

AS0224-2G

Digital VGA 2.4 GHz-2.5 GHz



DESCRIPTION

The Argo Semi AS0224 IP is a 6-bit programmable digitally controlled variable gain amplifier designed for use in a broad range of applications including WiFi 6/6E, Bluetooth, etc. It features high linearity over the entire gain control range with noise figure less than 5 dB in its maximum gain state.

FEATURES

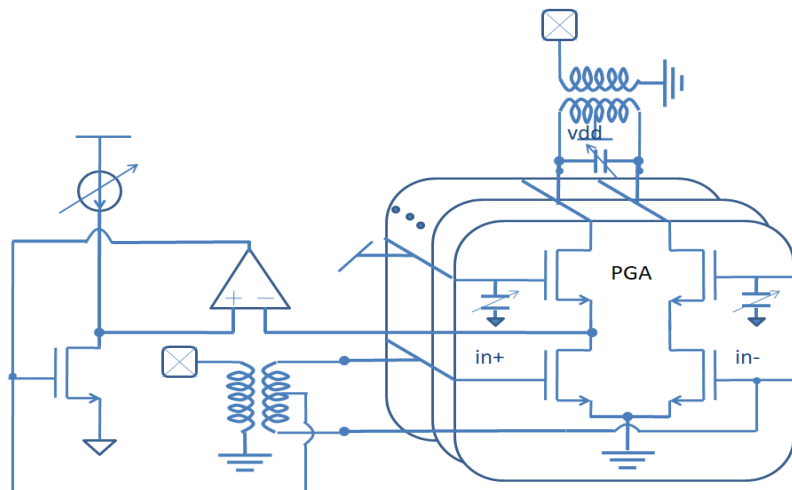
- ✓ Operating frequency: 2.4 GHz – 2.5 GHz
- ✓ Output 1dB CP: 11 dBm @ 1.8V VDD
- ✓ Power gain: -11 dB to 15 dB
- ✓ Programmable gain step 0.5 dB (6 bit)
- ✓ Power Consumption: 18 mW (typ)
- ✓ Technology node: GF 22FDX CMOS SOI

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

- WiFi 6/6E
- Bluetooth



Simplified Block Diagram

VGA 2.4GHz - 2.5GHz Characteristics					
Parameter	Minimum	Typical	Maximum	Units	Comments
Operating frequency range	2400		2500	MHz	
Operating temperature range	-40		110	°C	
Gain	-11		15	dB	6 bit control
Gain step		0.5		dB	
Output refered 1 dB Compression point	-5		11	dBm	at min/max dB gain
OIP3	-4		20	dBm	at min/max dB gain
Drain Voltage		1.8		V	
Noise Figure		5		dB	at max gain
Power consumption		18		mW	typ 10mA from 1.8V
Area		0.14		mm ²	