



## High Dynamic Range Electrical Attenuator, E Band

### Description:

**Model SKA-6039033030-1212-A1** is an E-Band, PIN diode based electrical attenuator. The attenuator exhibits 2.5 dB typical insertion loss and 25 dB nominal attenuation across the frequency range of 60 to 90 GHz. The control voltage of the standard model is 0 to -5 V<sub>DC</sub> with a typical current draw of 5 mA. However, the attenuator can also be configured with positive control voltage from 0 to +5 V<sub>DC</sub>. The control speed of the attenuator can go up to 100 ns. The RF input and output ports are WR-12 waveguides with UG-387/U flanges, and a female SMA coaxial connector provides the control signal.



### Features:

- Low Insertion Loss
- High Dynamic Range
- Fast Control Speed

### Applications:

- Radar Systems
- Communication Systems
- Testing Equipment

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	60 GHz		90 GHz
Insertion Loss		2.5 dB	4.0 dB
Attenuation	2.5 dB	25 dB	
Power Handling		+20 dBm	+23 dBm
Control Voltage		0 to -5 V <sub>DC</sub> / 5 mA	0 to -6 V <sub>DC</sub> / 8 mA
Control Speed		100 ns	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

### Mechanical Specifications:

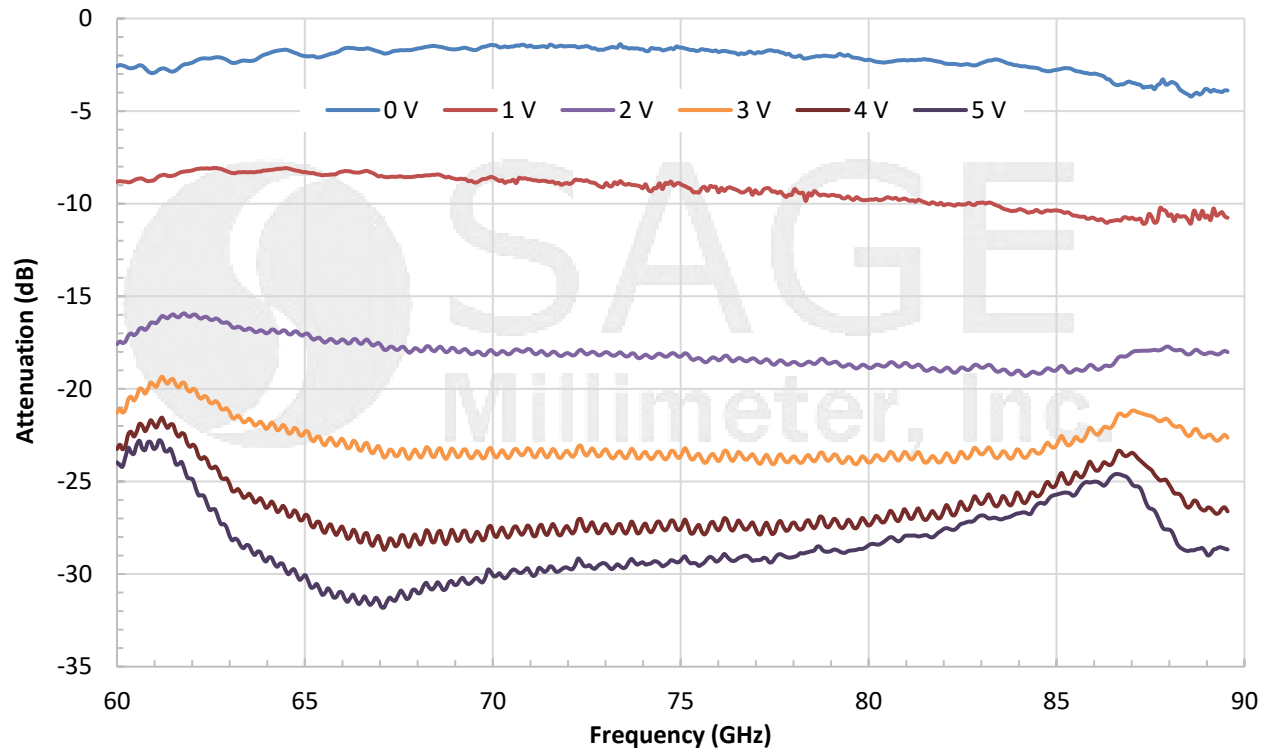
Item	Specification
RF Ports	WR-12 Waveguide with UG-387/U Flange
Bias Port	SMA(F)
Case Material	Aluminum
Finish	Gold Plated
Weight	0.4 Oz
Insertion Length	1.2"
Outline	KA-AE



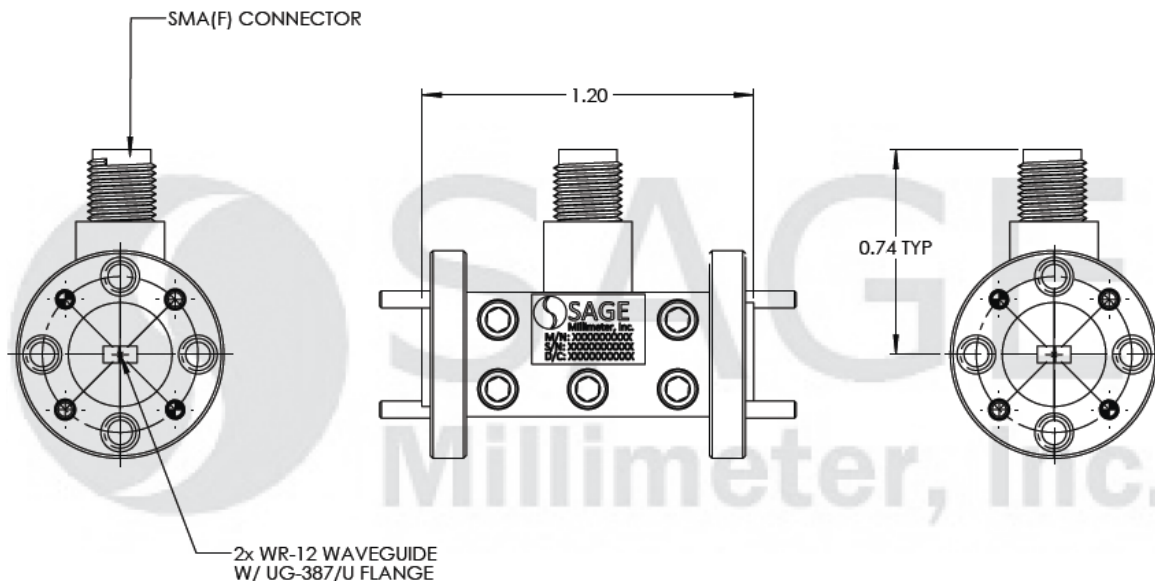


## High Dynamic Range Electrical Attenuator, E Band

Typical Attenuation vs. Frequency at Various Control Voltage Value



**Mechanical Outline:** (Unless otherwise specified, all dimensions are in inches)



**Note:**

- All data presented is collected from a sample lot. Actual data may vary unit to unit slightly.
- All testing was performed under +25 °C case temperature.





## High Dynamic Range Electrical Attenuator, E Band

- Other mechanical configurations are available under different model numbers.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

### Caution:

- Exceeding absolute maximum ratings shown will damage the device.
- The attenuator is a static sensitive device. Always follow ESD rules when working with the attenuator.
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.
- Proper torque,  $8.0 \pm 0.15$  inch-pounds ( $0.92 \pm 0.05$  Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

