

SP4T PIN Switch with TTL Driver, 26.5 to 40.0 GHz

Description:

Model SK4-2734035540-KFKF-R1 PIN diode based, single pole, four throw (SP4T) reflective switch with a TTL driver that operates between 26.5 and 40 GHz. This model offers a small form factor by integrating the switch and driver into a common housing and achieves a low insertion loss by minimizing high loss transmission. The SP4T switch offers 40 dB port-to-port isolation with a switching speed of up to 100 nanoseconds. The switch has female K connectors for all RF ports and solder pins for TTL control.



Features:

- Full Ka Coverage
- High Isolation
- Compact Size

Applications:

- Radar Systems
- Communication Systems
- Automatic Test Equipment
- Switching Network

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	26.5 GHz		40.0 GHz
Insertion Loss		5.5 dB	
Return Loss		-14.0 dB	
Isolation		40 dB	
Maximum Input RF Power		+20 dBm	+23 dBm
Bias Voltage		± 5 V _{DC}	
Bias Current		80 mA	
Control		TTL	
Switching Speed		100 nS	
Specification Temperature		+25 °C	
Operation Temperature	0 °C		+50 °C

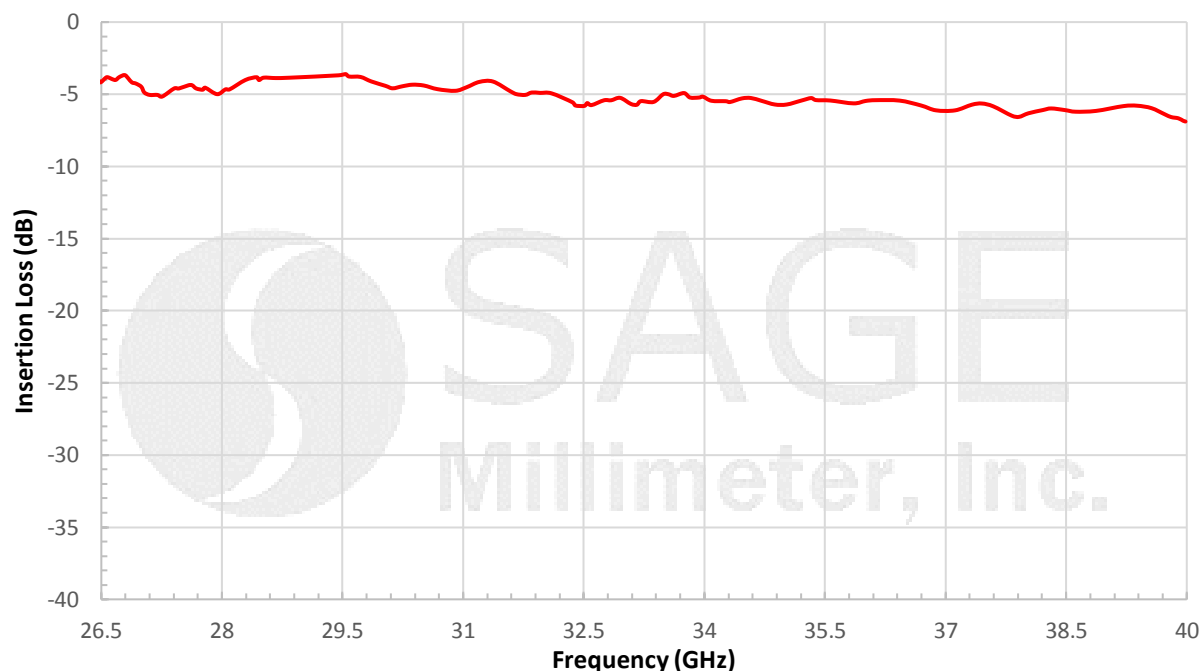
Mechanical Specifications:

Item	Specification
Input Port	K(F)
Output Port	K(F)
Bias	Solder Pins
Logic Input	Solder Pins
Case Material	Aluminum
Finish	Gold Plated
Weight	2.5 Oz
Size	1.58" (L) X 1.40" (W) X 0.75" (H)
Outline	K4-RC



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Typical Insertion Loss vs. Frequency



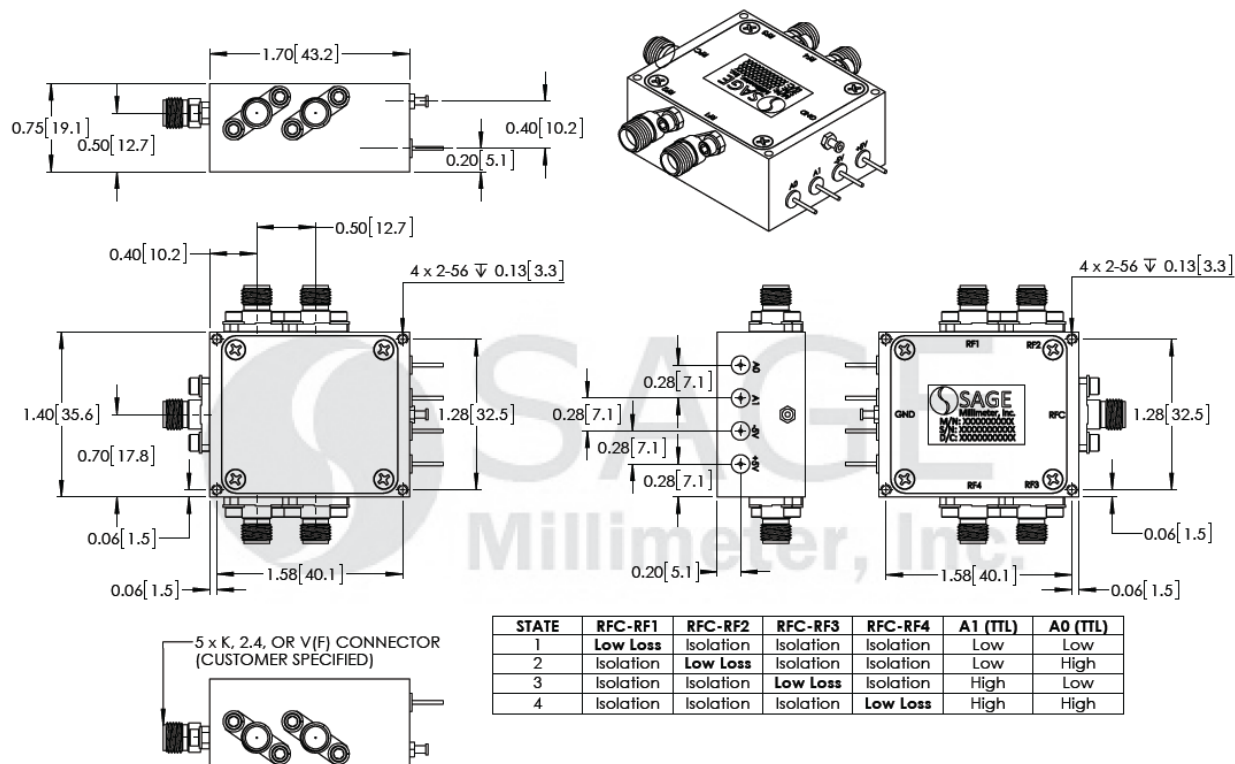
Typical Measured Results:

RF Frequency (GHz)	Insertion Loss (dB)				Isolation (dB)				VSWR				Power (dBm)	Speed (ns)
	IN-1	IN-2	IN-3	IN-4	IN-1	IN-2	IN-3	IN-4	IN-1	IN-2	IN-3	IN-4		
26.5	-3.4	-3.5	-3.5	-3.5	-57	-59	-57	-58	1.1	1.1	1.1	1.1		<100
33.25	-5	-4.9	-5.3	-4.9	-57	-51	-61	-56	1.3	1.3	1.3	1.2		
40	-5.8	-5.7	-5.9	-5.7	-46	-45	-46	-51	1.2	1.2	1.2	1.2		



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



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.

Caution:

- Exceeding absolute maximum ratings of the switch will damage the device.
- The switch is a static sensitive device. Always follow ESD rules when working with the switches.
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.