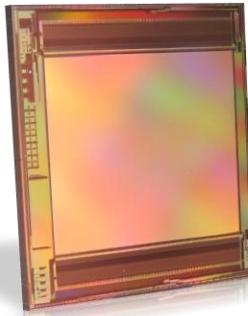


MT6420DDA

640×512-20μm Dual-Polarity Direct Injection ROIC



Features

- Dual-Polarity DI ROIC for 640×512-20μm FPAs
- 1, 2, 4, or 8 analog outputs with reference
- Programmable polarity, gain, and biasing
- Snapshot operation: ITR and IWR
- Low-power and high frame rates
- Cryogenic operation down to 65K

Technical Specifications

Array Format and Pitch	640 × 512		20μm × 20μm			
Pixel Polarity and Type	p-on-n or n-on-p		for InSb, MCT, and T2SL			
Input Circuit Type	Dual-Polarity Direct Injection (Dual-DI), programmable					
Full Well Capacity / Gain	FWC	1.5 Me-	3.0 Me-	6.0 Me-		
	Gain	4x	2x	1x		
Detector Biasing	Programmable in <1mV steps (-1.0V < Bias < 1.0V)					
Integration Time	Programmable from 10μs to 100ms in 1μs steps					
Analog Outputs	Programmable 1, 2, 4, or 8 with reference					
Output Swing	≥ 2.0V with adjustable gain and offset					
Readout Modes	Snapshot Operation: ITR and IWR Modes					
Windowing	Programmable Size and Location (64-pixel step size in XY)					
Frame Rate	≤ 200 Hz at full frame, upto 1000 Hz with windowing					
System Clock	Nominal 10MHz		Maximum 12MHz			
Supply Voltage	Nominal 3.3V and 1.8V		±5% variation at DC levels			
Power Dissipation	≤ 150 mW at 100 fps with 4-outputs					
Input Referred Noise	≤ 650e- at 77K, 1x Gain					
Operating Temperature	Cryogenic (T ≥ 65K) and room-temperature operation					
Temperature Sensor	On-chip active sensor with 1mV/K sensitivity					
Wafer / Die Sizes , DPW	Wafer: 200mm	Die:15.5mm × 15.5mm	Total Dice: 89	70 Functional Dice (Typical)		