

**0 to 40 dB Voltage Variable Attenuator From 400 MHz To 6 GHz PIN Diode And SMA**

The SAA-0406-040-SMA is a Non-Reflective Linear Voltage Controlled 40 dB PIN Diode Attenuator that operates from 0.4 GHz to 6 GHz. The SAA-0406-040-SMA has an Insertion Loss of 4 dB max and a typical IP1dB of +23 dBm.

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

| Description            | Min | Typ   | Max | Unit  |
|------------------------|-----|-------|-----|-------|
| Frequency Range        | 0.4 |       | 6   | GHz   |
| Mean Attenuation Range | 0   |       | 40  | dB    |
| Insertion Loss         |     |       | 4   | dB    |
| VSWR                   |     | 1.5:1 | 2:1 |       |
| Power Rating           |     | +23   |     | dBm   |
| Switching Time         |     |       | 10  | µs    |
| Control                | 0   |       | 10  | Volts |
| DC Power Supply        |     |       | 12  | VDC   |
|                        |     |       | -12 |       |

**Mechanical Specifications**

| Size   |                    |
|--------|--------------------|
| Length | 2 in [50.8 mm]     |
| Width  | 1.81 in [45.97 mm] |
| Height | 0.88 in [22.35 mm] |
| Weight | 0.2 lbs [90.72 g]  |

**Environmental Specifications**

| Temperature       |                                   |
|-------------------|-----------------------------------|
| Operating Range   | -50 to +100 deg C                 |
| Storage Range     | -65 to +125 deg C                 |
| Environment       | MIL-STD-202F, METHOD 107          |
| 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 107          |

**Compliance Certifications** (visit [www.FairviewMicrowave.com](http://www.FairviewMicrowave.com) 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.



**Features:**

- PIN Attenuator
- 0.4 GHz to 6 GHz Frequency Range
- 40 dB Attenuation
- 0 - 10 VDC Control Voltage Range

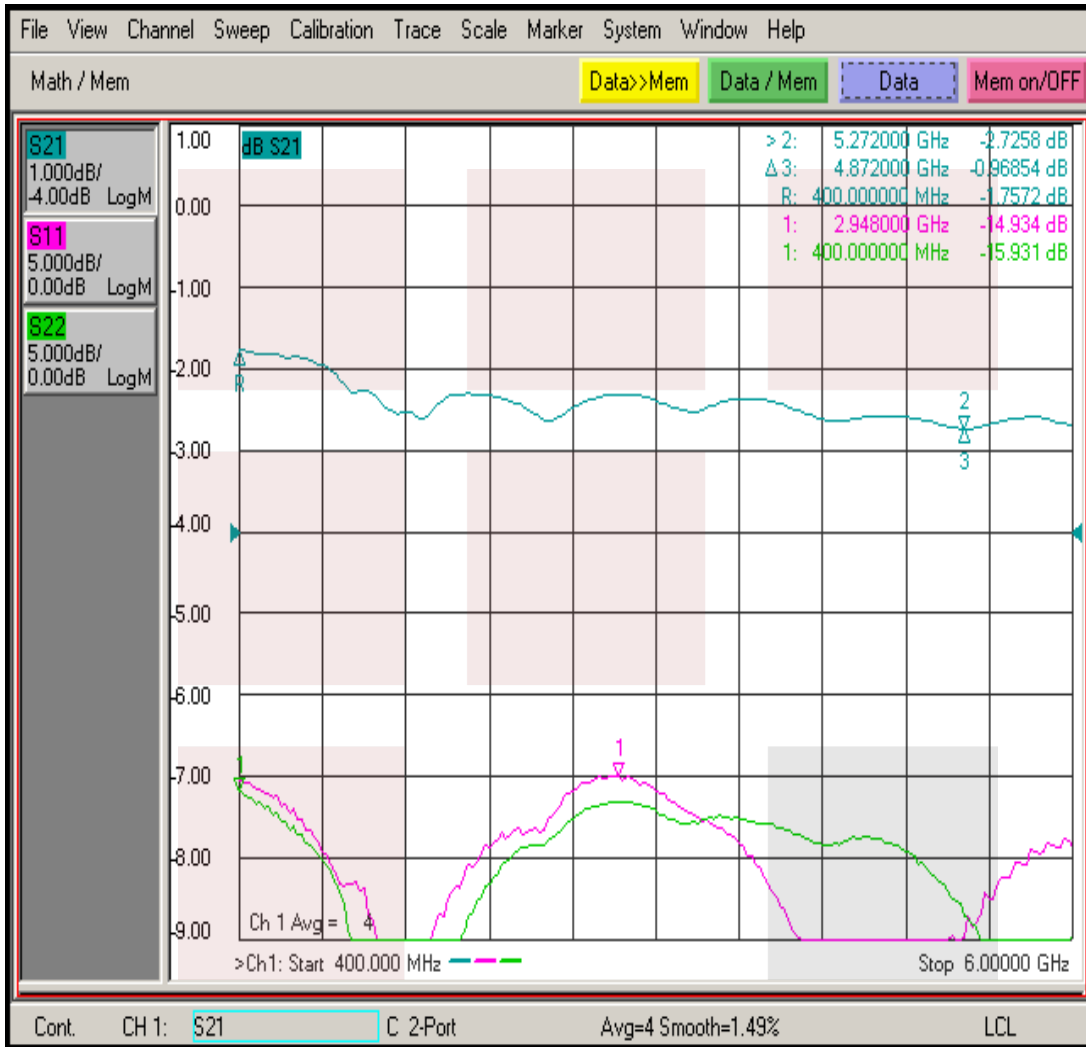
**Applications:**

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

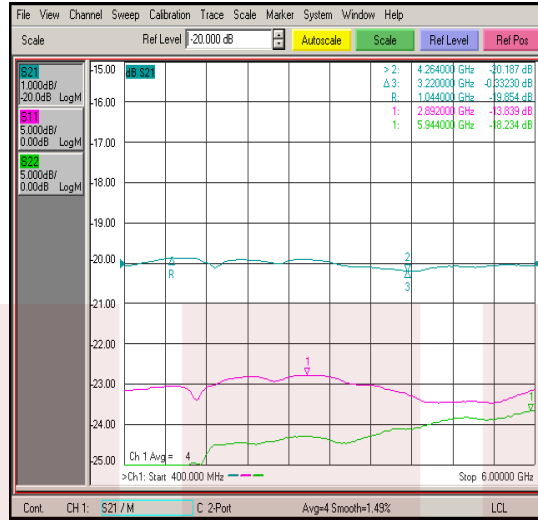
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Performance Data

[Insertion Loss and Return Loss](#)



20dB Attenuation

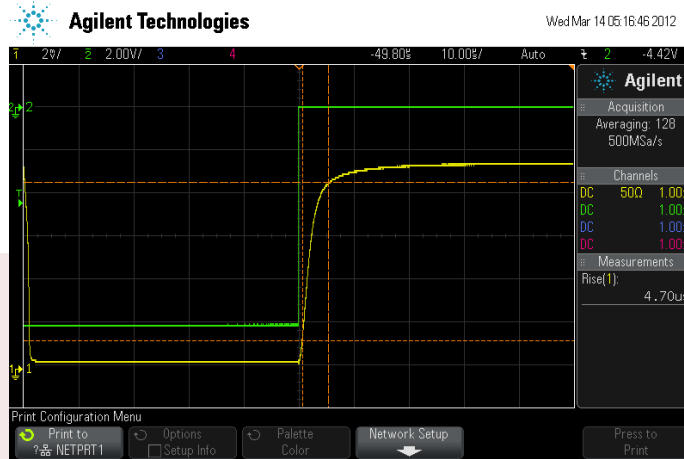


40dB Attenuation



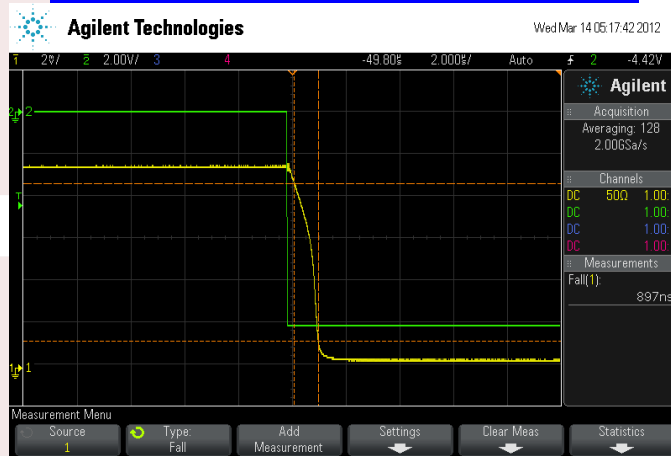
Delay ON Time

Measured @ 4GHz, 5dBm with a Crystal Detector



**Channel 1 (Yellow Trace): RF output**  
**Channel 2 (Green Trace): 10 Volt Input from Signal Generator**

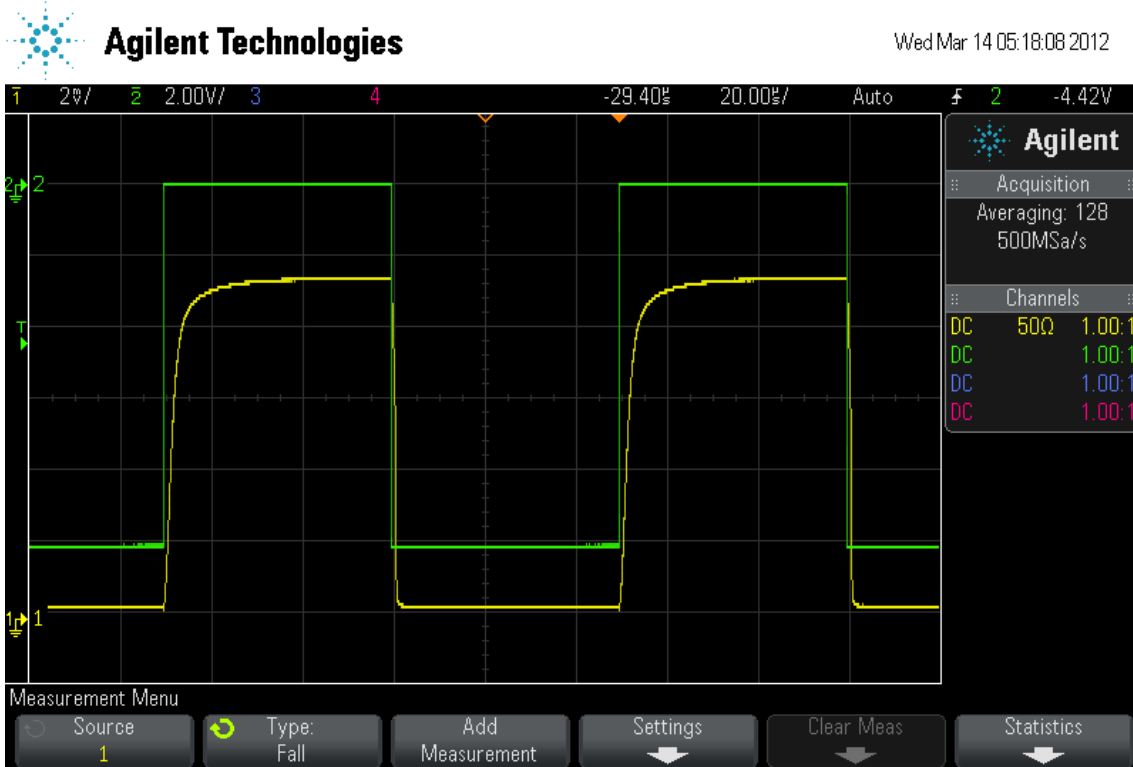
Measured @ 4GHz, 5dBm with a Crystal Detector



**Channel 1 (Yellow Trace): RF output**  
**Channel 2 (Green Trace): 10 Volt Input from Signal Generator**

Switching

Measured @ 4GHz, 5dBm with a Crystal Detector



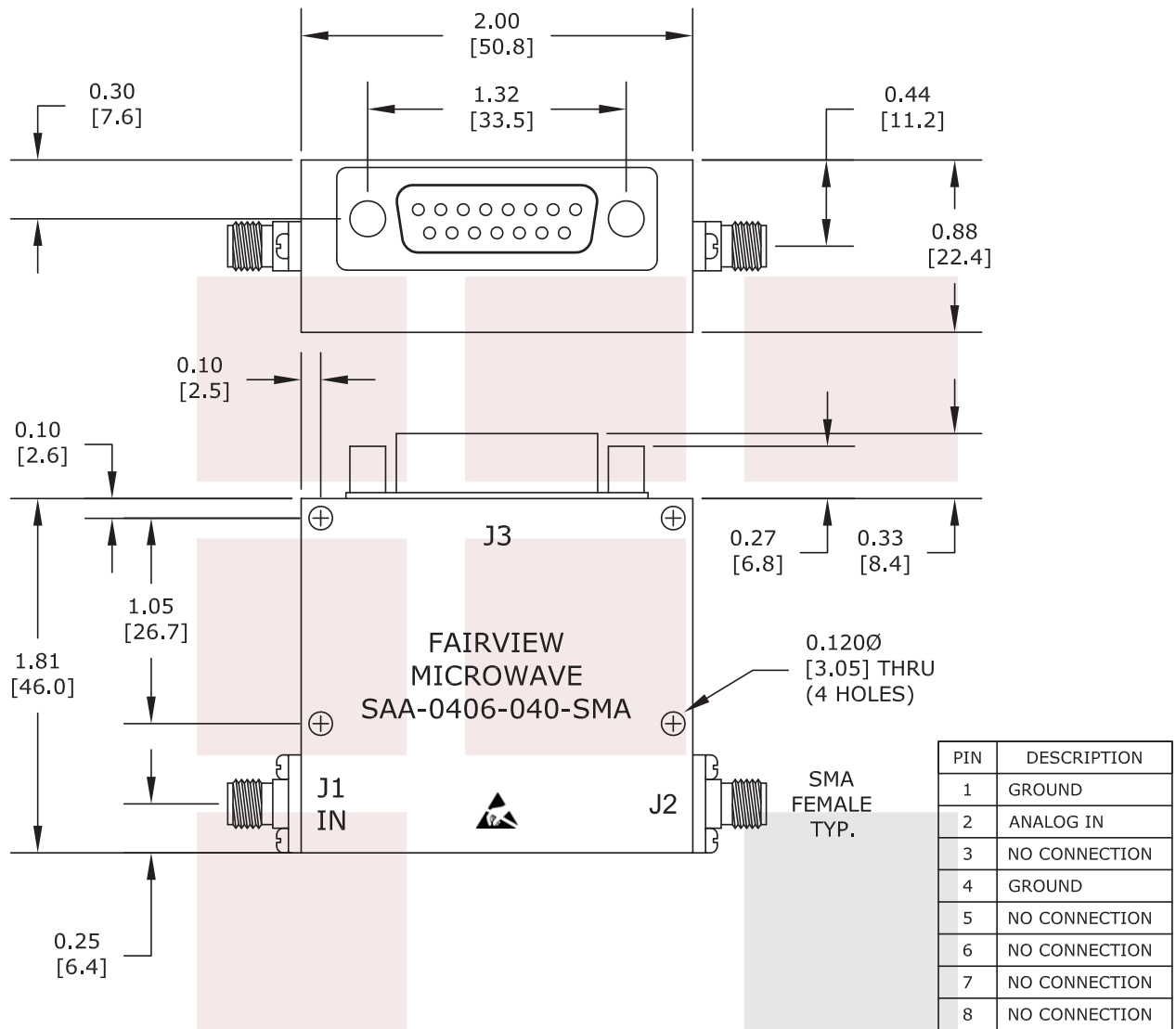
**Channel 1 (Yellow Trace): RF output**  
**Channel 2 (Green Trace): 10 Volt Input from Signal Generator**

0 to 40 dB Voltage Variable Attenuator From 400 MHz To 6 GHz PIN Diode And SMA 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 Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [0 to 40 dB Voltage Variable Attenuator From 400 MHz To 6 GHz PIN Diode And SMA SAA-0406-040-SMA](http://www.fairviewmicrowave.com/40db-voltage-variable-attenuator-pin-diode-6-ghz-saa-0406-040-sma-p.aspx)

URL: <http://www.fairviewmicrowave.com/40db-voltage-variable-attenuator-pin-diode-6-ghz-saa-0406-040-sma-p.aspx>

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. 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 any liability arising out of the use of any part or documentation.



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

|   |        |   |                    |     |             |
|---|--------|---|--------------------|-----|-------------|
| <b>FAIRVIEW MICROWAVE INC.</b><br>ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM             |        | NOTES:<br>1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.<br>2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.<br>3. DIMENSIONS ARE IN INCHES [mm]. |                    |     |             |
| TITLE<br>0 to 40 dB Voltage Variable Attenuator From 400 MHz To 6 GHz PIN Diode And SMA |        | DWG NO<br>SAA-0406-040-SMA  | CAGE CODE<br>3FKR5 |     |             |
| CAD FILE  | 081914 | SHEET   | SCALE              | N/A | SIZE A 2233 |