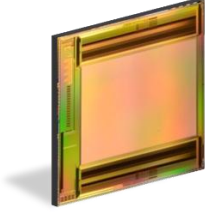# MT6410CAD

640×512–10µm CTIA VGA ROIC

Features

- New Low-Noise and High Resolution CTIA VGA ROIC
- 640×512-10µm SWIR FPAs including InGaAs, CQD, T2SL, MCT, and GeSi
- 2, 4, or 8 analog outputs with analog reference
- Programmable Biasing, Timing, and Windowing
- Snapshot Operation: ITR Mode
- Both Analog and Digital Output

Technical Specifications

Detector Array Format	640×512 (VGA)	
Pixel Size	10µm×10µm	
Pixel Polarity	Supports both p-on-n and n-on-p detector arrays	
Input Circuit Type	Capacitive Trans Impedance Amplifier (CTIA)	
Full Well Capacity (Double Gain)	HG: 10.000 e-	LG: 300.000 e-
Detector Biasing	12-bit programmable in 0.7mV steps	
Integration Time	Programmable from 100ns to 1s in 100ns steps	
Number of Analog Outputs	Programmable 2, 4, or 8 with reference	
Output Swing	< 2.0V with adjustable gain and offset	
Readout Modes	Snapshot Operation: ITR Mode	
Windowing	Programmable size and location	
Sub-Sampling	2:1 in Rows and Columns for faster scanning	
System Clock	Nominal 10 MHz (up to 12.5MHz)	
Frame Rate	≤ 260 Hz at full frame, upto 1000 Hz with windowing	
Power Dissipation	≤ 150 mW, 3.3V and 1.8V Supplies / 8-Output Mode	
Readout Noise	HG: < 10 e- rms	LG: < 110 e- rms
Operating Temperature	Room Temperature (300K) and Cryogenic (77K)	
Temperature Sensor	On-chip active sensor with 1mV/K sensitivity	
Wafer and Die Sizes	Wafer: 200mm	Die: 11.00 mm × 11.08 mm
Product Delivery	Tested singulated parts with test data	