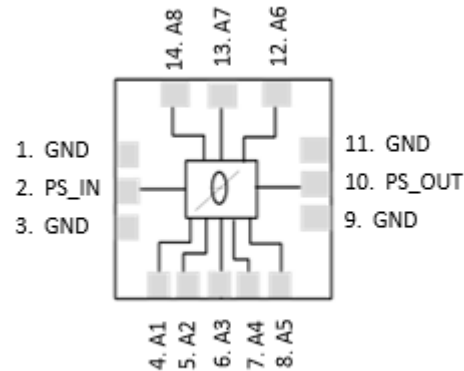


Features:

- High Frequency operation.
- 0-360degrees of phase shift @ 56-70 GHz.
- Low insertion loss of <1 dB @ 56-70 GHz
- Amplitude Variation less than ± 1.5 dB
- Control Voltage: Digital control voltage varying from +3.3V to -3.3V

Functional Block Diagram



Description:

RFICPS07 is an Digital phase shifter with control voltage varying from +3.3 to -3.3V. RFICPS07 Phase Shifter provides phase shift of 0 to 360 degrees from 56-70GHz with minimum insertion loss delta of 3dB. The technology used to design phase shifter is 0.1um GaAs Phemt process. This phase delta varies with frequency.

The phase shift is with respect to the control voltage. The low insertion loss and compact size enable this part to be used in a wide range of applications, including the phase adjustment of clocks in fiber optic systems, phase array system, Military application and test equipment.

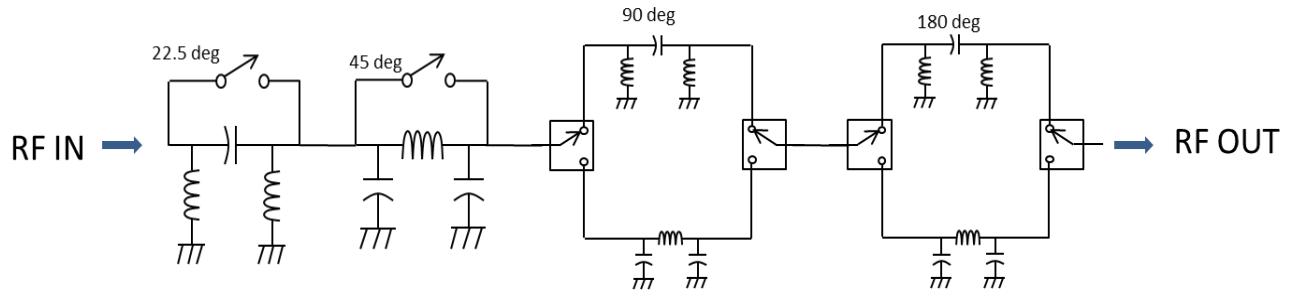
Applications

- Wireless 5G Systems
- Supports Phased array antenna system.
- Satellite Communication
- TDD/FDD System.

Pin Configuration:

Pin No.	Pin name	Description
1	GND	RF Ground
2	PS_IN	Input pin of Phase Shifter
3	GND	RF Ground
4	A1	control Voltage
5	A2	control Voltage
6	A3	control Voltage
7	A4	control Voltage
8	A5	control Voltage
9	GND	RF Ground
10	PS_OUT	Output pin of Phase Shifter
11	GND	RF Ground
12	A6	control Voltage
13	A7	control Voltage
14	A8	control Voltage

Circuit diagram of 4-bit Digital Phase Shifter



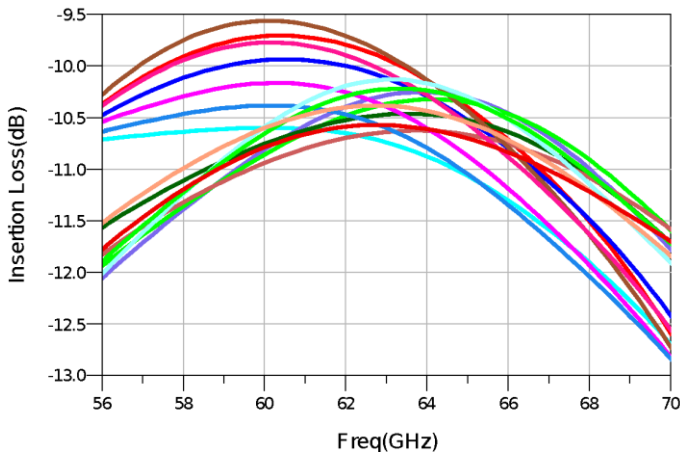
Electrical Specification:

Freq=56-70GHz, Digital Bit Control voltage sweep: +3.3V to -3.3V, $Z_0=50\Omega$.

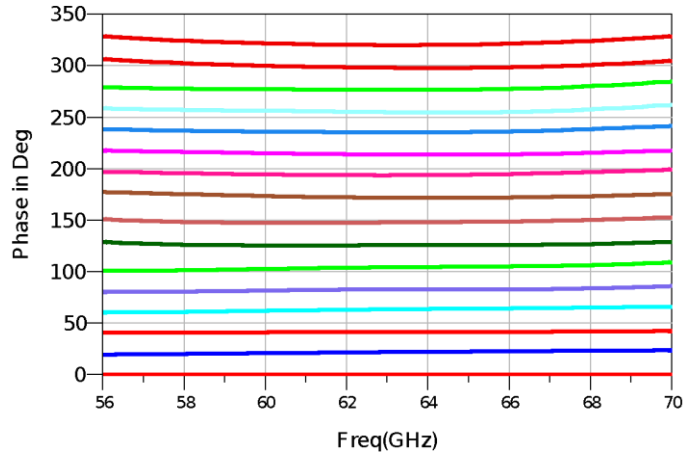
Parameter	Min.	Typ.	Max.	Units
Insertion Loss	-	-10	-12.5	dB
Input Return Loss	-	-10	-	dB
Output Return Loss	-	-10	-	dB
Phase Shift Delta	-	360	-	deg
Insertion Loss Variation	-	± 1.5	-	dB
Control Voltage Current	-	0.400	-	mA

Typical Performance Curves

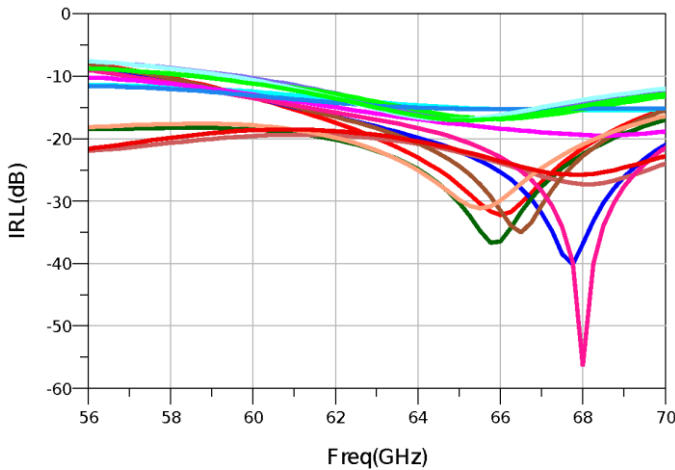
Insertion Loss



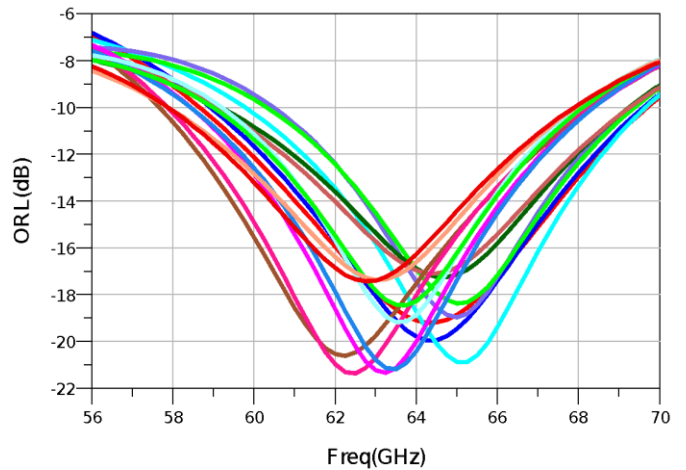
Phase vs Freq



Input Return Loss



Output Return Loss



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