SKD-6039033025-1212-R1

Rev. 1.1

SPDT PIN Switch with TTL Driver, 60 to 90 GHz, Reflective

Description:

Model SKD-6039033025-1212-R1 a reflective PIN diode based, single pole, double throw (SPDT) switch with a TTL driver that operates from 60 to 90 GHz. This model has an insertion loss of 3.0 dB typical and an isolation of 25 dB nominal at its center frequency. The SPDT switch features WR-12 waveguides with UG-387/U anti-cocking flanges at the RF input and output and a female SMA connector for TTL control on the driver. The switch can be modified for various operational frequencies under different model numbers.

Features:

- Low Insertion Loss
- High Isolation

Applications:

- Radar Systems
- Communication Systems
- Sensors

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	60 GHz		90 GHz
Insertion Loss		3.0 dB	
Isolation		25 dB	
Power Handling		+20 dBm	+23 dBm
Bias Voltage		±5 V_{DC}	
Bias Current		10 mA	
Control Signal		TTL	
Switching Speed		100 ns	
Specification Temperature		+25 ˚C	
Operating Temperature	-25 ˚C		+65 ˚C

Mechanical Specifications:

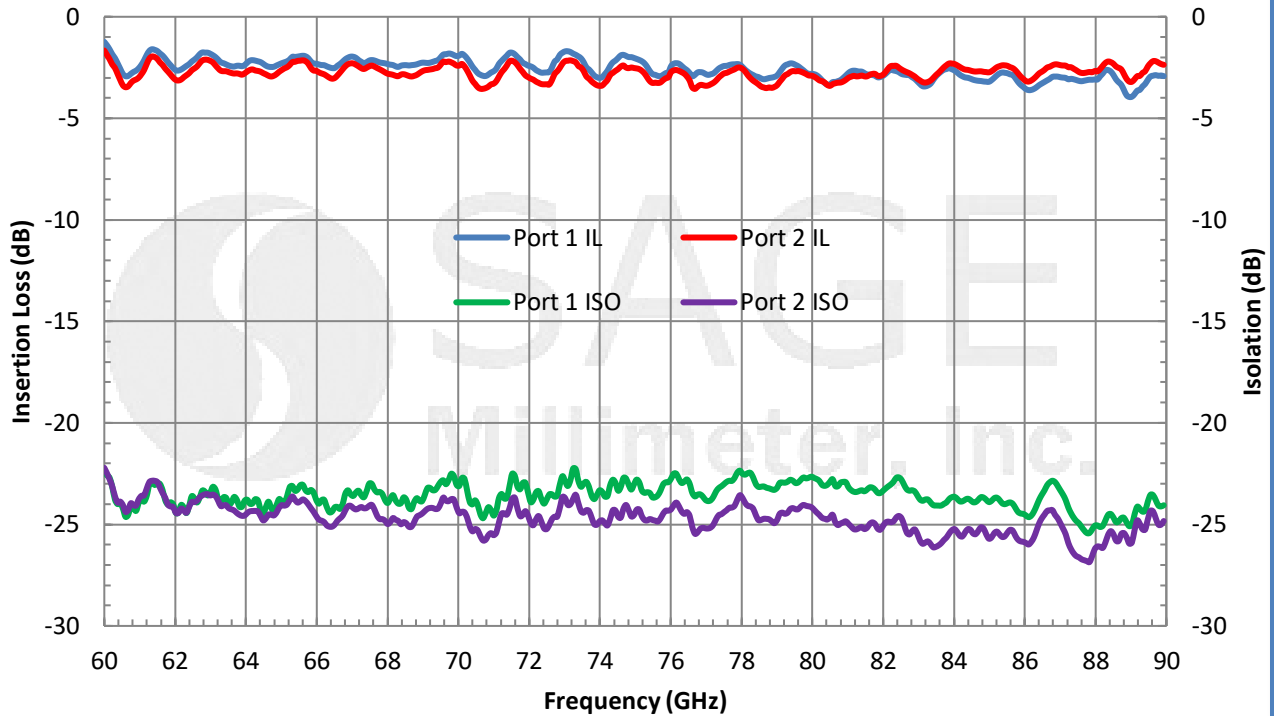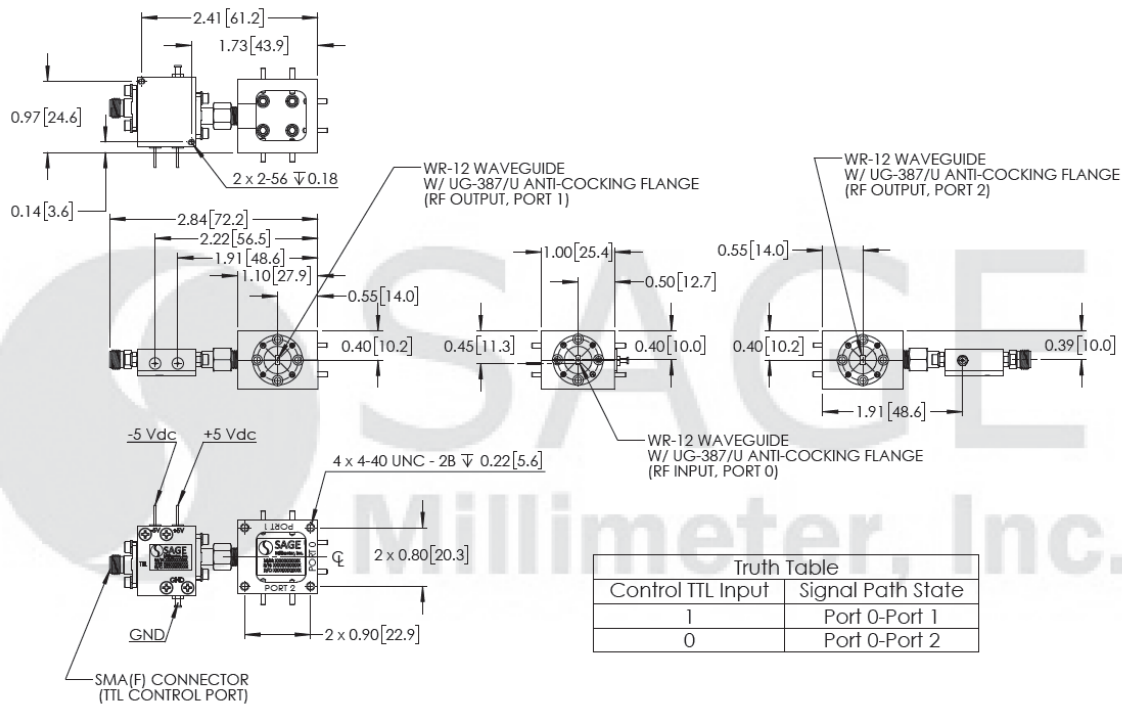| Item	Specification
Input Port	WR-12 Waveguide with UG-387/U Anti-Cocking Flange
Output Ports	WR-12 Waveguide with UG-387/U Anti-Cocking Flange
Bias Ports	Feed Through Pins
TTL Control Port	SMA (F)
Case Material	Aluminum
Weight	1.6 Oz
Finish	Gold Plated
Outline	KD-RE-A

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Typical Insertion Loss and Isolation vs Frequency

Input Power +/- 5 Vdc

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

Truth Table	
Control TTL Input	Signal Path State
1	Port 0-Port 1
0	Port 0-Port 2

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

Caution:

- Exceeding absolute maximum ratings shown will damage the device.
- The device is static sensitive. Always follow ESD rules when working with the device.
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.
- The case temperature of the device shall never exceed +50˚C. Use proper heatsink or fan if necessary.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

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