

DESCRIPTION

The AS0225 IP is a 3.3-5 GHz 6-bit active Phase Shifter providing 360 degrees of phase coverage with an LSB step of 5.625 degrees, while maintaining low RMS phase and amplitude errors across the frequency range. It includes a two-stage passive RC polyphase filter, followed by an I/Q variable-gain amplifier. The nominal supply voltage is 1.8V and the block can operate from 3.3V with improved linearity if required. It can be used in a broad range of applications including beam-forming networks, distributed antenna systems, active antenna systems and phased array applications.

FEAUTES

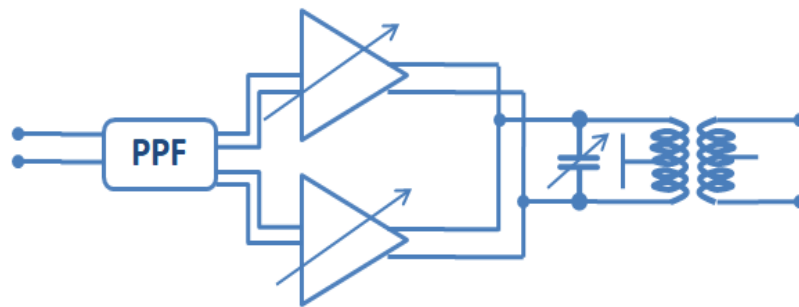
- ✓ Operating frequency : 3.3 GHz – 5 GHz
- ✓ Output 1dB CP = 7.0 dBm @ 1.8 V VDD
- ✓ = 11 dBm @ 3.3 V VDD
- ✓ Power gain = -1 dB to +3 dB
- ✓ Programmable phase shift (6-bit)
- ✓ Phase shift range : 0-355 degrees
- ✓ Phase shift step : 5.625 +/-0.5 degrees
- ✓ Current Consumption : 42 mA
- ✓ Technology node: GF 22FDX CMOS SOI

ABOUT ARGO SEMICONDUCTORS

Argo Semiconductors offers high quality RF IP products operating in the frequency region between 2 GHz and 10 GHz. Argo’s team has a long experience on Wi-Fi RF silicon product development and cellular RF silicon product development, bringing billions of chips to the market. Leveraging on these capabilities and building on its solid IP base, Argo helps its customers develop products that can meet the most stringent requirements, while shrinking the development time. IP customization is possible upon request.

APPLICATIONS

- Sub-6 GHz 5G NR
- Phased Array Applications
- Beam Forming Networks
- Active Antenna Systems
- Distributed Antenna Systems



Simplified Block Diagram

Phase Shifter Characteristics

Parameter	Minimum	Typical	Maximum	Units	Comments
Operating Frequency	3.3		5	GHz	
Supply Voltage		1.8/3.3		V	
Power Gain	-1		3	dB	
Output 1dB compression point		7		dBm	VDD = 1.8V
		11		dBm	VDD = 3.3V
Phase shift range	0		355	deg	
Phase shift step		5.625+/-0.5		deg	
Current consumption		42		mA	
Area		0.1		mm ²	

