

## Digitally Controlled Phase Shifter, 8.5 to 10.5 GHz

### Description:

**Model SKP-8521030936-SFSF-D1** is a 6-bit digitally controlled phase shifter that covers the frequency range of 8.5 to 10.5 GHz. The phase shifter can be used in many applications such as transmit/receive modules and phased arrays. The phase shifter exhibits 9.0 dB typical insertion loss and offers a 360 degree phase shifting range and phase accuracy of  $\pm 5$  degrees.



### Features:

- 6 Bit Control
- Digitally Controlled
- 360° Phase Shifting
- Low DC Power Consumption

### Applications:

- Test Lab
- Phased Array Radar
- Transmit/Receive Modules
- Communications Antennas

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	8.5 GHz		10.5 GHz
Insertion Loss		9.0 dB	
Phase Shifting Range	0°		360°
Phase Accuracy (RMS)		$\pm 5^\circ$	
Bias		$\pm 5$ V/10 mA	
Switching Speed			50 ns
Power Handling			+25 dBm
Return Loss		10 dB	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

### Mechanical Specifications:

Item	Specification
Control Type	Digital
Control and Bias Connector	D-Sub 9 Pin Connector (F)
RF Connectors	SMA(F)
Finish	Gold Plated
Weight	1.3 Oz
Size	1.57" (L) x 1.30" (W) x 0.59" (H)
Outline	KP-DC-S1

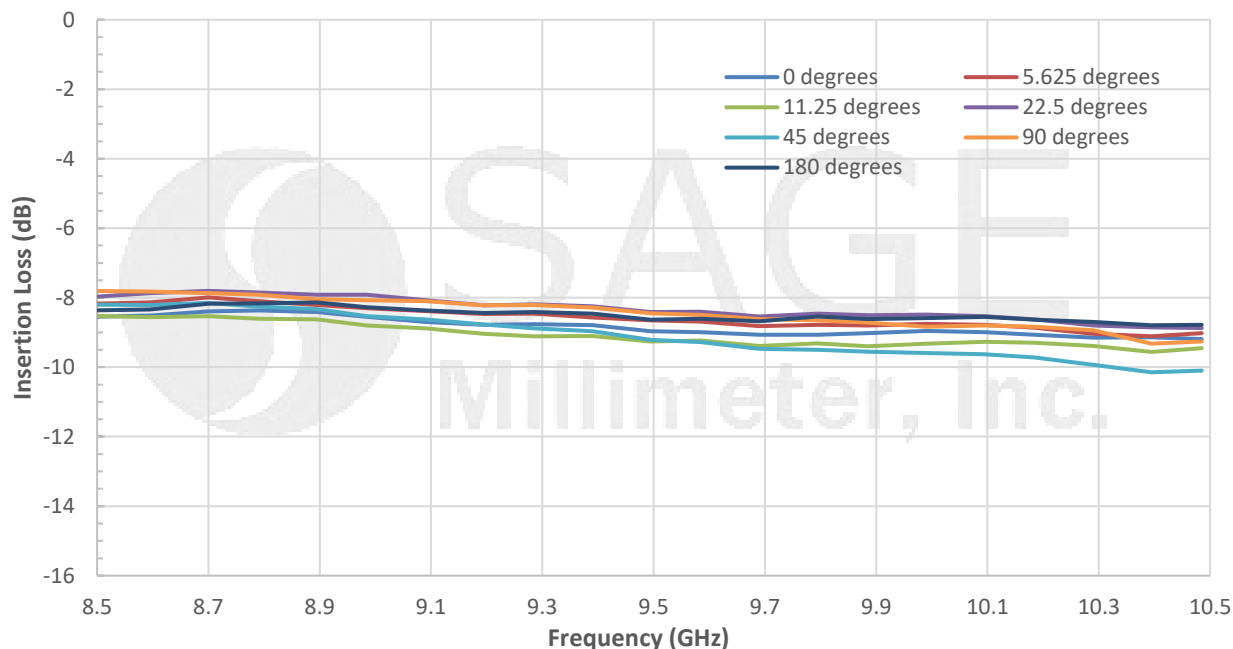




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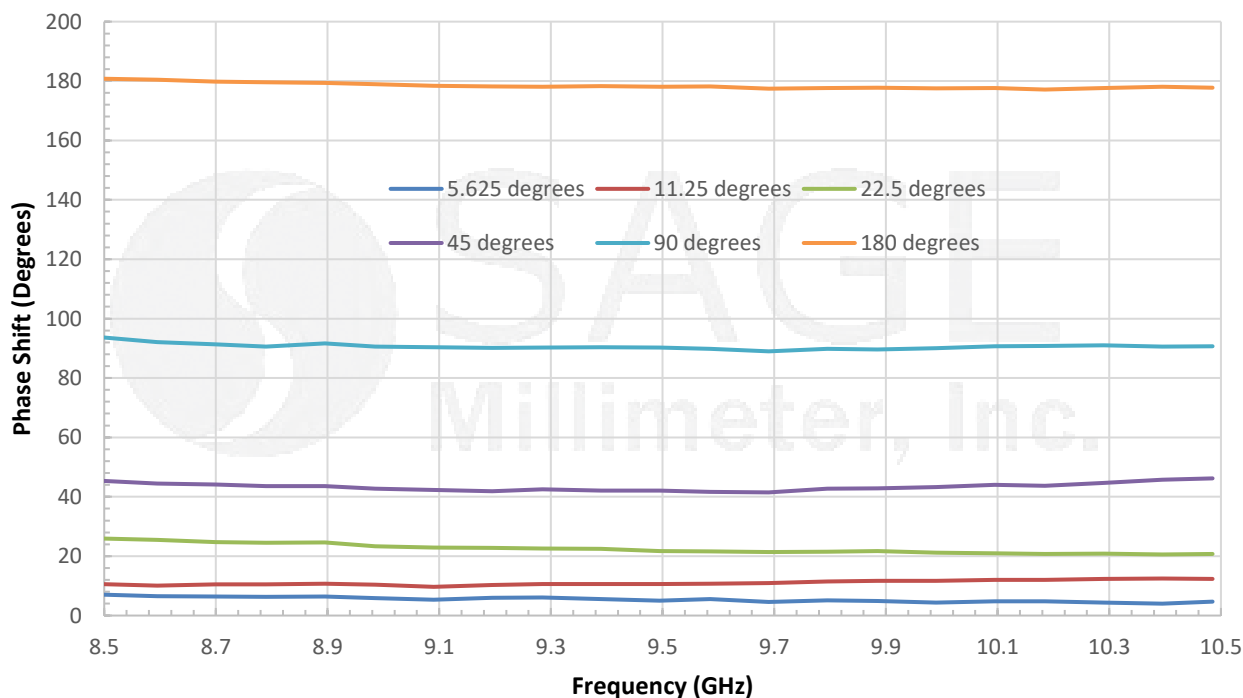
### Typical Insertion Loss vs. Frequency

Bias: +5V/<1mA ; -5V/<1mA



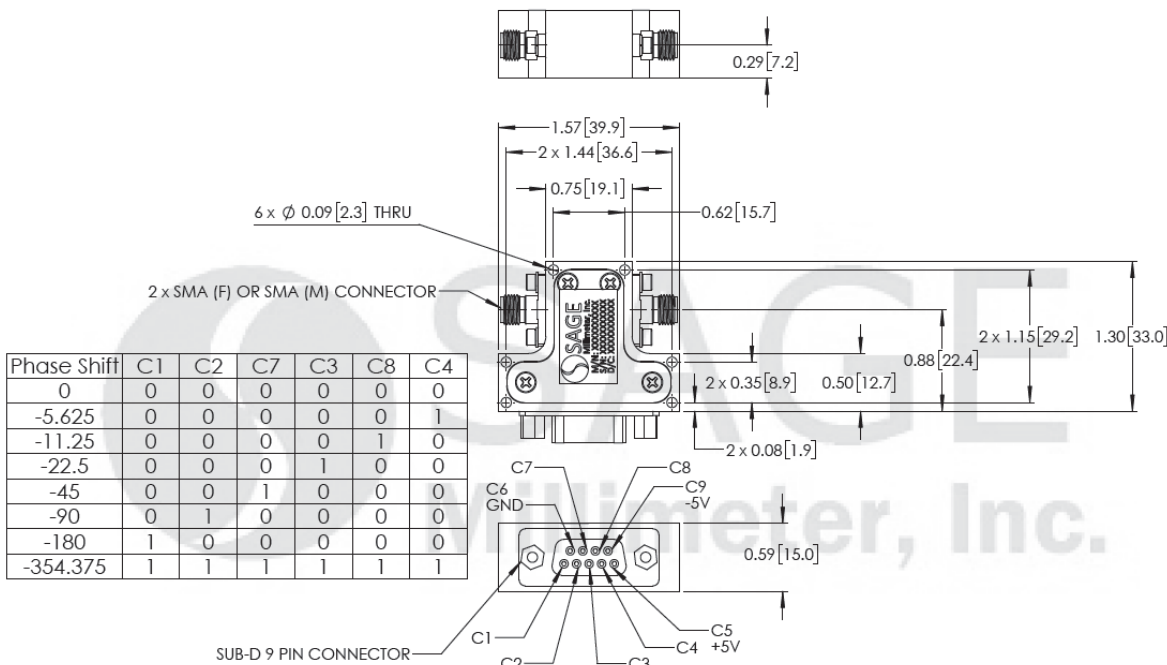
### Typical Phase Shift vs. Frequency

Bias: +5V/<1mA ; -5V/<1mA



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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.
- 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 device is a static sensitive. Always follow ESD rules when working with the attenuator.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.92 ± 0.05 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**