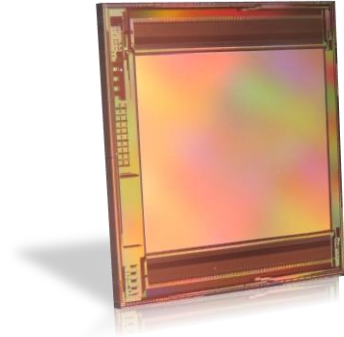


# MT6420DDA

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 Funcitonal Dice (Typical)