



6 Bit Relay Controlled Programmable Attenuator,
63 dB, DC to 2500 MHz, 1 dB Steps, 100W
peak power, TTL, +12V, SMA Female

TECHNICAL DATA SHEET

PE70A8013

The PE70A8013 is a 6 Bit Relay Controlled High Power Programmable Attenuator that operates over the frequency range of DC to 2500 Mhz. The 50 ohm design has an attenuation range that covers 0 to 63 dB in 1 dB steps. Attenuation steps are 1, 2, 4, 8, 16, and 32 dB. The PE70A8013 features an external TTL controlled driver printed circuit board. Insertion loss is 2 dB typical with a maximum RF input power rating of 0.5 Watts average and 100 Watts peak. Additional typical performance includes +/- 0.25 dB attenuation accuracy and switching speed of 6 milliseconds. Operational temperature range is -40°C to +85°C, and the DC supply is +12 Vdc @ 15 mA for 1, 2, 4, 8, and 16 dB steps, and +12V @ 60 mA for 32 dB. 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.

Features

- 6 Bit Relay Controlled High Power Programmable Attenuator
- Frequency Range DC to 2500 MHz
- Attenuation Range: 0 to 63 dB in 1 dB steps
- Attenuation Steps: 1, 2, 4, 8, 16, and 32 dB
- Integrated TTL Controlled Driver Board
- Insertion Loss 2 dB typ
- Attenuation Accuracy +/- 0.25 dB typ
- Switching Speed 6 milliseconds typ
- Max RF Input Power 0.5 Watts Average and 100 Watts Peak
- DC Voltage +12 Vdc
- 50 Ohm Design
- -40°C to +85°C Operating Temperature
- SMA Female Connectors
- 10 Pin Make Connector Socket for DC and TTL controls
- Rugged Mil Grade Package Design

Applications

- Military & Commercial Communication Systems
- Radar Systems
- Test & Measurement
- Research & Development
- RF Wideband Front Ends
- Microwave Radio Systems

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

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		2.5	GHz
Impedance		50		Ohms
Mean Attenuation Range	0		63	dB
Insertion Loss		2	3.9	dB
VSWR		1.4:1	1.6:1	
Step Size	1			dB
Switching Time			6	ms

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [6 Bit Relay Controlled Programmable Attenuator, 63 dB, DC to 2500 MHz, 1 dB Steps, 100W peak power, TTL, +12V, SMA Female PE70A8013](#)



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Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC to 0.5	0.5 to 1	1 to 2.5			GHz
Insertion Loss, Typ	1	1.7	3.5			dB

Electrical Specification Notes:
TTL Low for thru path
TTL High for Attenuation

Attenuation by Frequency

Description	Typical	Maximum	Units
RF Input Power (Average)		0.5	Watts
RF Input Power (Peak)		100	Watts
DC Voltage 1 (1, 2, 4, 8, and 16 dB pads)	+12		Vdc
DC Current 1 (1, 2, 4, 8, and 16 dB pads)	15		mA
DC Voltage 2 (32dB pad)	+12		Vdc
DC Current 2 (32dB pad)	60		mA
Accuracy of Attenuation (1, 2, 4, 8, 16, and 32 dB pads)	DC-1000 MHz	± 0.2	dB
	1000-2500 MHz	± 0.3	dB

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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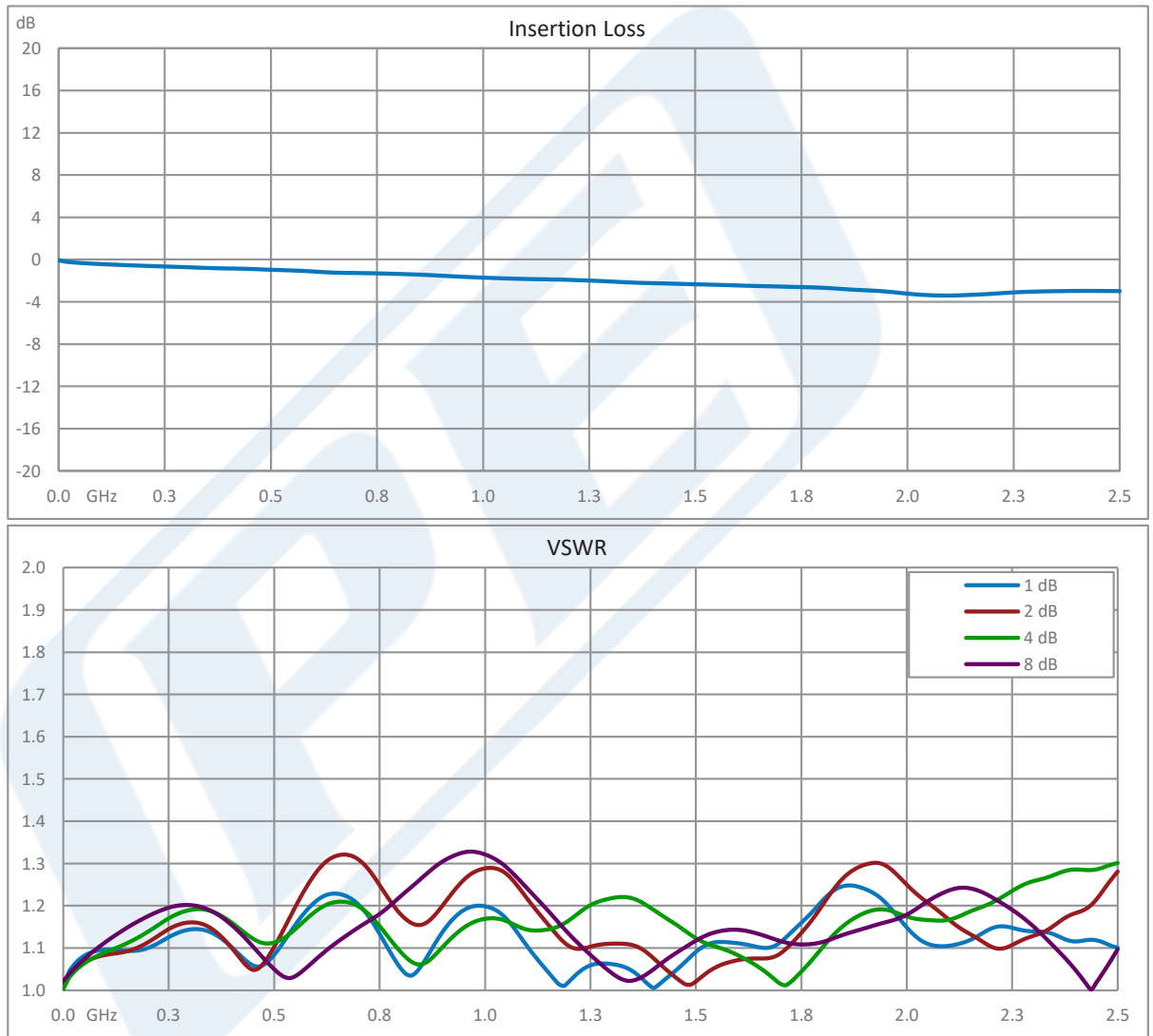


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Performance Data



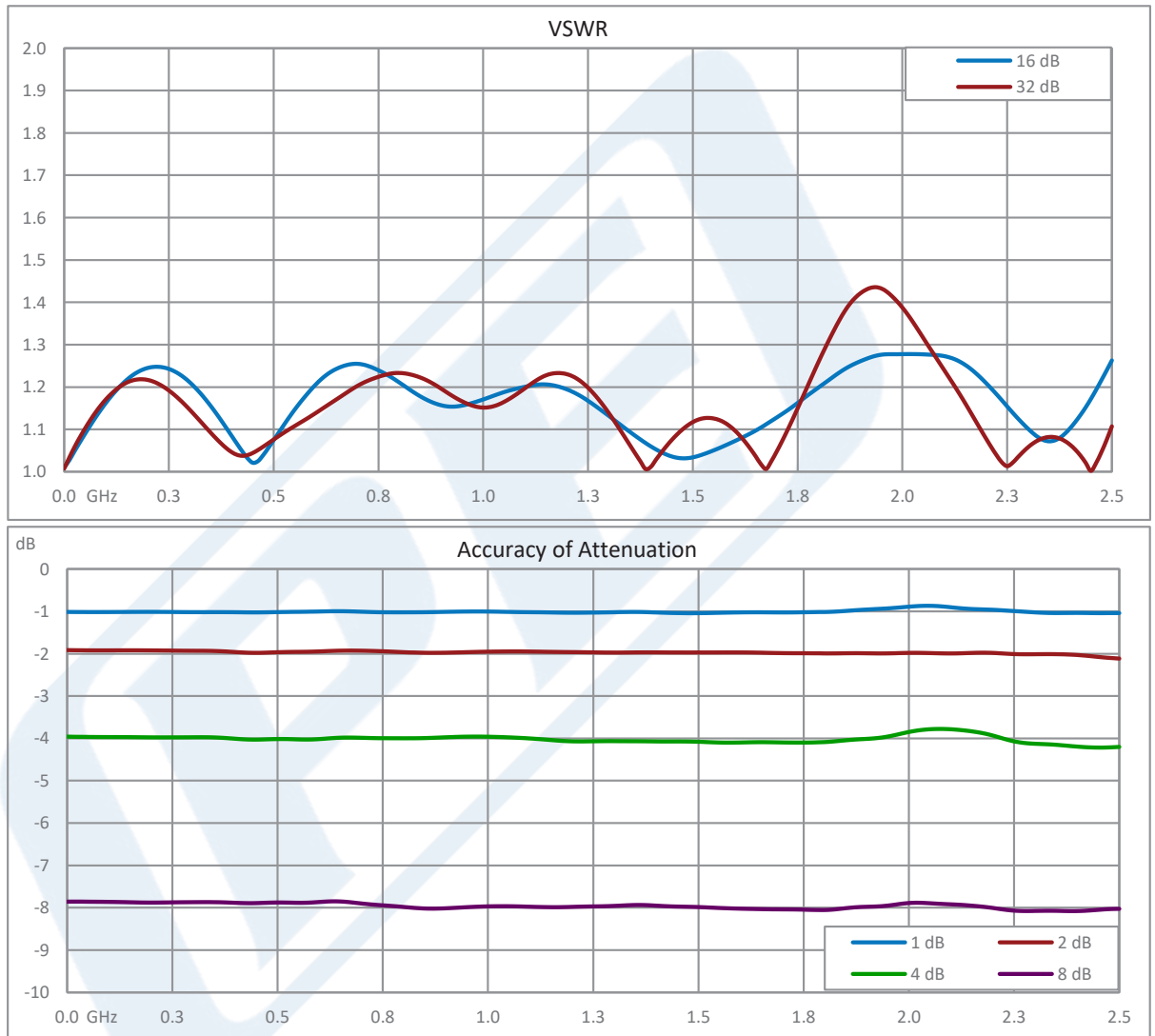
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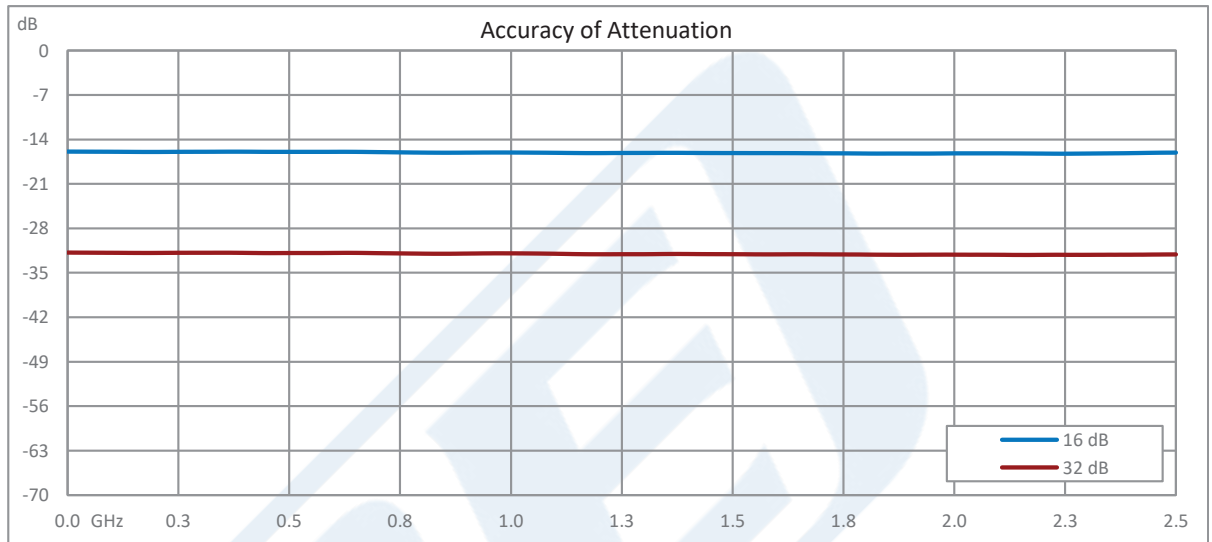
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6 Bit Relay Controlled Programmable Attenuator, 63 dB, DC to 2500 MHz, 1 dB Steps, 100W peak power, TTL, +12V, SMA Female from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave 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: [6 Bit Relay Controlled Programmable Attenuator, 63 dB, DC to 2500 MHz, 1 dB Steps, 100W peak power, TTL, +12V, SMA Female PE70A8013](https://www.pasternack.com/63db-relay-controlled-sma-female-sma-female-24-watts-attenuator-pe70a8013-p.aspx)

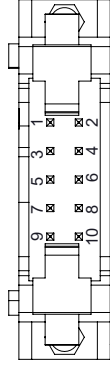
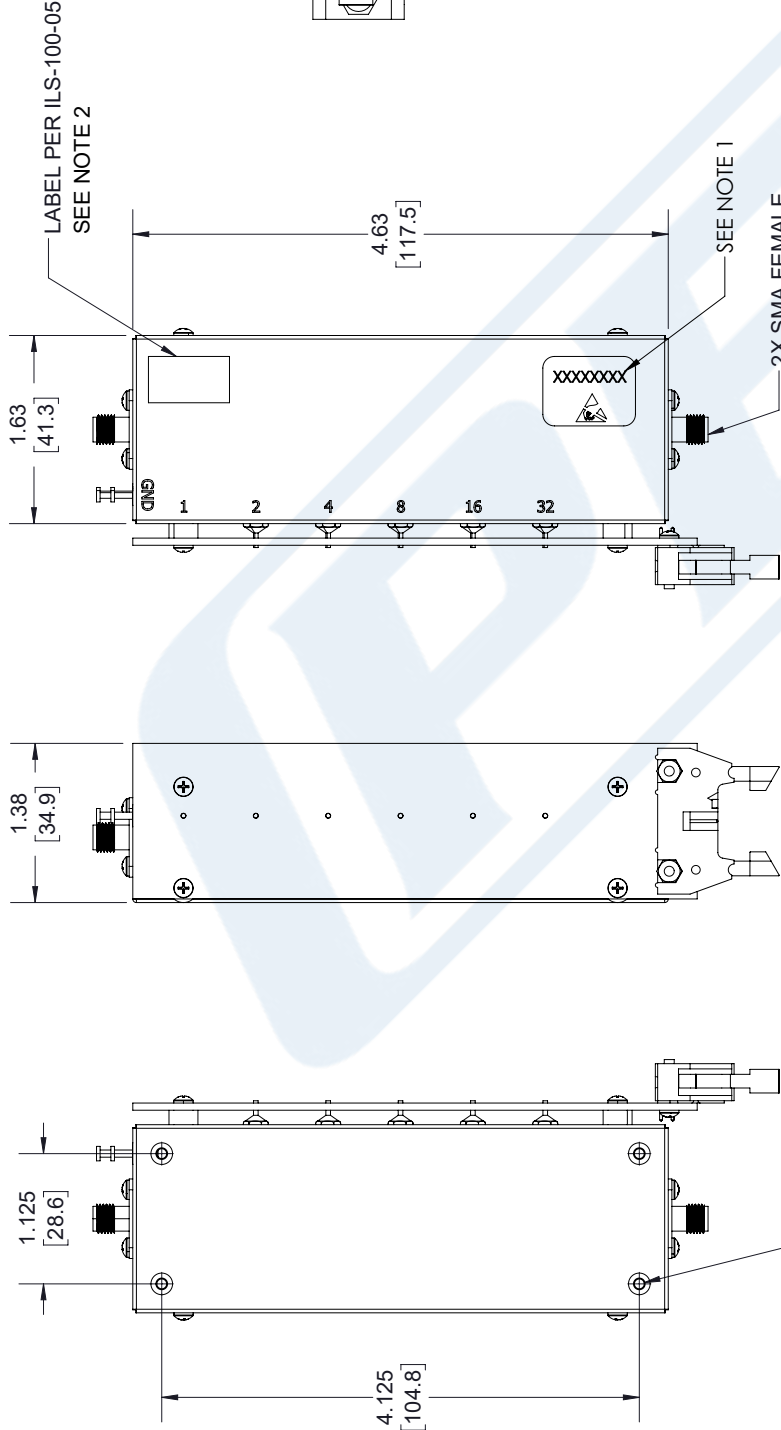
URL: <https://www.pasternack.com/63db-relay-controlled-sma-female-sma-female-24-watts-attenuator-pe70a8013-p.aspx>

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PE70A8013 CAD Drawing

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	14-08-2021	TGALLA



DETAIL A
3M #3793-5303

PIN	FUNCTION
1	1dB TTL CONT.
2	2dB TTL CONT.
3	4dB TTL CONT.
4	8dB TTL CONT.
5	16dB TTL CONT.
6	32dB TTL CONT.
7	NO CONNECTION
8	NO CONNECTION
9	GROUND
10	+VDC

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THIRD-ANGLE PROJECTION

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SHEET 1 OF 1
SCALE N/A

UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS

TOLERANCES:

.X = ±.2	[5.08]	FRACTIONS
.XX = ±.02	[.51]	± 1/32
.XXX = ±.005	[.13]	ANGLES ± 1°

CABLE LENGTH (L) TOLERANCES:

L ≤ 12	[305]	= +1 [25] / -0
12 [305] < L ≤ 60	[1524]	= +2 [51] / -0
60 [1524] < L ≤ 120	[3048]	= +4 [102] / -0
120 [3048] < L ≤ 300	[7620]	= +6 [152] / -0
300 [7620] < L =	+5%L	/ -0

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

- NOTES:
- SERIAL NUMBER AND DATE CODE ARE COMBINED. EX: 202008280001.
 - LABEL PER ILS-100-05. FOR INTERNAL REFERENCE ONLY. LABEL LOCATION SHOULD BE SAME AS SHOWN.

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