AS0221-3G
PA Driver 3.2 GHz – 5 GHz

DESCRIPTION

The Argo Semi AS0221-3G IP is Power Amplifier Driver operating in the frequency range of 3.2 GHz - 5 GHz. It is wideband with excellent linearity performance and compression levels. The unique characteristics make it suitable for 5G massive MIMO infrastructure applications and can support TDD systems. It exhibits high saturated output power and gain.

APPLICATIONS

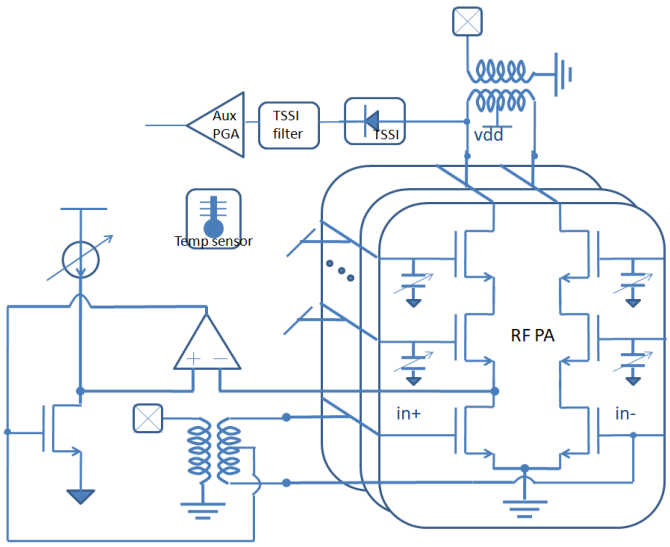
- WiFi6/6E
- Bluetooth
- 5G NR
- LTE

FEATURES

- ✓ High saturated output power Psat = 28 dBm
- ✓ High power gain Gp = 25 dB
- ✓ High linearity performance ACLR = -49 dBc for average channel power of 10 dBm
- ✓ Unconditionally stable
- ✓ Programmable bias current
- ✓ Support TDD systems
- ✓ 3.3 V single supply, quiescent current 120 mA
- ✓ Peak PAE : 32% (@ 1dB CP)
- ✓ 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.



Simplified Block Diagram

PA driver Characteristics					
Parameter	**Minimum**	**Typical**	**Maximum**	**Units**	**Comments**
Operating frequency range	3200		5000	MHz	
Operating temperature range	-40		110	°C	
Small signal gain (65°C)		25		dB	
Output power at 1 dB gain compression (65°C)		26		dBm	O1dBCP
Output Power at 3dB gain compression (65°C)		28		dBm	O3dBCP
Linear gain variation vs temperature		-0.0176		dB/°C	
dBS11 (input return loss)		2:1		dB	
dBS22 (output return loss)		2:1		dB	
Power supply voltage		3.3	4	V	
Output load		50		Ohm	
Idq (Power supply quiescent current)		120		mA	
Peak PAE (peak power added efficiency)		32		%	
Consumption under 1 dB compression		400		mA	
Power consumption		500		mW	120mA from 4V, 10mA from 1.22V
Area		0.5		mm²	

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