



# 30 dB With 10 Bit Programmable TTL Controlled Attenuator, 2.4mm Female To 2.4mm Female, 0.03 dB Steps From 18 GHz To 40 GHz

## TECHNICAL DATA SHEET

PE70A6001

The PE70A6001 is 10 Bit Programmable 30 dB Pin Diode Attenuator with Step Resolution as Low as 0.03 dB over the Operating Frequency Range from 18 GHz to 40 GHz. The PE70A6001 is offered in a slim line housing measuring only 0.5" Height. The RF Input/Output Connectors are 2.4mm Female. Along with a 15 Pin Micro-D Female Control Socket. The unit is shipped with a Micro-D Mating Connector.

### Features

- 10 Bit Programmable 30 dB Attenuator
- 18 GHz to 40 GHz Frequency Range
- 30 dB Attenuation Range
- Step Resolution of 0.03 dB
- +10 dBm typ P1dB
- Insertion Loss 6 dB typ
- VSWR 2.5:1 Max
- RF Connectors are 2.4mm Female
- 15 Pin Micro-D Female Connector

### Applications

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

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

Description	Minimum	Typical	Maximum	Units
Frequency Range	18		40	GHz
Mean Attenuation Range	0		30	dB
Input VSWR			2.5:1	
Power Rating			+24	dBm
Input at 1 dB Compression Point		+15		dBm
Survival Power Average from -65 to +25 deg C			+24	dBm
Attenuation Flatness @ 30 dB		±1.5		dB
Accuracy of Attenuation 0 dB to 30 dB		±2		dB
Step Size	0.03			dB
Switching Time				
On Time			1	µs
Off Time			0.5	µs
Logic Input				
Logic "0" (Bit Off)	-0.3		0.8	Volts
Logic "1" (Bit On)	2		5	Volts

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [30 dB With 10 Bit Programmable TTL Controlled Attenuator, 2.4mm Female To 2.4mm Female, 0.03 dB Steps From 18 GHz To 40 GHz PE70A6001](#)



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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	0.142 lbs [64.41 g]
Connector 1	2.4mm Female
Connector 2	2.4mm 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 Cycling	MIL-STD-202F, METHOD 107
Salt Spray	MIL-STD-202F, METHOD 105C COND. B

### Compliance Certifications (visit [www.Pasternack.com](http://www.Pasternack.com) for current document)

Not RoHS Compliant	
REACH Compliant	12/17/2014

### 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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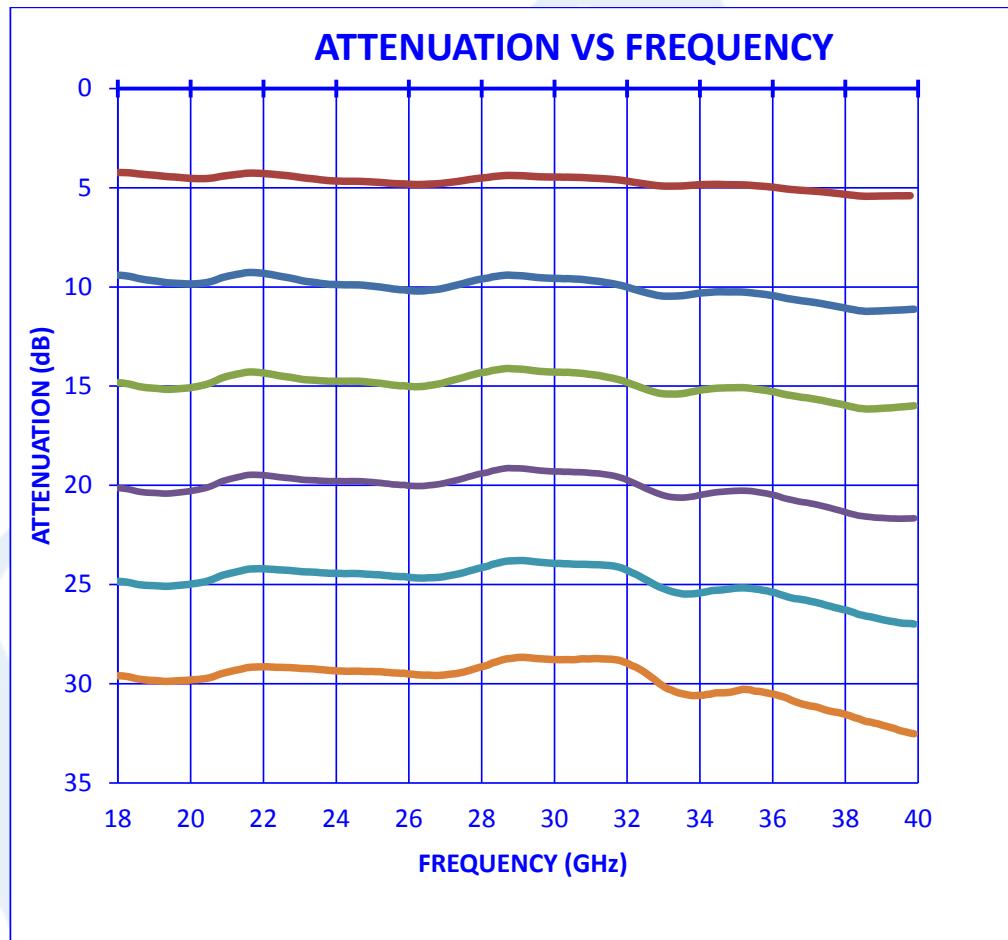
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### Performance Data

#### Attenuation vs. Frequency Plot



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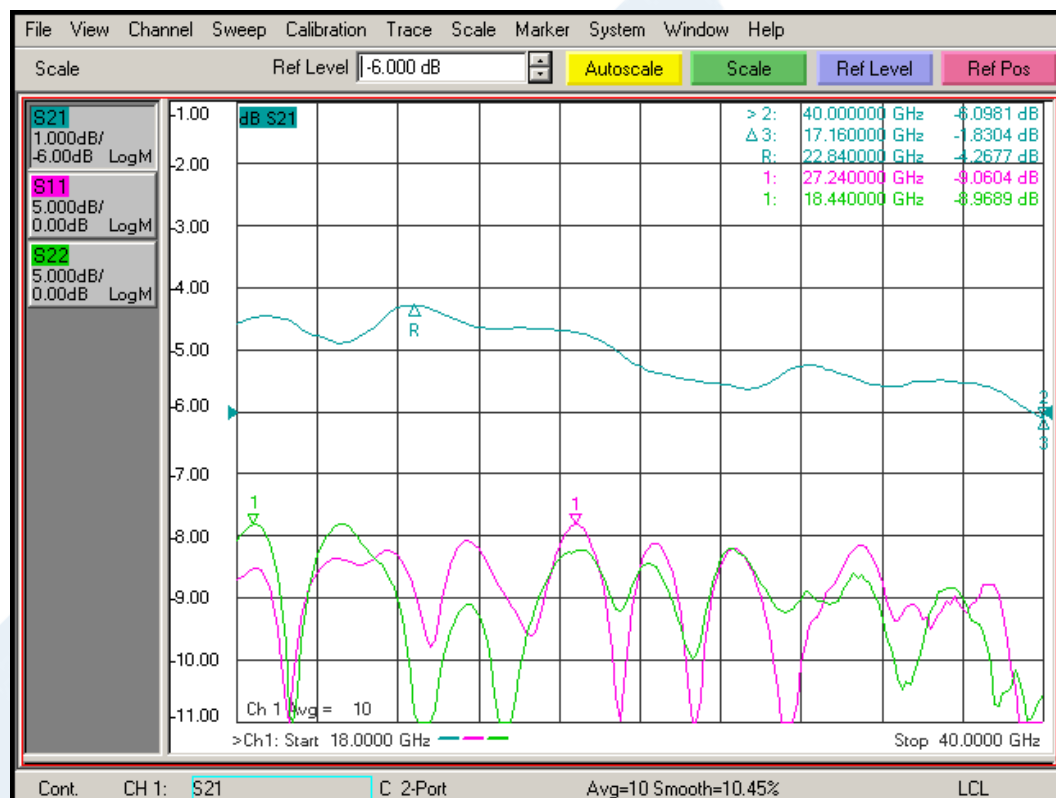


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### Insertion Loss & Return Loss



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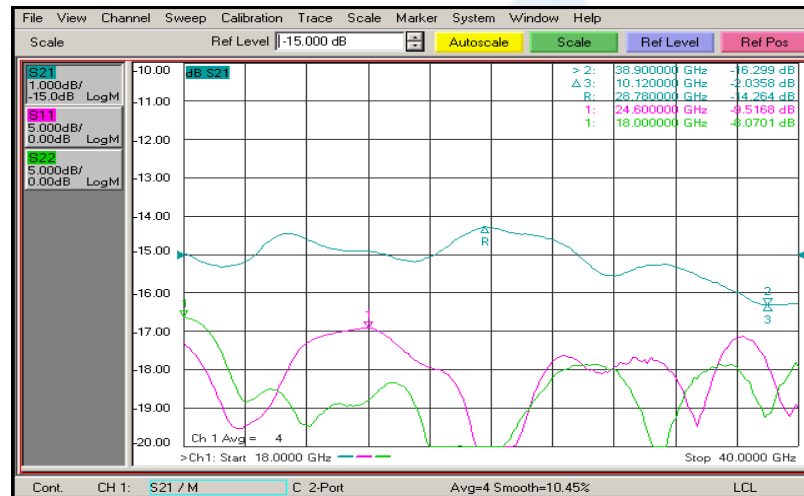


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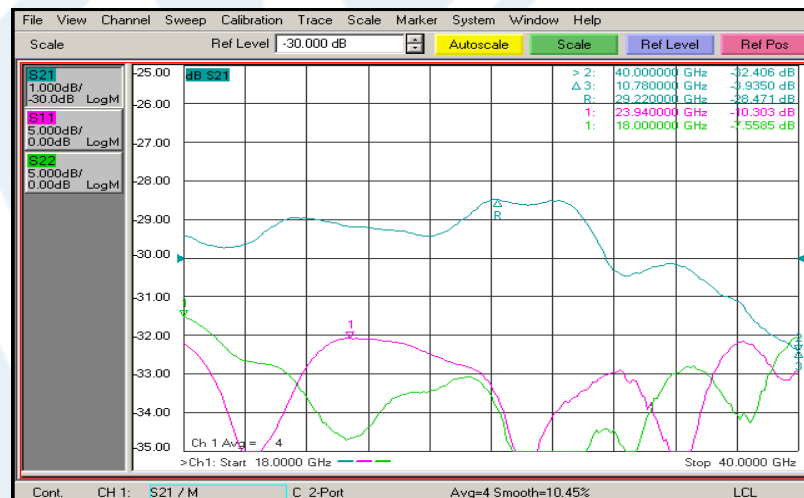
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### -15dB Attenuation



### -30dB Attenuation



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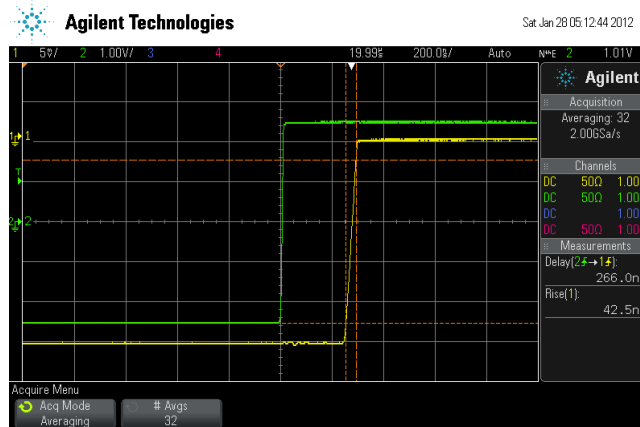


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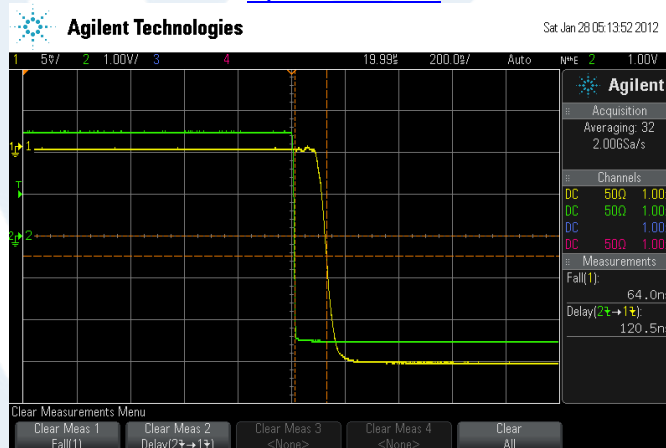
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Delay On  
Measured with a Tunnel Diode @ 30GHz  
Input Power @ -5dBm



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

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Measured with a Tunnel Diode @ 30GHz  
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30 dB With 10 Bit Programmable TTL Controlled Attenuator, 2.4mm Female To 2.4mm Female, 0.03 dB Steps From 18 GHz To 40 GHz from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

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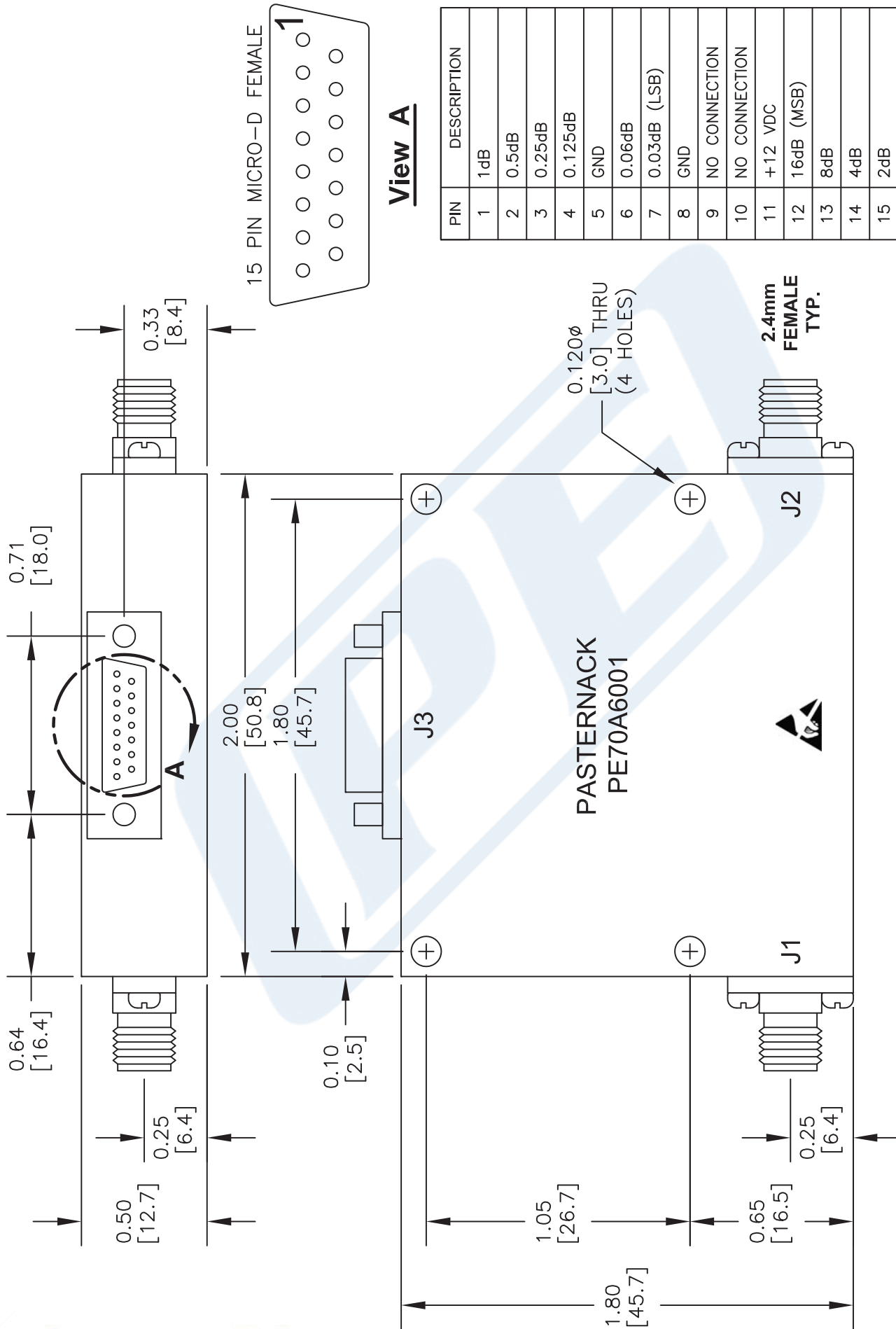
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. 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.



# PE70A6001 CAD Drawing

30 dB With 10 Bit Programmable TTL Controlled Attenuator, 2.4mm  
Female To 2.4mm Female, 0.03 dB Steps From 18 GHz To 40 GHz



## View A

PIN	DESCRIPTION
1	1dB
2	0.5dB
3	0.25dB
4	0.125dB
5	GND
6	0.06dB
7	0.03dB (LSB)
8	GND
9	NO CONNECTION
10	NO CONNECTION
11	+12 VDC
12	16dB (MSB)
13	8dB
14	4dB
15	2dB

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  
**PE70A6001**

**PE PASTERNAK**  
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FSCM NO. 53919

CAD FILE 052115

SCALE N/A

SIZE A

2233