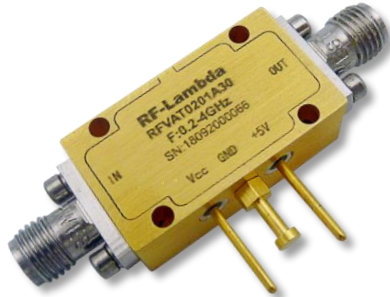




## Absorptive Voltage Control Attenuator 0.2 - 4GHz



### Features

- Wide Band Operation 0.2-4GHz
- Functional Bandwidth : 0.1GHz - 6GHz
- Wide Attenuation Range 30dB
- Absorptive Topology
- Single Control Operation

### Typical Applications

- Wireless Infrastructure
- Test and Measurement
- Military and Aerospace

Electrical Specifications, TA = +25 °C

| Description                            | PN: RFVAT0201A30  |      |     |     |      |     |     |      |     |        |
|--|---|------|-----|-----|------|-----|-----|------|-----|--------|
|  | Absorptive Voltage Attenuator                             |      |     |     |      |     |     |      |     |        |
| Parameters                             | Min   | Typ. | Max | Min | Typ. | Max | Min | Typ. | Max | Units  |
| Frequency Range                        | 0.2~ 1  |      |     | 1~2 |      |     | 2~4 |      |     | GHz    |
| Attenuation Range                      |   | 30   |     |     | 30   |     |     | 30   |     | dB     |
| Insertion Loss                         |   | 2.8  | 3.5 |     | 3.3  | 3.8 |     | 4.3  | 4.8 | dB     |
| Insertion Loss Temperature Coefficient |   | 0.01 |     |     | 0.01 |     |     | 0.01 |     | dB/°C  |
| Input VSWR @Insertion Loss state       |   | 1.5  | 2.0 |     | 1.6  | 2.0 |     | 1.8  | 2.2 | : 1    |
| Output VSWR @Insertion Loss state      |   | 1.5  | 2.0 |     | 1.6  | 2.0 |     | 1.8  | 2.2 | : 1    |
| 0.1dB Compression Point (Po.1dB)       |   | 30   |     |     | 30   |     |     | 30   |     | dBm    |
| Input Ip3                              |   | 50   |     |     | 50   |     |     | 50   |     | dBm    |
| Switching Speed                        |   |      | 15  |     |      | 15  |     |      | 15  | us     |
| Control Voltage                        | 0   | 10   |     | 0   | 10   |     | 0   | 10   |     | V      |
| Weight                                 | 0.35  |      |     |     |      |     |     |      |     | Ounces |
| Impedance                              | 50  |      |     |     |      |     |     |      |     | Ω      |
| Current                                | 30  |      |     |     |      |     |     |      |     | mA     |
| Input / Output Connectors              | SMA-Female  |      |     |     |      |     |     |      |     |        |
| Finish                                 | Gold Plated   |      |     |     |      |     |     |      |     |        |
| Material                               | Aluminum  |      |     |     |      |     |     |      |     |        |
| Sealing                                | Epoxy Sealed (Standard)<br>Hermetically Sealed (Optional) |      |     |     |      |     |     |      |     |        |

Absorptive Voltage Control Attenuator 0.2 - 4GHz



**Absolute Maximum Ratings**

|                 |          |
|-----------------|----------|
| Control Voltage | 0 ~ +13V |
| RF Input Power  | +30dBm   |

**Ordering Information**

| Part No.     | ECCN  | Description                         |
|--------------|-------|-------------------------------------|
| RFVAT0201A30 | EAR99 | 0.2-4GHz Voltage Control Attenuator |

**Environmental Specifications and Test Standards**

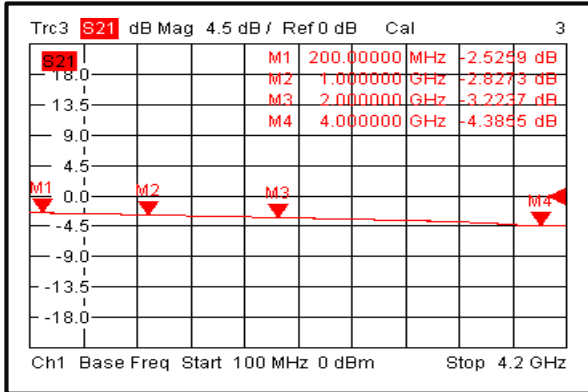
| Parameter                        | Standard      | Description   |
|----------------------------------|---------------|---|
| Operational Temperature          | MIL-STD-39016 | -45°C~+85°C   |
| Storage Temperature              |               | -55°C~+125°C  |
| Thermal Shock                    |               | 1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)   |
| Random Vibration                 |               | Acceleration Spectral Density 6 (m/s)<br>Total 92.6 RMS   |
| Electrical & Temperature Burn In |               | Temperature +85°C for 72 Hours  |
| Shock                            |               | 1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s<br>2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s<br>3. Total 18 times (6 directions, 3 repetitions per direction). |
| Altitude                         |               | Standard: 30,000 Ft (Epoxy Sealed Controlled Environment)<br>Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)   |
| Hermetically Sealed (Optional)   | MIL-STD-883   | MIL-STD-883 (For Hermetically Sealed Units)   |

**Absorptive Voltage Control Attenuator 0.2 - 4GHz**

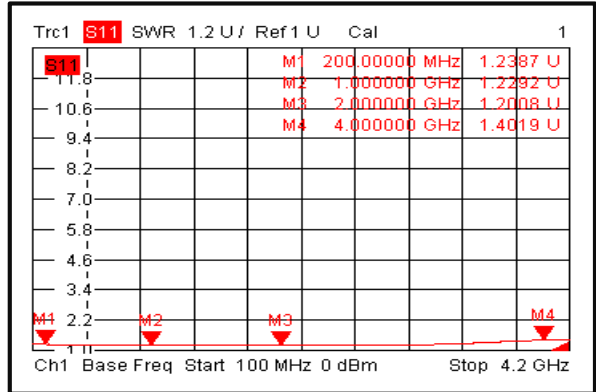


**Typical Performance Plots**

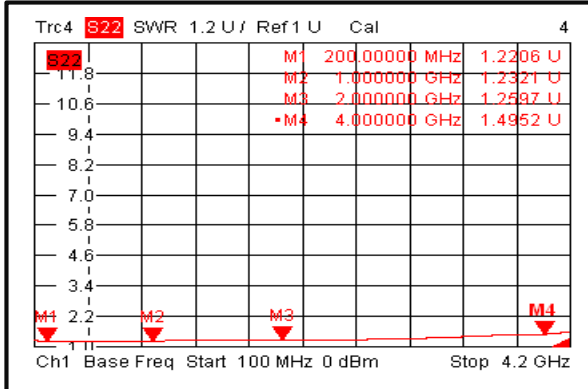
**Insertion Loss@+25°C**



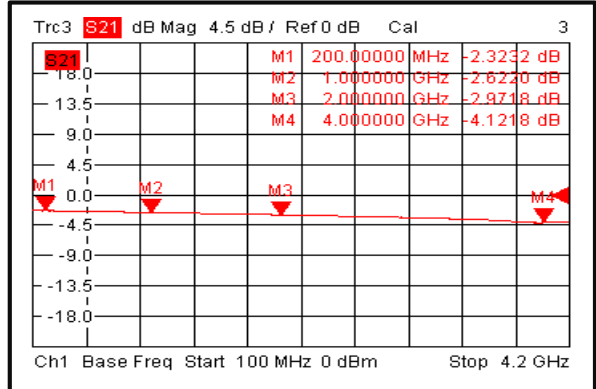
**Input VSWR @+25°C**



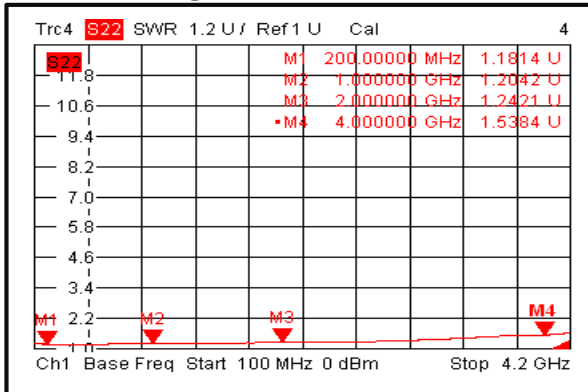
**Output VSWR @+25°C**



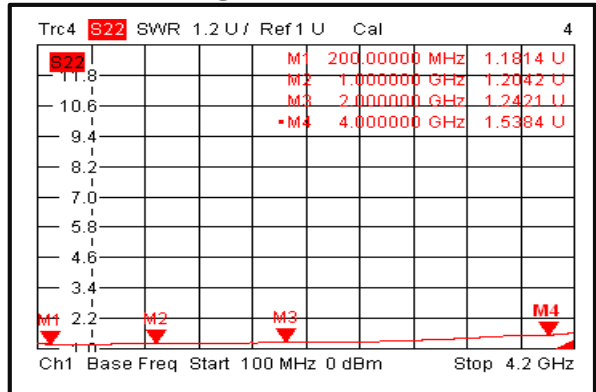
**Insertion Loss @-45°C**



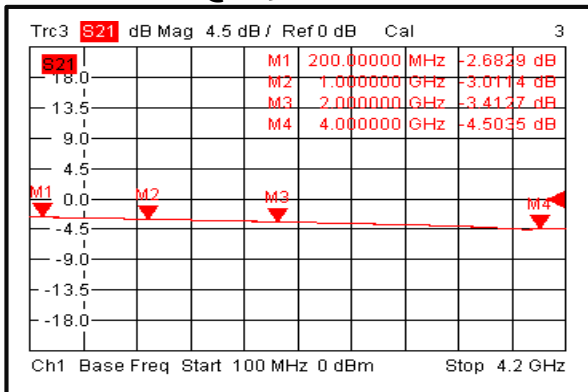
**Input VSWR @-45°C**



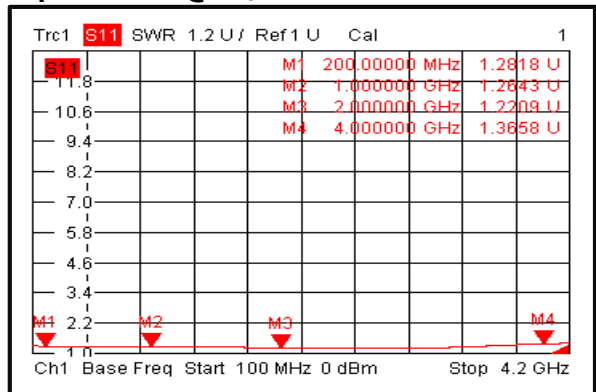
**Output VSWR @-45°C**



**Insertion Loss@+85°C**



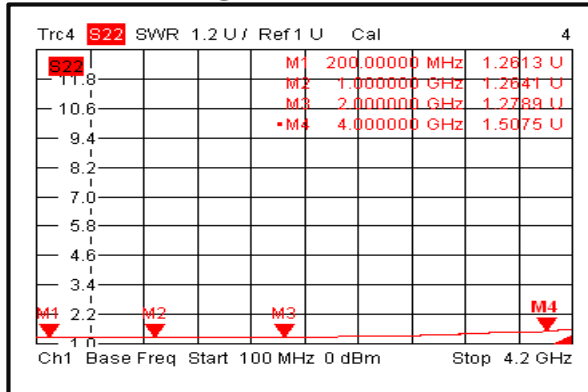
**Input VSWR @+85°C**



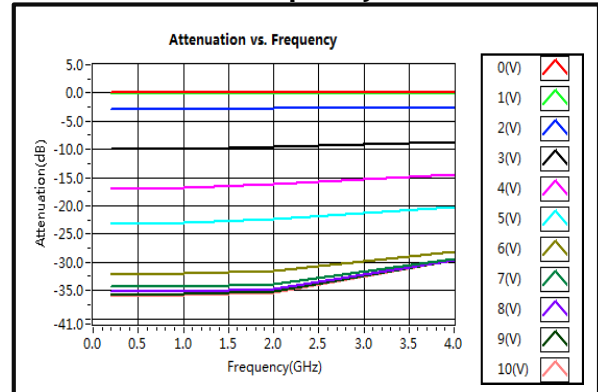
**Absorptive Voltage Control Attenuator 0.2 - 4GHz**



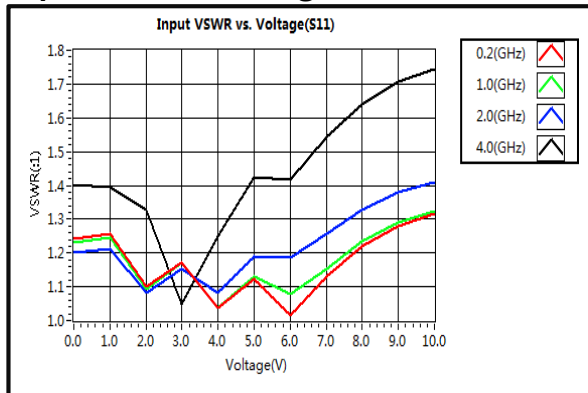
### Output VSWR @+85°C



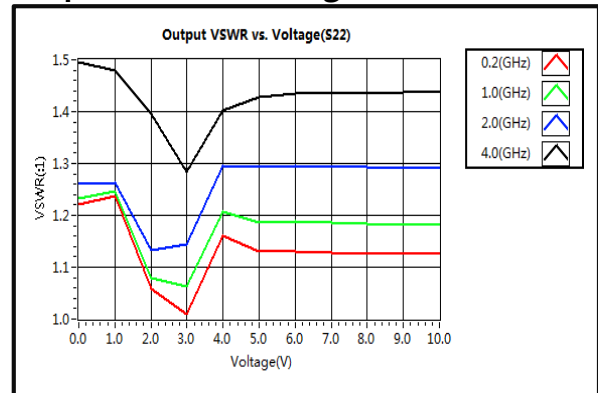
### Attenuation vs. Frequency



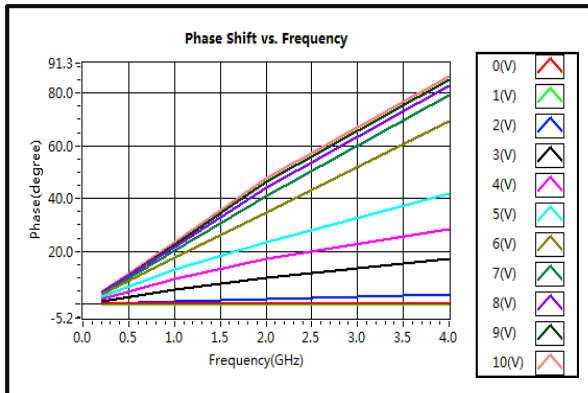
### Input VSWR vs. Voltage



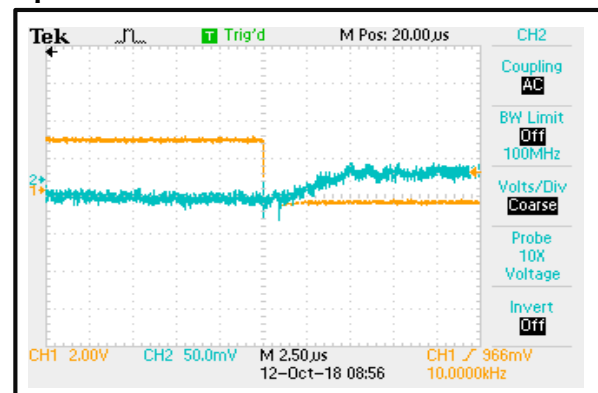
### Output VSWR vs. Voltage



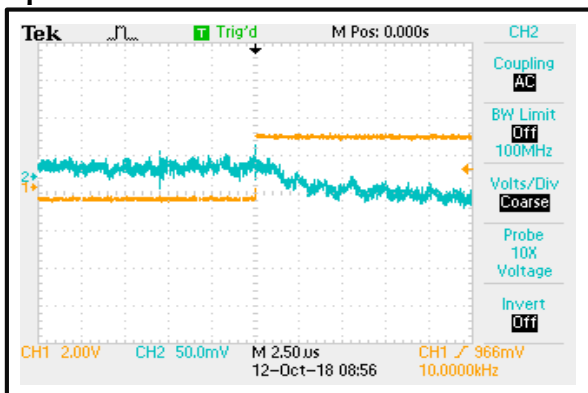
### Phase Shift vs. Frequency



### Speed



### Speed

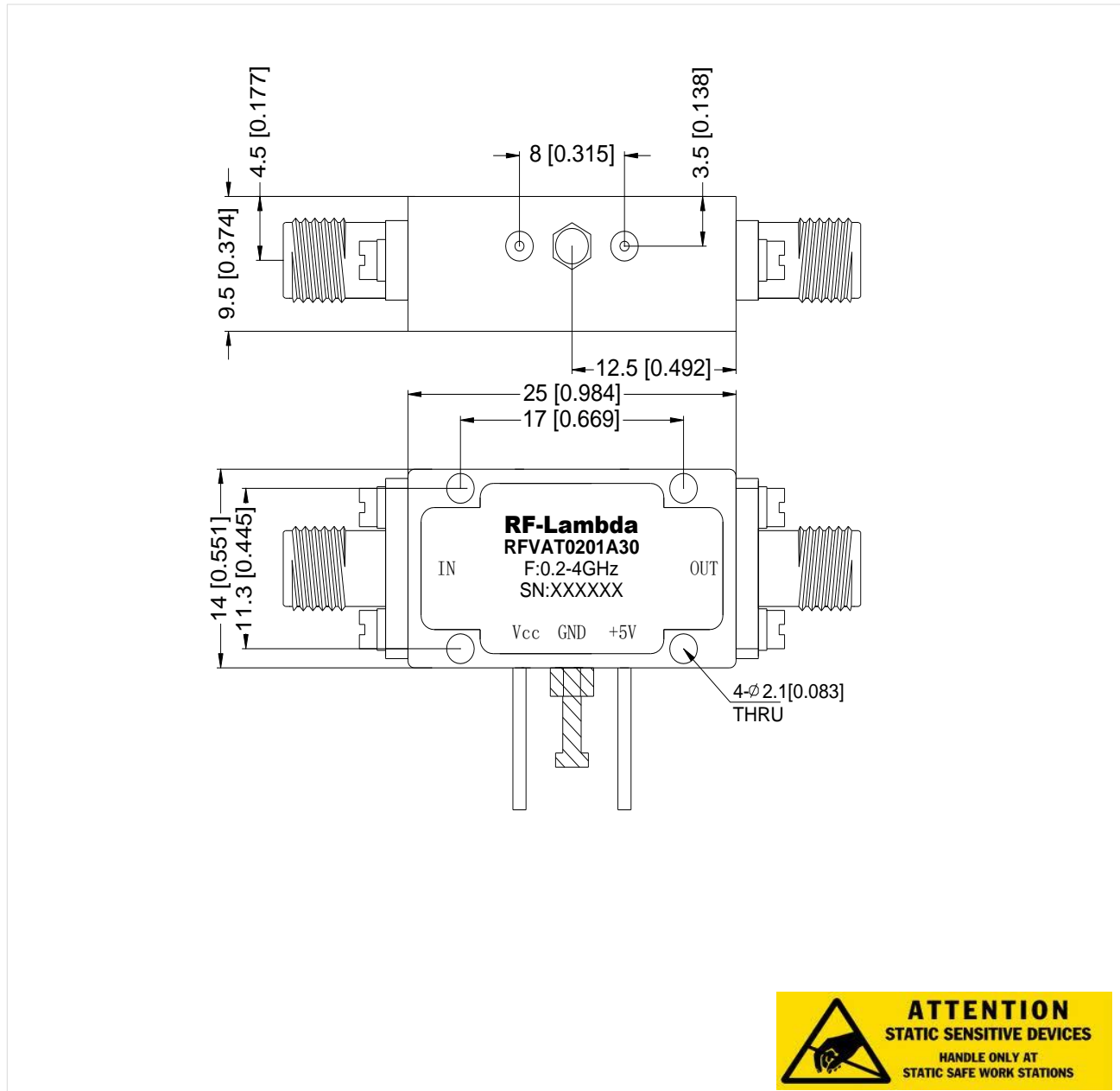


Absorptive Voltage Control Attenuator 0.2 - 4GHz



**Outline Drawing:**

All Dimensions in mm [inches]



**Absorptive Voltage Control Attenuator 0.2 - 4GHz**

**Important Notice**

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