

18 GHz to 26 GHz Absorptive Voltage Control Attenuator, 30 dB, Field Replaceable SMA

TECHNICAL DATA SHEET

PE70A2008

The PE70A2008 is a Reflective Analog Voltage Variable Attenuator module that operates across a frequency range from 18 GHz to 26 GHz and supports a single voltage control of 0V to 10V with 20 mA of DC Current. The 50 ohm circuit design uses a reflective topology and offers an attenuation range from 0 to 30 dB across the full frequency band. Impressive typical performance includes 1.5 dB insertion loss, a P0.1dB compression point of +30 dBm, input IP3 of 43 dBm, switching speed of < 2.5 usec, and a maximum RF input power level of +30 dBm. The low profile miniature pin package is Copper with gold plating and supports field replaceable SMA RF connectors and solder pins for DC control. With the connectors removed, the package can be drop mounted onto a PWB. The module has an operational temperature range from -40°C to +85°C and is guaranteed to meet a series of environmental test conditions for Altitude, Vibration, Humidity, and Shock.

Features

- Reflective Voltage Controlled Attenuator
- 18 GHz to 26 GHz
- Attenuation Range 0 to 30 dB typ
- Insertion Loss 1.5 dB- typ
- P0.1 dB Compression Power +30 dBm typ
- Input IP3 43 dBm typ
- Switching Speed < 2.5 usec
- Max RF Input Power +30 dBm
- Control Voltage 0V to 10V
- 50 Ohm Circuit Design uses a Reflective Topology
- Field Replaceable SMA Female RF Connectors
- Solder Pins for DC Control
- Operational Temperature Range -40°C to +85°C
- Rugged and Compact Aluminum Gold Plated Package Design
- Guaranteed Environmental Test Conditions Altitude, Vibration, Humidity, Shock
- Single Control Voltage

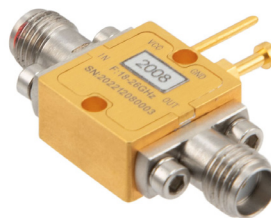
Applications

- Test & Measurement
- Military and Commercial Communications
- Military Electronic Systems
- Research & Development

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

Description	Minimum	Typical	Maximum	Units
Frequency Range	18		26	GHz
Attenuation Range		30		dB
Insertion Loss		1.5	2.2	dB
VSWR		1.8:1	2:1	
RF Input Power		+30	30	dBm
Input at 0.1 dB Compression Point		+30		dBm
Switching Speed			2.5	us
Control Voltage		0 to 10		Volts
DC Current		20		mA
Impedance		50		Ohms
Input IP3		43		dBm
IL Temperature Coefficient		0.003		dB/deg C

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Absolute Maximum Rating

Parameter	Rating
Control Voltage	0~ 13V
RF Input power	+30dBm

Mechanical Specifications

Size

Length	0.55 in [13.97 mm]
Width	0.28 in [7.11 mm]
Height	0.51 in [12.95 mm]

Weight

0.05 lbs [22.68 g]

Input Connector

Field Replaceable SMA Female

Output Connector

Field Replaceable SMA Female

Power and Control

Solder Pin

Environmental Specifications

Temperature

Operating Range

-40 to +85 deg C

Storage Range

-50 to +105 deg C

Humidity

100% RH at 35°C, 95% RH at 40°C

Shock

20G for 11 msec half sine wave, 3 axis both directions

Vibration

25g RMS (15 degrees 2KHz) endurance, 1 hour per axis

Altitude

30,000 Feet

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

Plotted and Other Data

Notes:

- Values at +25 °C, sea level

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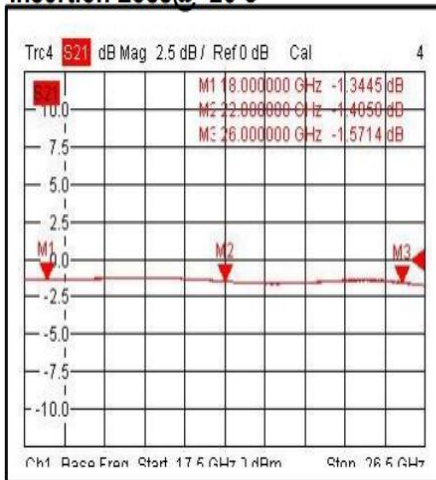
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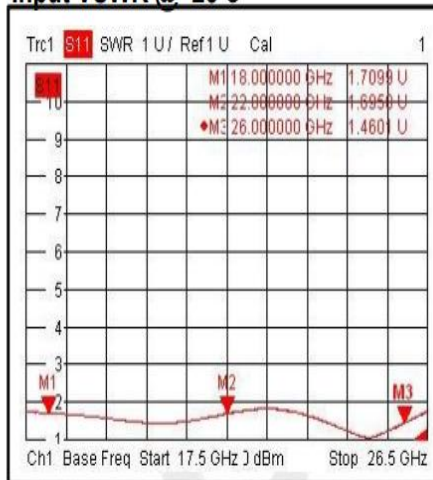
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Performance Data

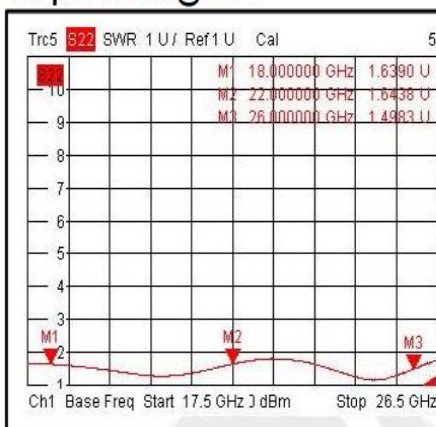
Insertion Loss @ +25°C



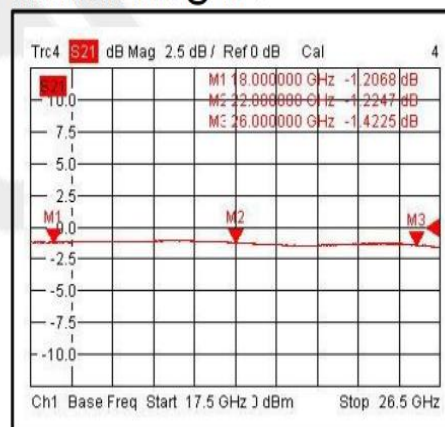
Input VSWR @ +25°C



Output VSWR @ +25°C



Insertion Loss @ -40°C



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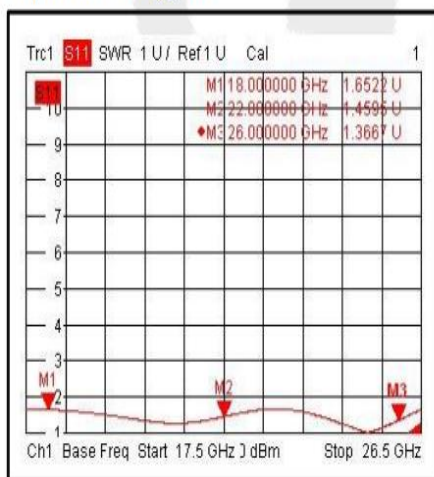


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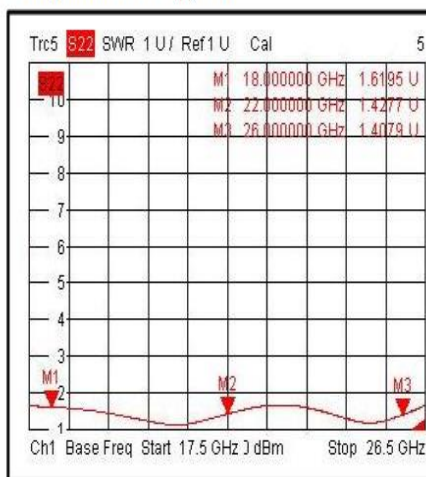
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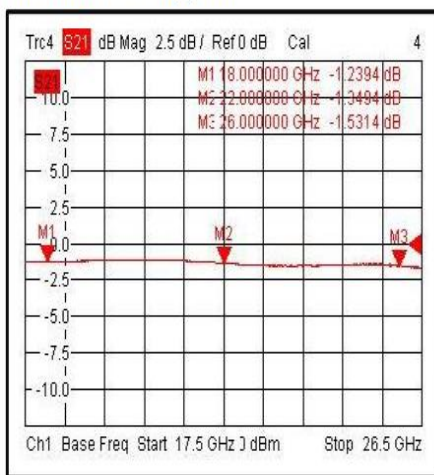
Input VSWR @-40°C



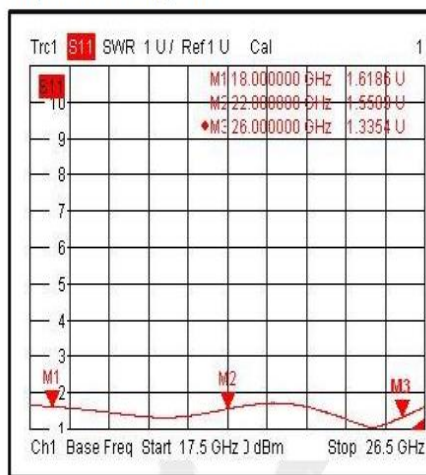
Output VSWR @-40°C



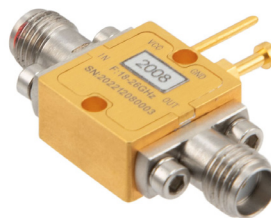
Insertion Loss @+85°C



Input VSWR @+85°C



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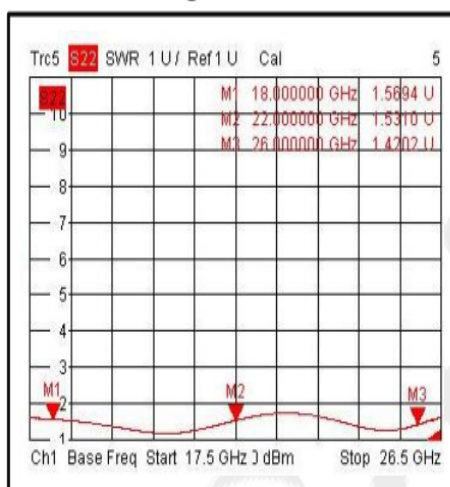


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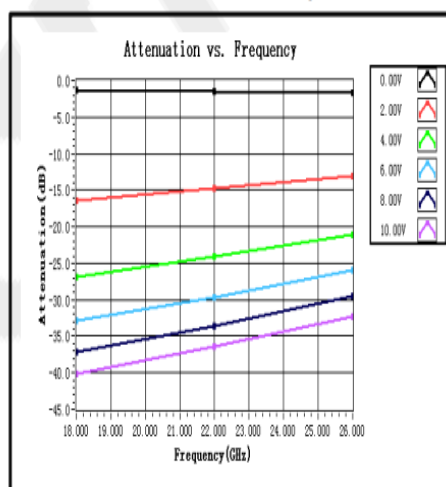
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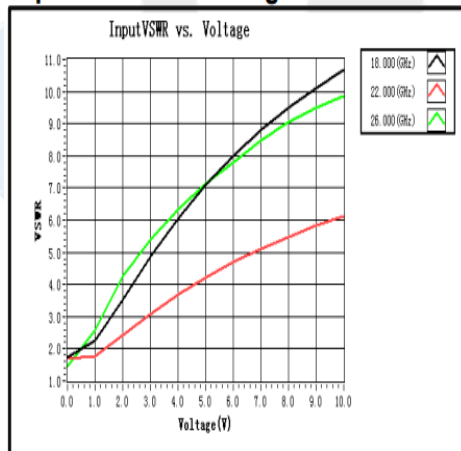
Output VSWR @+85°C



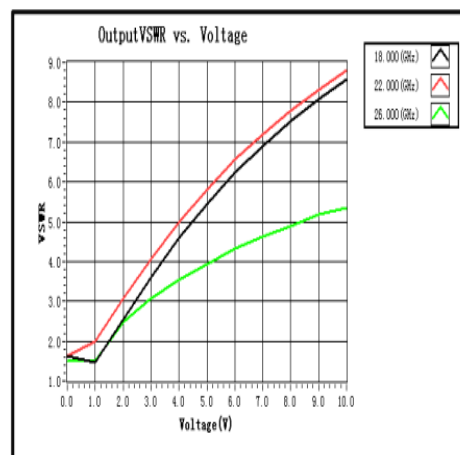
Attenuation vs. Frequency



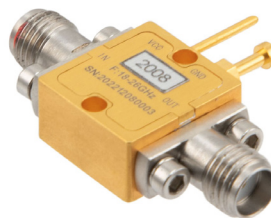
Input VSWR vs. Voltage



Output VSWR vs. Voltage



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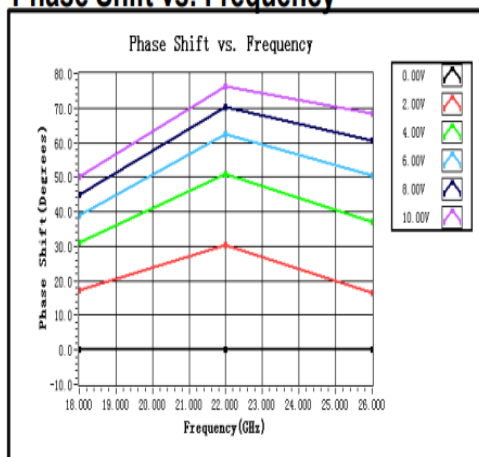


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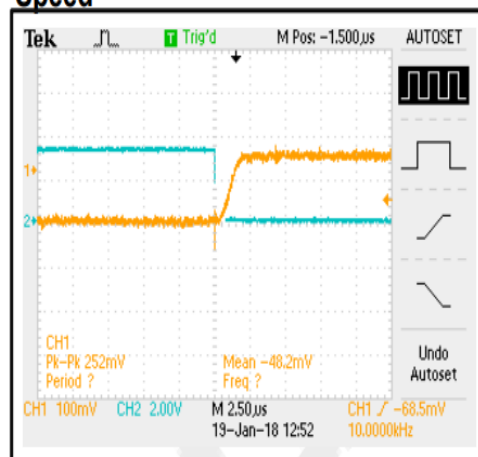
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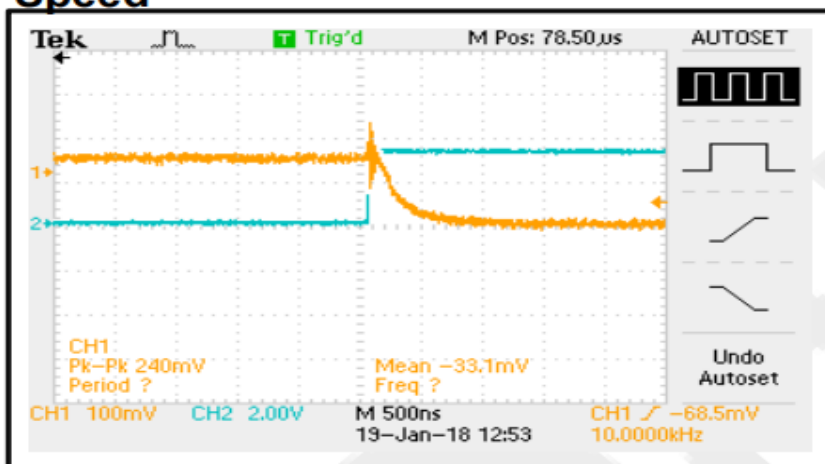
Phase Shift vs. Frequency



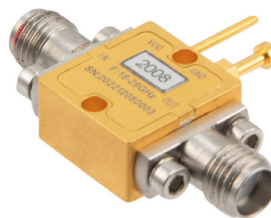
Speed



Speed



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PE70A2008 CAD Drawing

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