



## High Dynamic Range Electrical Attenuator, Ka Band

### Description:

**Model SKA-3034033020-2828-AP-L** is a Ka Band, PIN diode based electrical attenuator. The attenuator exhibits 3.0 dB typical insertion loss and 20 dB nominal attenuation across the frequency range of 30 to 40 GHz. The control voltage of the standard model is 0 to +5 V<sub>DC</sub> with a typical current draw of 10 mA. However, the attenuator can also be configured with a negative 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-28 waveguides with UG-599/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	30 GHz		40 GHz
Insertion Loss		3.0 dB	
Attenuation	3 dB	20 dB	
Power Handling		+20 dBm	+23 dBm
Control Voltage		0 to +5 V <sub>DC</sub>	
Control Current		10 mA	
Control Speed		100 ns	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

### Mechanical Specifications:

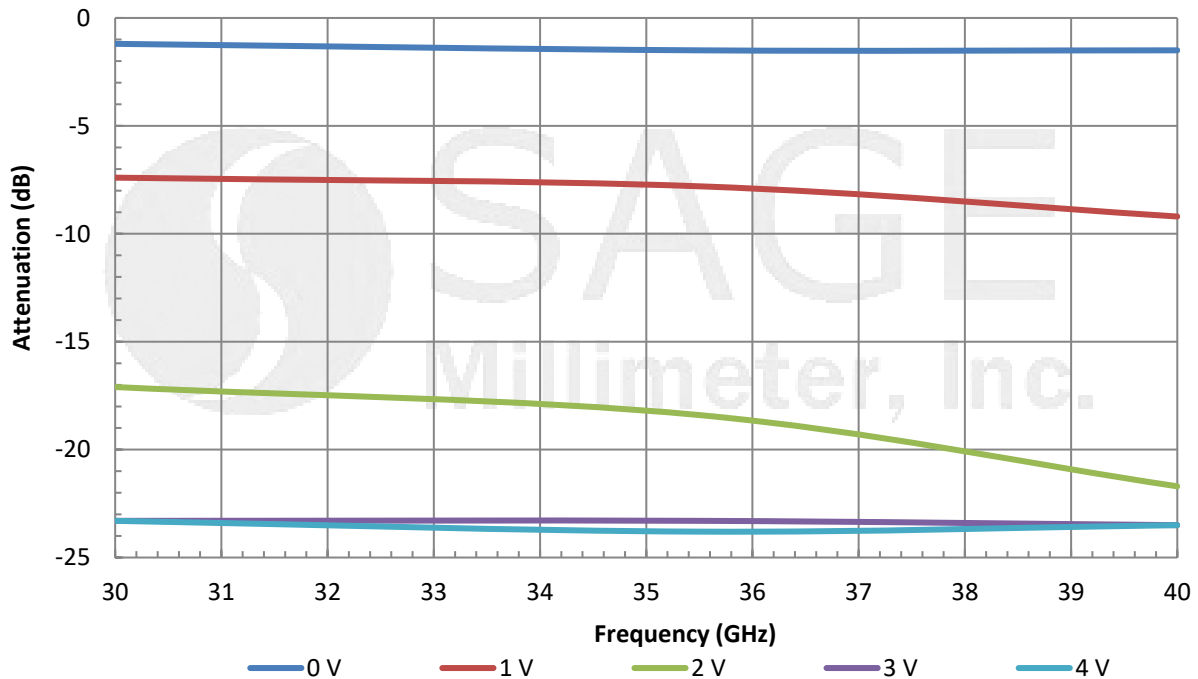
Item	Specification
RF Port	WR-28 Waveguide with UG-599/U Flange
Bias Port	SMA(F)
Case Material	Aluminum
Weight	0.7 Oz
Finish	Gold Plated
Insertion Length	2.0"
Outline	KA-AA-L



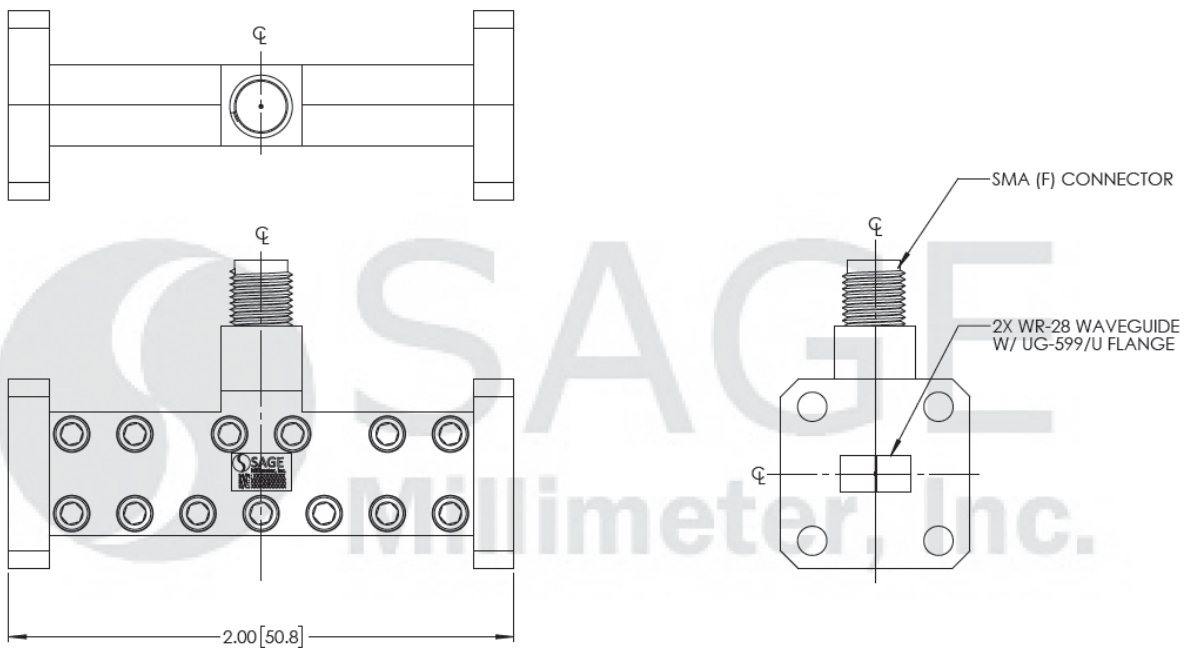


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Typical Attenuation vs. Frequency at Various Control Voltage Value



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





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### 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.
- 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,  $8.0 \pm 0.4$  inch-pounds ( $0.90 \pm 0.02$  Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

