

## DESCRIPTION

The Argo Semi AS02212 IP is a CMOS inverter-based Pierce Crystal Oscillator (XO) at 80 MHz with internal doubler. The XO uses a fundamental-mode crystal for optimum performance. The XO feedback resistor is programmable in order to minimize the XTAL drive level. A variable gain buffer adjusts the output voltage to minimize spurs. The XTAL circuit operates from 1.4 V which is provided by an internal 1.8 V LDO. A frequency doubler provides an output of 160 MHz. The XO can also operate with a 3rd overtone crystal with reduced performance.

## FEATURES

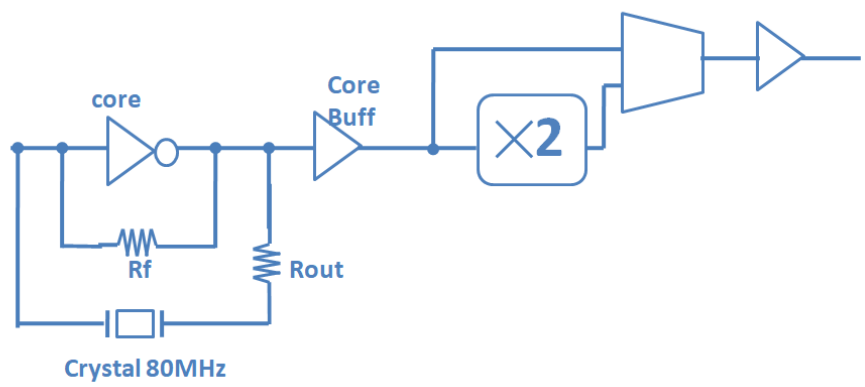
- ✓ Operating frequency: 80 MHz
- ✓ Supply voltage: 1.4V
- ✓ Power Consumption: 1 mW (typ)
- ✓ Technology node: GF 22FDX CMOS SOI

## 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/7
- Bluetooth
- 5G NR
- LTE



Simplified Block Diagram

XO Characteristics				
Parameter		Typical	Units	Comments
Supply Voltage		1.4	V	
Oscillation Frequency		80	MHz	fundamental XTAL
Output Frequency		160	MHz	
Phase Noise	1K	-137	dBc/Hz	80 MHz (before doubler)
	10k	-167	dBc/Hz	
	100k	-174	dBc/Hz	
	1M	-176	dBc/Hz	
XTAL Drive Level		160	uW	
Current Consumption		850	uA	
Area		0.4	mm <sup>2</sup>	