

## TTL Controlled Programmable Attenuator, 31.75 dB, from 30 MHz to 3 GHz, 0.25 dB Steps, SMA Female



### PE70A5004

#### Features

- 7 Bit Programmable Attenuator
- 30 to 3000 MHz Bandwidth
- 0-31.25 dB attenuation
- 0.25 dB Step Size
- 50 Ohms
- Switching Speed: 0.7 microseconds typ
- Insertion Loss: 2.5 dB max
- Attenuation Accuracy: +/- 0.5 dB typ
- DC Bias: +5 Vdc @ 50 mA
- SMA female connectors

#### Applications

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

#### Description

The PE70A5004 is a 7 Bit Programmable Attenuator which operates over the frequency range of 30 MHz to 3000 MHz. The 50 ohm design supports TTL control logic and has an attenuation range that covers 0 to 31.25 dB in 0.25 dB steps. Attenuation steps are 0.25, 0.5, 1, 2, 4, 8, and 16 dB. Insertion loss is 2.5 dB maximum with a maximum operating RF input power +20 dBm. Additional typical performance includes +/- 0.5 dB attenuation accuracy and switching speed of 0.7 microseconds. The DC supply is +5 Vdc @ 50 mA. The compact and rugged package design supports SMA female RF input/output connectors, and a 10 pin male connector socket for DC and TTL controls. A mating DC cable connector plug assembly (model PE3C4220-24) is available in stock as an accessory. The PE70A5004 has an operational temperature range of -40°C to +85°C.

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

Description	Min	Typ	Max	Unit
Frequency Range	0.03		3	GHz
Impedance		50		Ohms
Attenuation Range	0		31.75	dB
Insertion Loss			2.5	dB
VSWR			1.9:1	
Survival Power Average -40 to +85 deg C			+25	dBm
Power Handling Capacity			+20	dBm
Accuracy of Attenuation				
0.25 dB to 3.75 dB		±0.1		dB
4 dB to 7.75 dB		±0.25		dB
8 dB to 31.75 dB		±0.5		dB
Step Size		0.25		dB
Switching Time		1		us
Logic Input "0" (Bit Off)	0		1.5	Volts
Logic Input "1" (Bit On)	2		5	Volts

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### Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	0.03-0.03	0.03-3				GHz
Insertion Loss, Typ	1.3	2.2				dB

#### Electrical Specification Notes:

0.25, 0.5, 1, 2, 4, 8, and 16 dB bit Steps

### Mechanical Specifications

#### Size

Length	0 in [0 mm]
Width	0 in [0 mm]
Height	0 in [0 mm]
Weight	0.183 lbs [83.01 g]
Connector 1	SMA Female
Connector 2	SMA Female

### Environmental Specifications

#### Temperature

Operating Range	-40 to +85 deg C
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**Compliance Certifications** (see [product page](#) for current document)

### Plotted and Other Data

#### Notes:

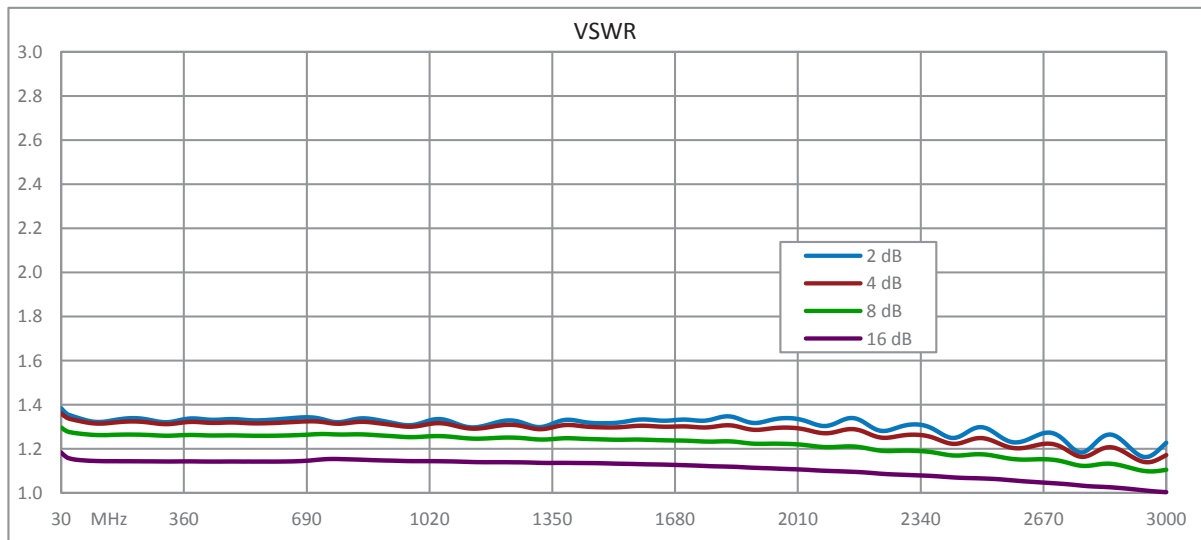
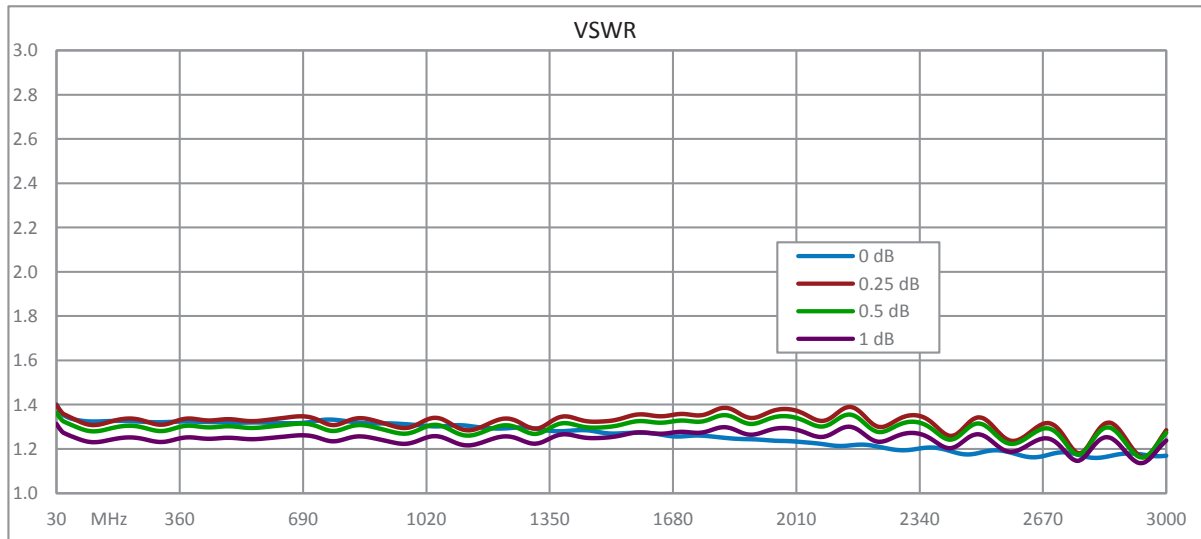
- Values at 25 °C, sea level
- ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.

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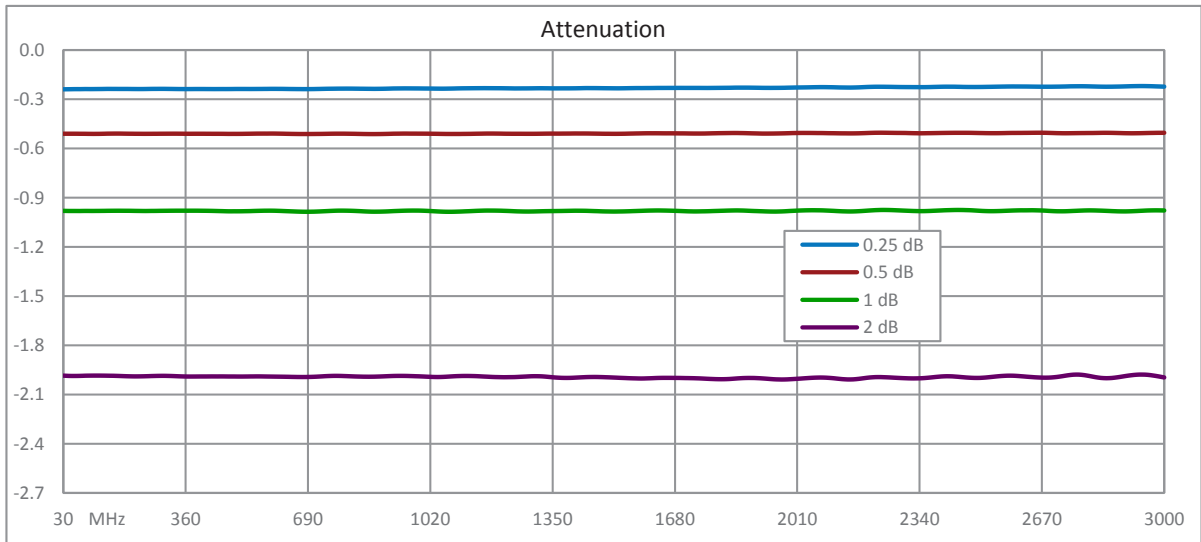
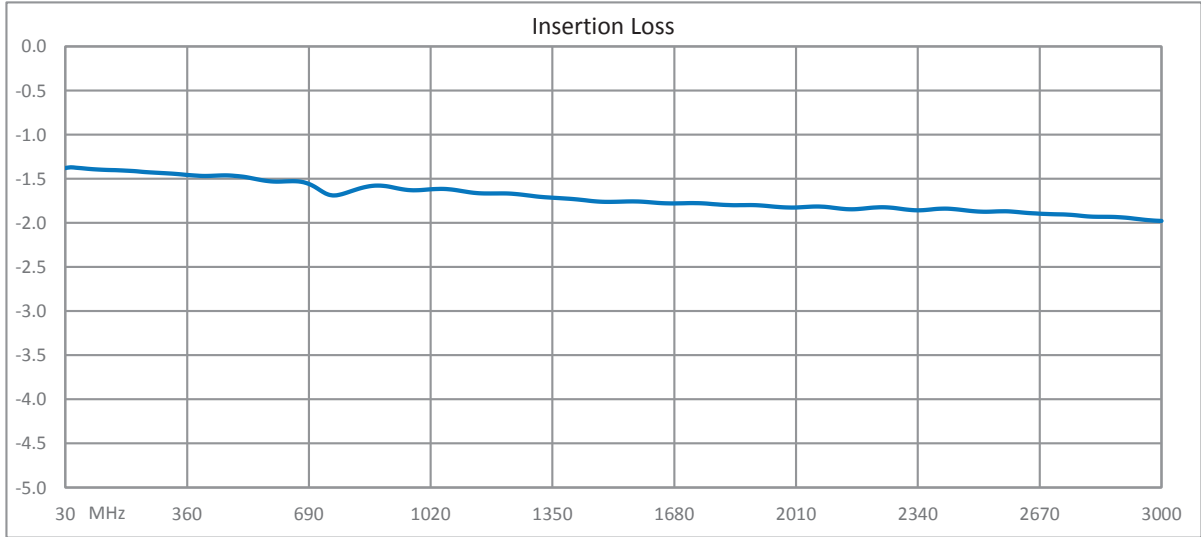
## PE70A5004

### Typical Performance Data



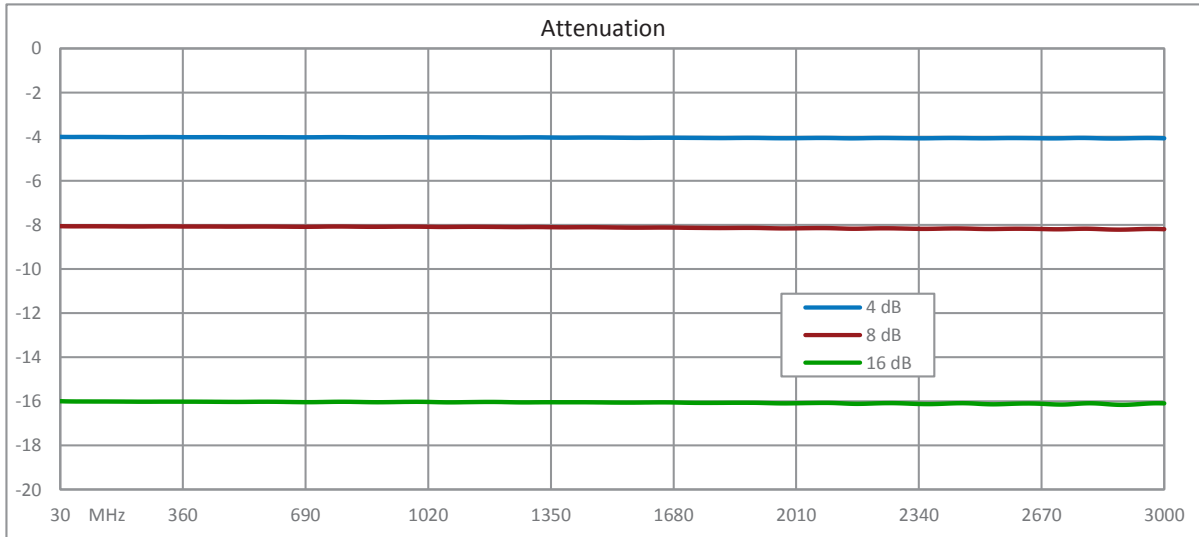
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TTL Controlled Programmable Attenuator, 31.75 dB, from 30 MHz to 3 GHz, 0.25 dB Steps, SMA Female from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% 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: [TTL Controlled Programmable Attenuator, 31.75 dB, from 30 MHz to 3 GHz, 0.25 dB Steps, SMA Female PE70A5004](https://www.pasternack.com/31.75db-ttl-controlled-sma-female-sma-female-0-watts-attenuator-pe70a5004-p.aspx)

URL: <https://www.pasternack.com/31.75db-ttl-controlled-sma-female-sma-female-0-watts-attenuator-pe70a5004-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.

# PE70A5004 CAD Drawing

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**DETAIL A**

4-40 X .25 DP  
2-PLACES  
BOTH ENDS

1.25  
[31.75]  
O.C.

.125  
[3.18]

SMA FEMALE  
2-PLACES

.23  
[5.84]

.50  
[12.70]

2.50  
[63.50]

1.75  
[44.45]

.48  
[12.19]

**DETAIL A**

T&B #609-1057

PIN	FUNCTION
1	.25dB TTL CONT.
2	.5dB TTL CONT.
3	1dB TTL CONT.
4	2dB TTL CONT.
5	4dB TTL CONT.
6	8dB TTL CONT.
7	16dB TTL CONT.
8	NO CONNECTION
9	DC SUPPLY
10	GROUND

**STANDARD TOLERANCES**

.X ±0.2

.XX ±0.1

.XXX ±0.05

\*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

**NOTES:**

- UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
- ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
- DIMENSIONS ARE IN INCHES (mm).

**DWG TITLE**  
**PE70A5004**

**CAGE CODE** 53919

**CAD FILE** 040317

**SCALE** N/A

**SIZE** A

**CN\_1408**

**STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES**

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Pasternack Enterprises, Inc.  
P.O. Box 16759 | Irvine | CA | 92623

**Phone:** (949) 261-1920 | **Fax:** (949) 261-7451  
**Website:** www.pasternack.com | **E-Mail:** sales@pasternack.com