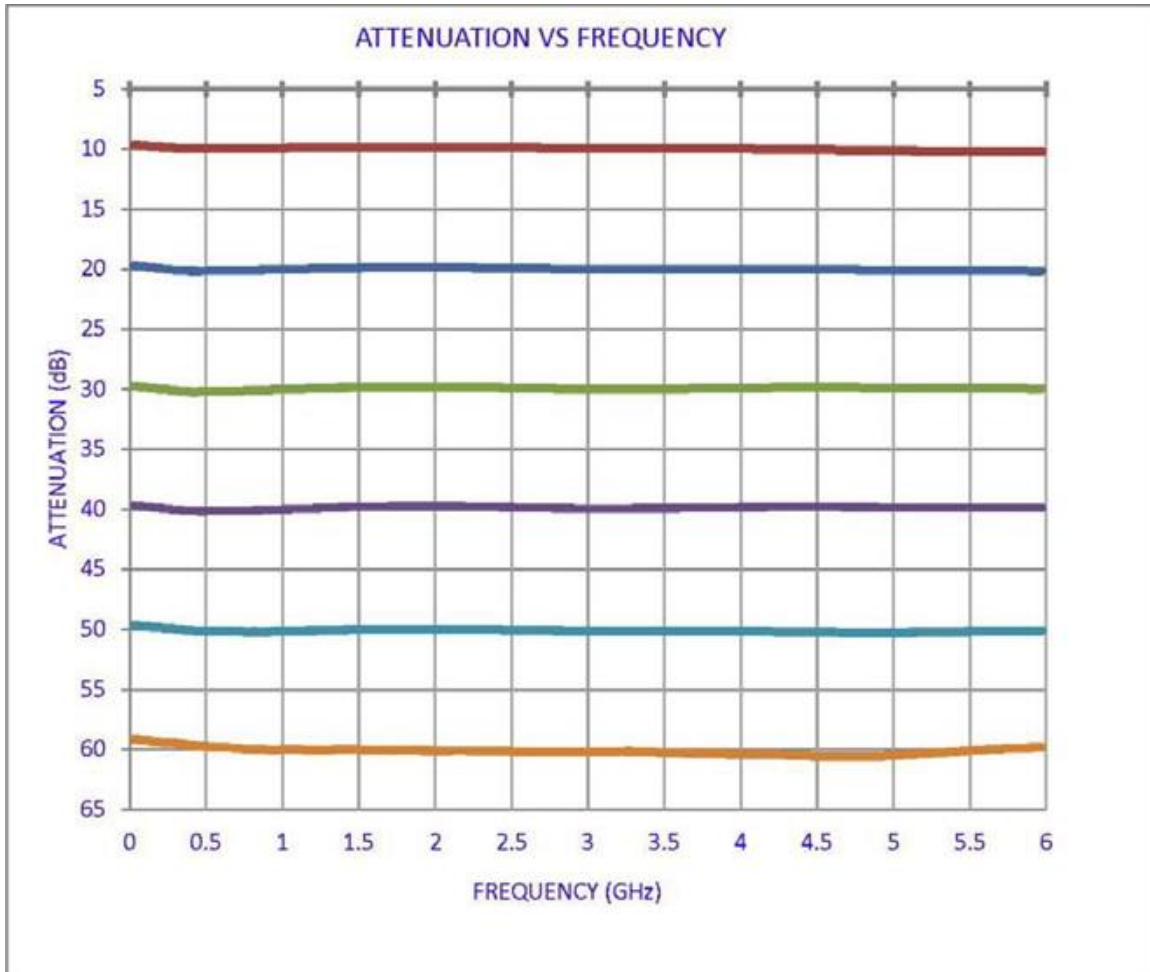
- Values at 25 °C, sea level
- ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.

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## PE70A5000

### Typical Performance Data

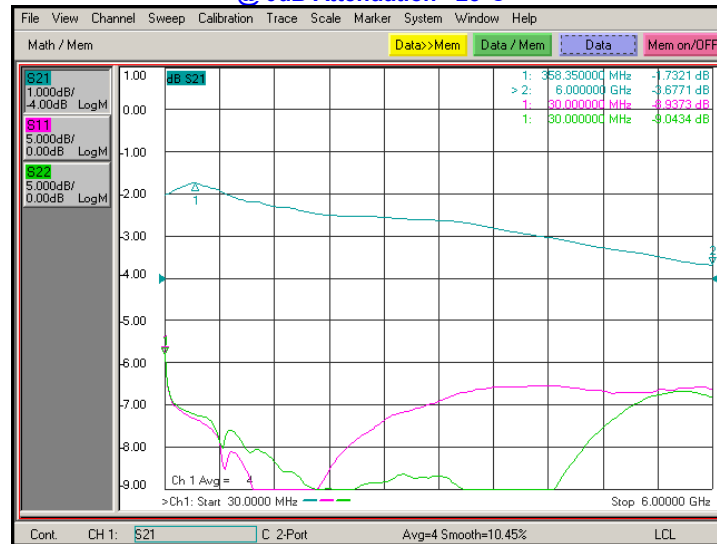


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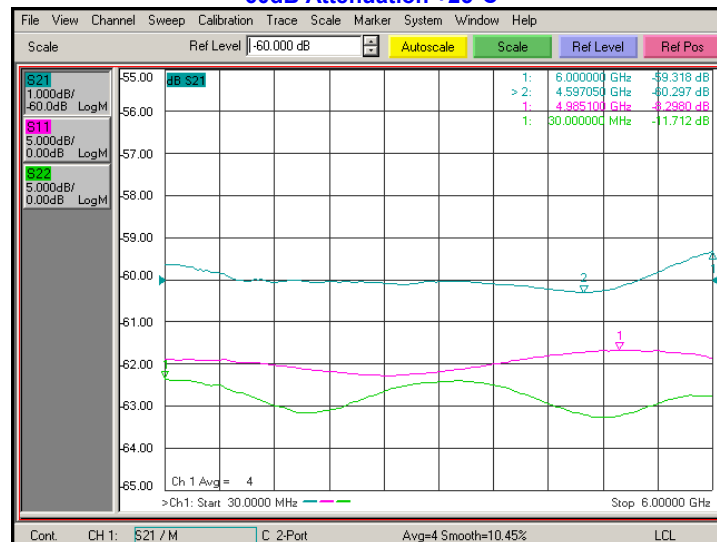


## PE70A5000

### Insertion Loss and VSWR @ 0dB Attenuation +25°C



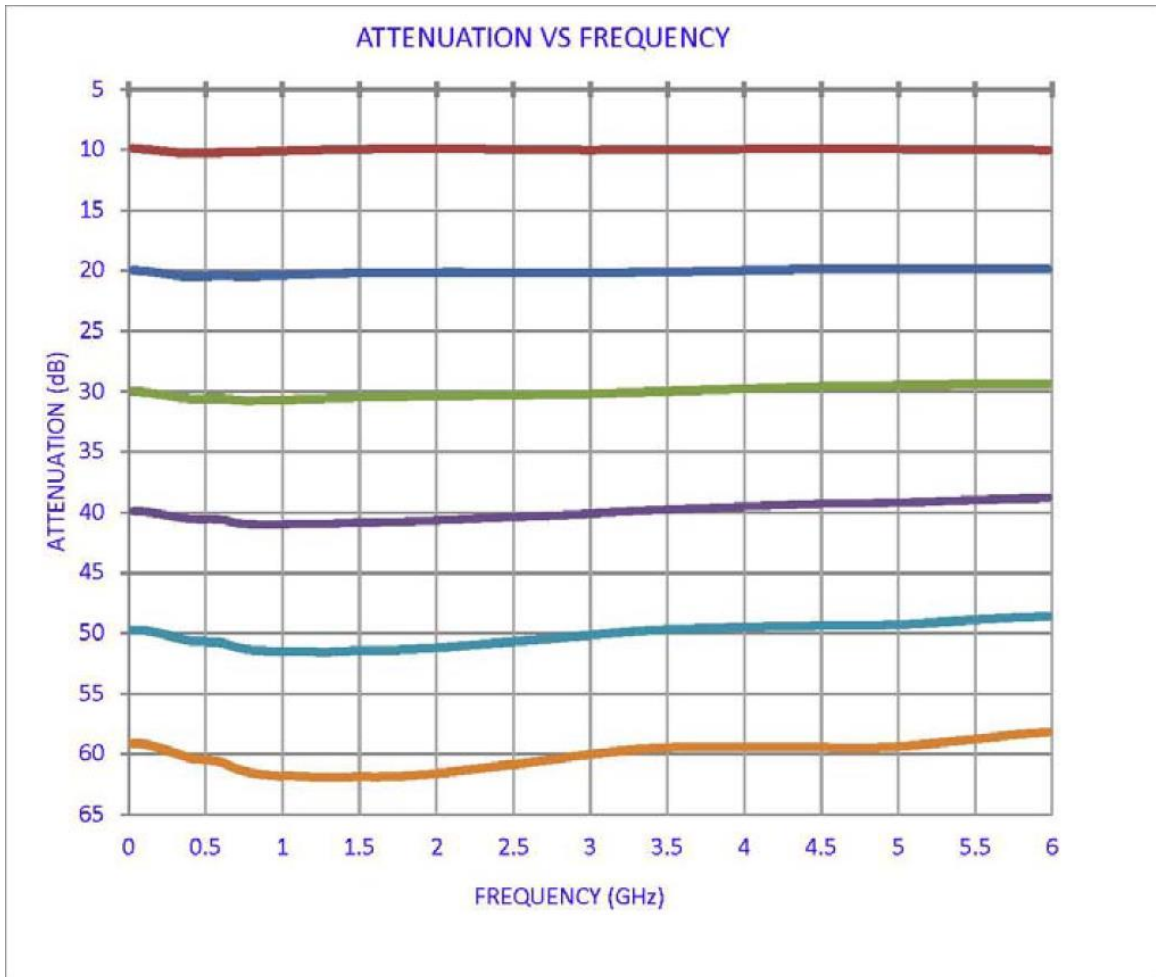
### 60dB Attenuation +25°C



60 dB With 8 Bit Programmable TTL Controlled  
Attenuator, SMA Female To SMA Female,  
0.25 dB Steps From 30 MHz To 6 GHz



## PE70A5000



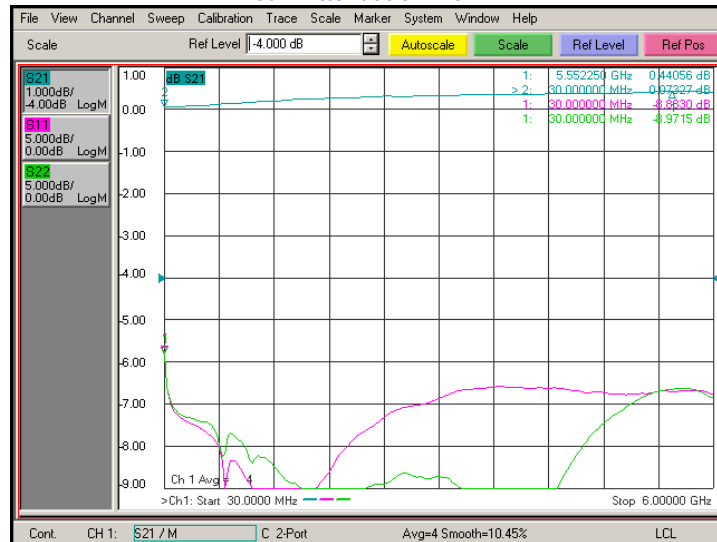
**-40°C @ 5dBm**

60 dB With 8 Bit Programmable TTL Controlled  
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## PE70A5000

0dB Attenuation -40°C



60dB Attenuation -40°C

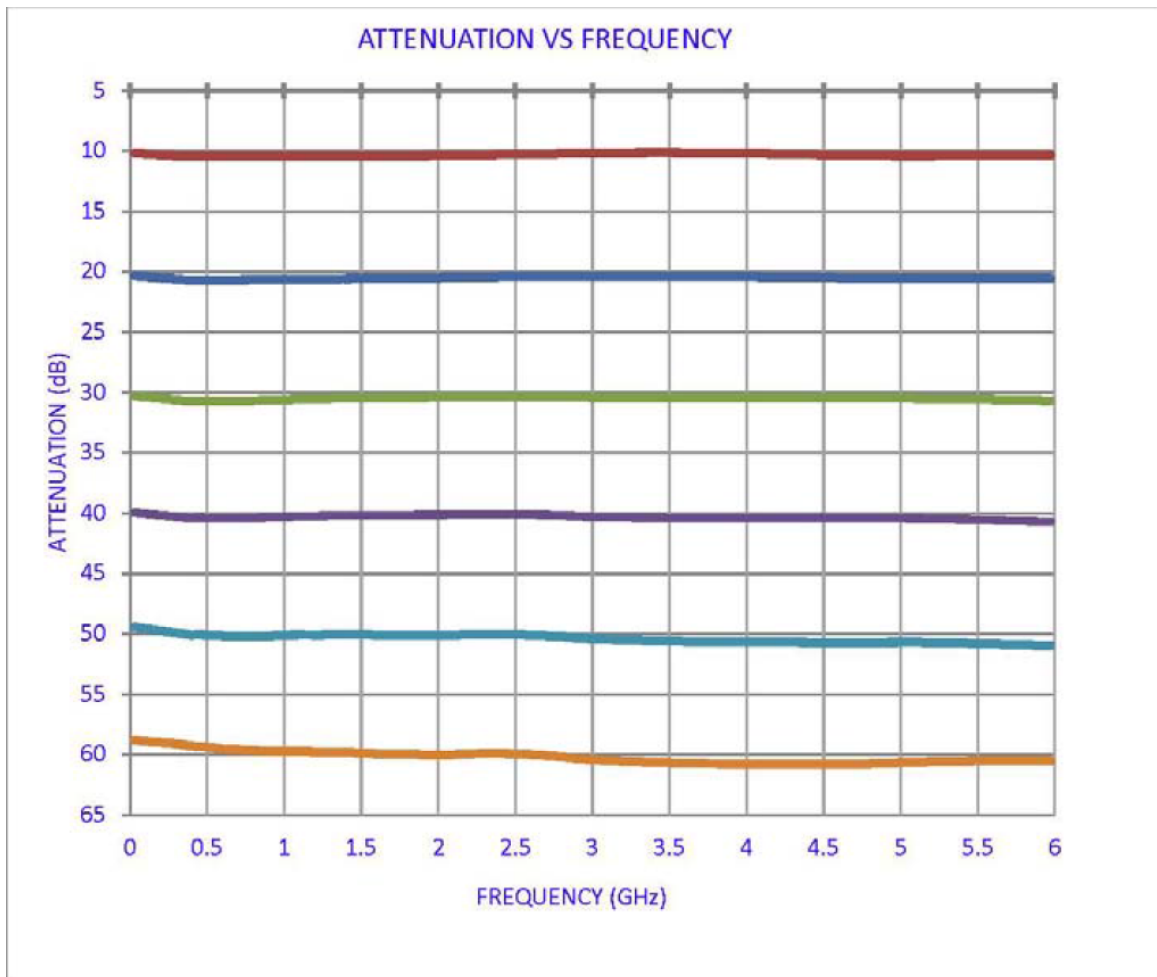


60 dB With 8 Bit Programmable TTL Controlled  
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## PE70A5000

**+85°C @ 5dBm**

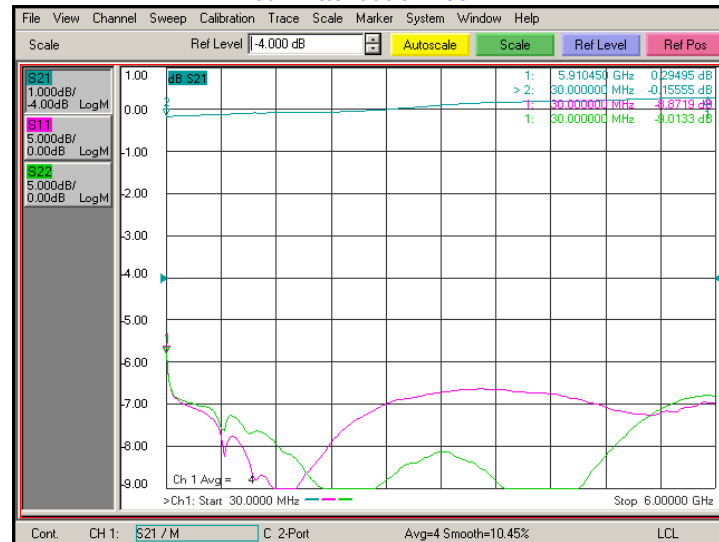


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## PE70A5000

0dB Attenuation +85°C



60dB Attenuation +85°C



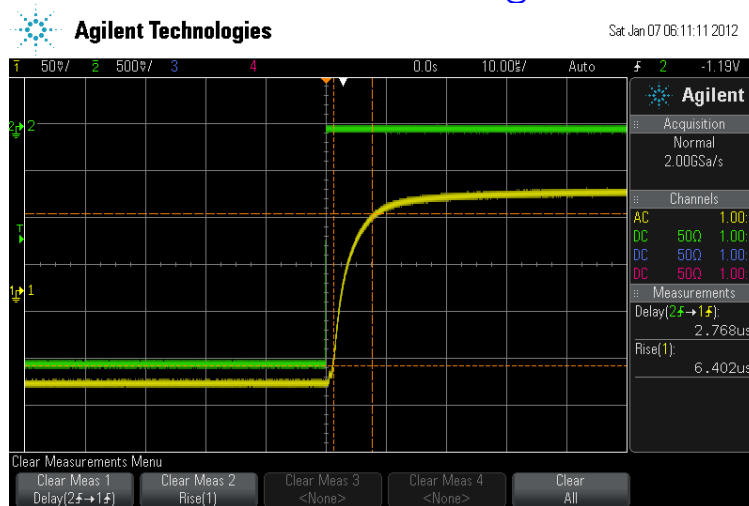


60 dB With 8 Bit Programmable TTL Controlled  
Attenuator, SMA Female To SMA Female,  
0.25 dB Steps From 30 MHz To 6 GHz

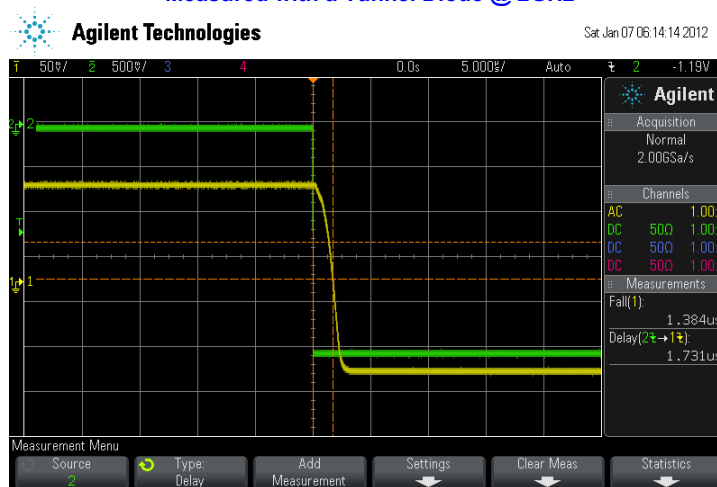


## PE70A5000

**Delay On**  
Measured with a Tunnel Diode @ 2GHz



**Delay Off**  
Measured with a Tunnel Diode @ 2GHz



**Channel 1 (Yellow):** Tunnel Diode 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: [60 dB With 8 Bit Programmable TTL Controlled Attenuator, SMA Female To SMA Female, 0.25 dB Steps From 30 MHz To 6 GHz PE70A5000](#)

URL: <https://www.pasternack.com/60db-programmable-sma-female-sma-female-0-watts-attenuator-pe70a5000-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.

PE70A5000 CAD Drawing

60 dB With 8 Bit Programmable TTL Controlled Attenuator, SMA Female

To SMA Female, 0.25 dB Steps From 30 MHz To 6 GHz

