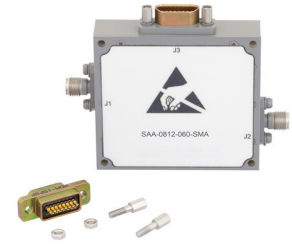


Voltage Variable PIN Diode Attenuator from 0 to 60 dB 6 GHz to 12 GHz and SMA 15-Pin D-Subminiature Control



SAA-0812-060-SMA

Features

- Analog Controlled 60 dB Pin Diode Attenuator
- 6 GHz to 12 GHz Frequency Range
- Insertion Loss 2.8 dB Max
- VSWR 2.0:1 Max
- Input Power 20 dBm Operating
- Input Power 30 dBm Survival
- Switching Time 500 nsec
- Removeable SMA Female Connectors
- 15 Pin Micro-D Female Power/Control Connector

Applications

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

Description

The SAA-0812-060-SMA Voltage Variable PIN Diode Attenuator exhibits broadband frequency coverage from 6 GHz to 12 GHz. The highly linear design features exceptional performance that includes an attenuation range of 0 to 60 dB, typical flatness of +/- 1 dB, and excellent VSWR of 2.0:1 max over all attenuation levels. Insertion loss is less than 2.8 dB and switching speed is less than 500 nsec. The rugged coaxial package assembly uses field replaceable SMA connectors along with a 15 pin Micro D female DC power/control connector that includes a mating connector. Operational temperature is rated for -55°C to +85°C, and the design is guaranteed to meet MIL-STD-202 environmental test conditions that includes Humidity, Temperature Cycle, Shock, and Vibration.

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

Description	Minimum	Typical	Maximum	Units
Frequency Range	6		12	GHz
Attenuation Range	0		60	dB
			2.8	dB
VSWR			2:1	
Input at 0.1 dB Compression Point		+20		dBm
Survival Power Rating			+30	dBm
		±0.7		dB
		±1		dB
		±1.5		dB
		±1.6		dB
Switching Time			500	ns
Switching Speed			500	ns
Analog Control		10		dB/Volt
Control Voltage			6	Volts
DC Power Supply				
12 to 15 VDC			125	mA
-12 to -15 VDC			50	mA
Attenuation Range	0		60	dB

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SAA-0812-060-SMA

Mechanical Specifications

Size

Length	2 in [50.8 mm]
Width	1.8 in [45.72 mm]
Height	0.5 in [12.7 mm]
Weight	0.1535 lbs [69.63 g]
Input Connector	Field Replaceable SMA Female
Output Connector	Field Replaceable SMA Female
Power and Control	15-Pin D-Subminiatur

Environmental Specifications

Temperature

Operating Range	-55 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 107D COND. A
Salt Spray	MIL-STD-202F, METHOD 105C COND. B

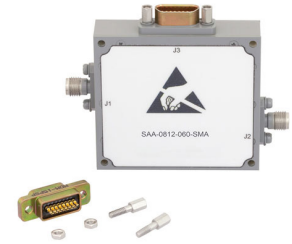
Compliance Certifications (see [product page](#) for current document)

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.

Voltage Variable PIN Diode Attenuator from 0 to 60 dB
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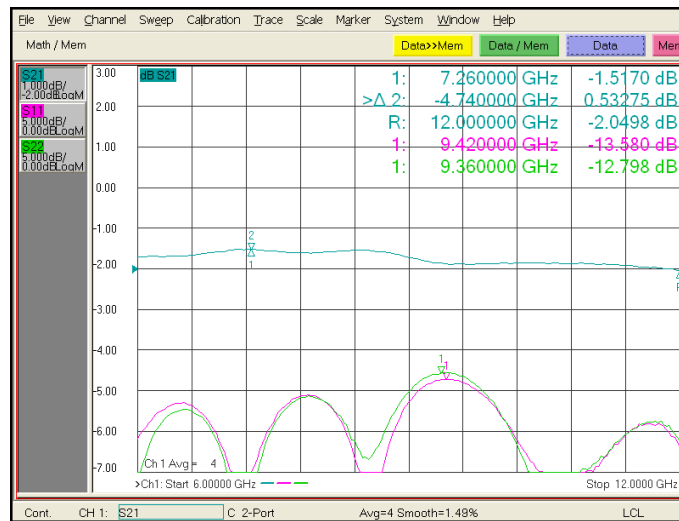


SAA-0812-060-SMA

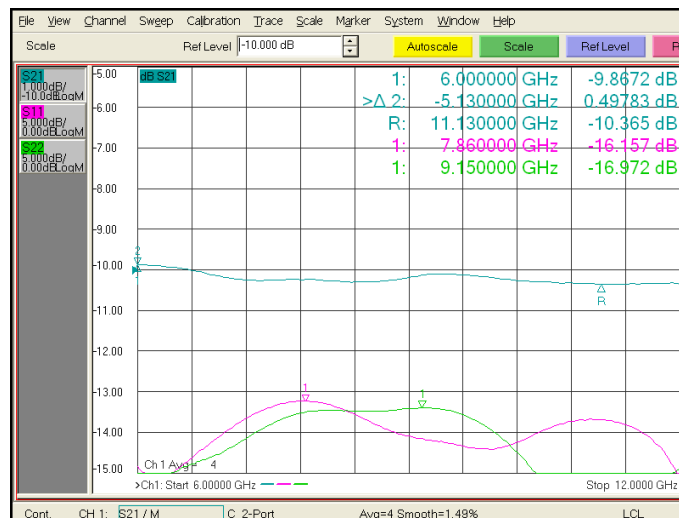
Functional Block Diagram

Performance Data

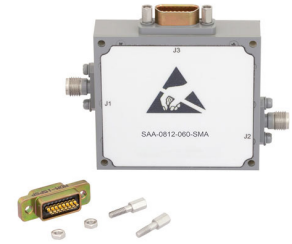
Insertion Loss and VSWR



10dB Attenuation

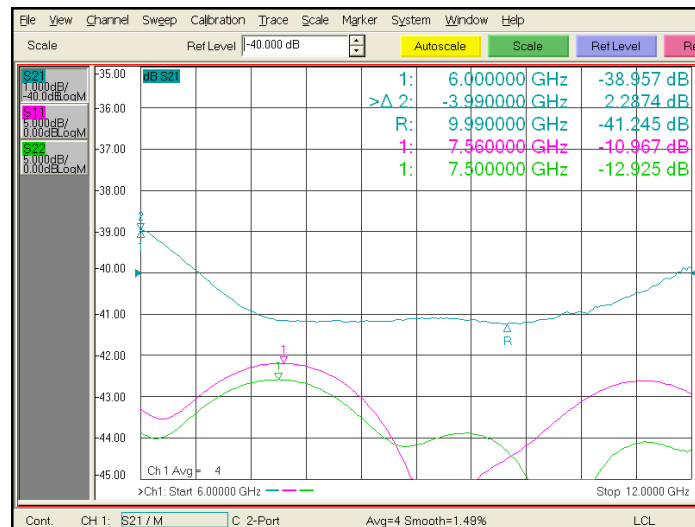


Voltage Variable PIN Diode Attenuator from 0 to 60 dB
6 GHz to 12 GHz and SMA 15-Pin D-Subminiature Control

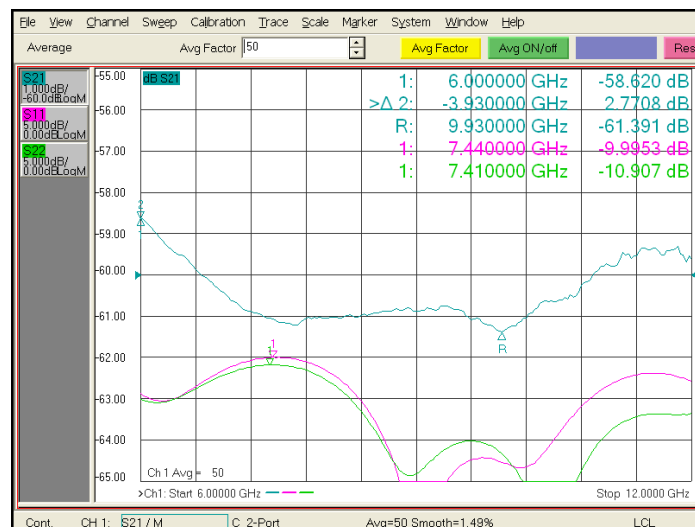


SAA-0812-060-SMA

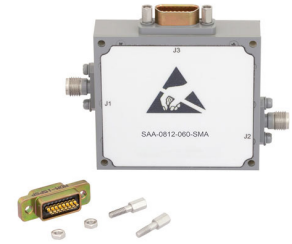
40dB Attenuation



60dB Attenuation

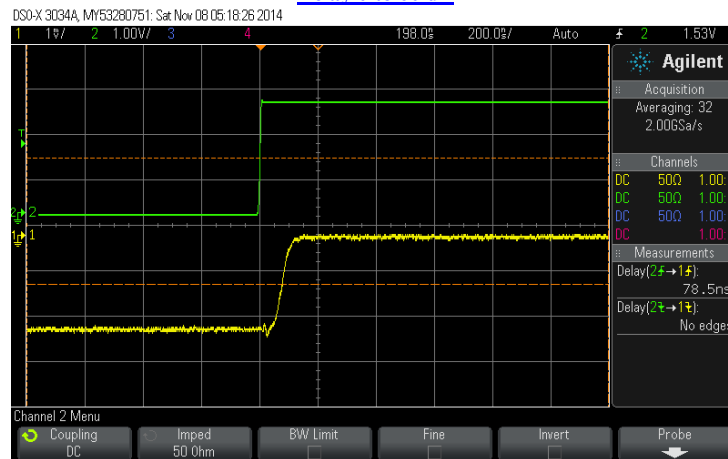


Voltage Variable PIN Diode Attenuator from 0 to 60 dB
6 GHz to 12 GHz and SMA 15-Pin D-Subminiature Control



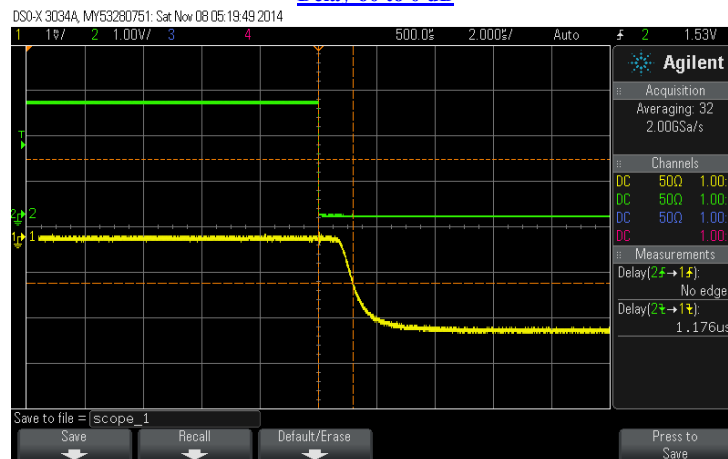
SAA-0812-060-SMA

Delay 0 to 60 dB



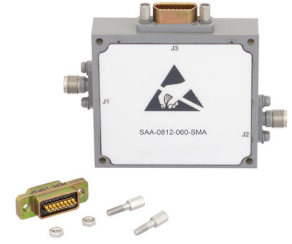
Channel 1 (Yellow): RF output
Channel 2 (Green): TTL Input from Signal Generator

Delay 60 to 0 dB



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

Voltage Variable PIN Diode Attenuator from 0 to 60 dB 6 GHz to 12 GHz and SMA 15-Pin D-Subminiature Control



SAA-0812-060-SMA

Voltage Variable PIN Diode Attenuator from 0 to 60 dB 6 GHz to 12 GHz and SMA 15-Pin D-Subminiature Control from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

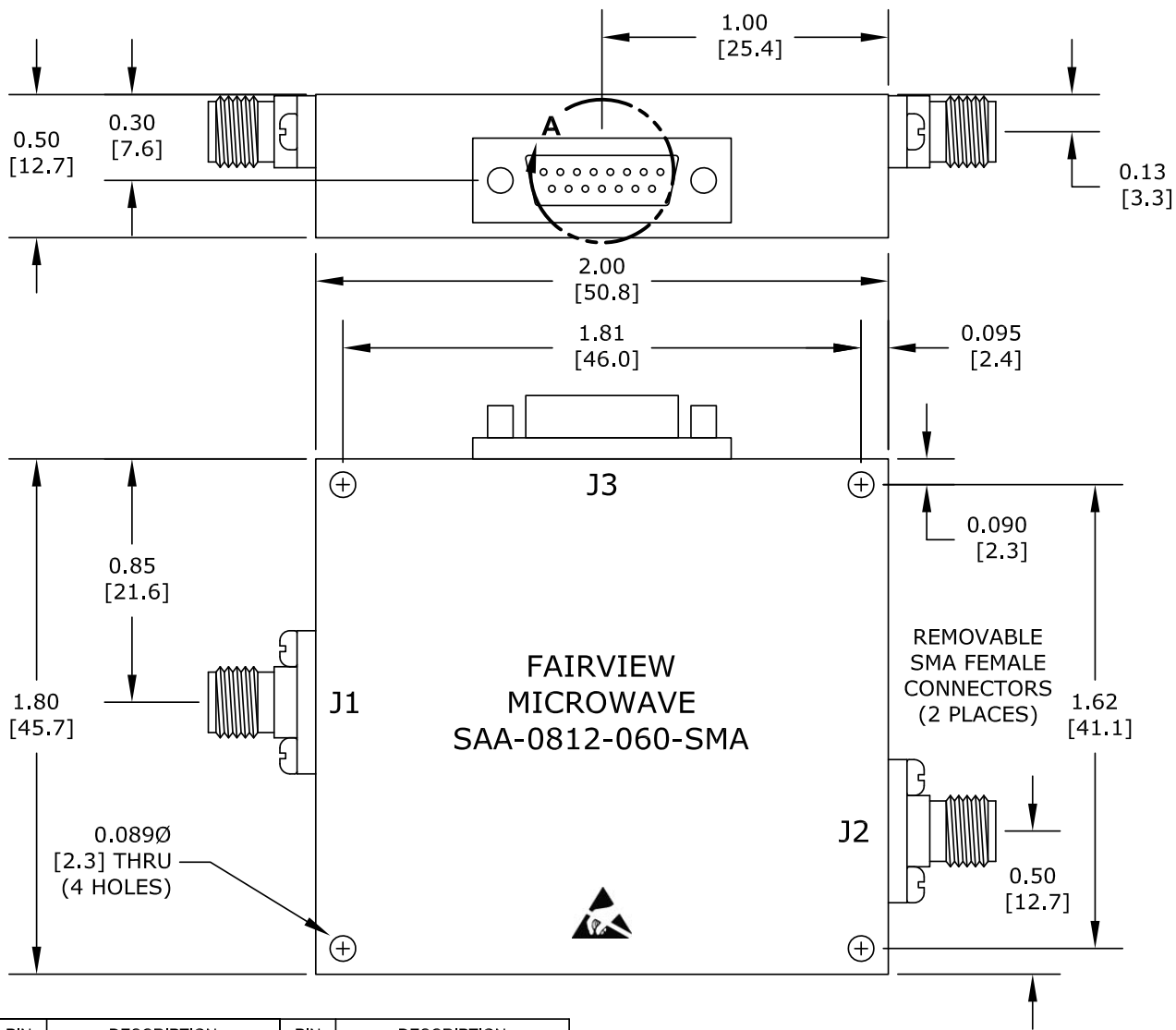
For additional information on this product, please click the following link: [Voltage Variable PIN Diode Attenuator from 0 to 60 dB 6 GHz to 12 GHz and SMA 15-Pin D-Subminiature Control SAA-0812-060-SMA](https://www.fairviewmicrowave.com/60db-voltage-variable-attenuator-pin-diode-12-ghz-saa-0812-060-sma-p.aspx)

URL: <https://www.fairviewmicrowave.com/60db-voltage-variable-attenuator-pin-diode-12-ghz-saa-0812-060-sma-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. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume liability arising out of the use of any part or document.

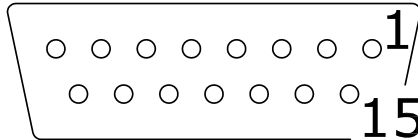
SAA-0812-060-SMA CAD Drawing

Voltage Variable PIN Diode Attenuator from 0 to 60 dB 6 GHz to 12 GHz and SMA 15-Pin D-Subminiature Control



PIN	DESCRIPTION	PIN	DESCRIPTION
1	NO CONNECTION	9	NO CONNECTION
2	NO CONNECTION	10	NO CONNECTION
3	ANALOG INPUT	11	NO CONNECTION
4	GROUND	12	NO CONNECTION
5	NO CONNECTION	13	+12 OR +15 VDC
6	NO CONNECTION	14	-12 OR -15 VDC
7	NO CONNECTION	15	NO CONNECTION
8	NO CONNECTION		

15 PIN MICRO-D FEMALE
(MATING CONNECTOR SUPPLIED)



View A

FAIRVIEW MICROWAVE INC.

ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM

NOTES:

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].

TITLE	DWG NO			SAA-0812-060-SMA		CAGE CODE			3FKR5	
	CAD FILE	051815	SHEET			SCALE N/A		SIZE A	2233	