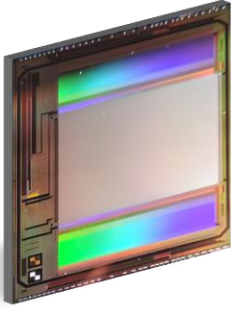


MT3817BA

384×288-17µm Q-VGA Microbolometer ROIC



Features

- Small form factor Q-VGA Microbolometer ROIC
- 384×288-17 µm Array format
- 1, 2, or 4 analog outputs with optional references
- Programmable Biasing, Timing, and Windowing
- High Speed, Low Power, and Low Noise
- ROIC parts on 200mm CMOS wafers

Array Format	384 × 288 Microbolometer Arrays				
Pixel Size	17 μm × 17 μm				
ROIC Operating Mode	Rolling Line				
Biasing and Timing	On-Chip Programmable				
Detector Resistance (R _{det})	60 kΩ ±50%	200 kΩ ±50%	400 kΩ ±25%	750 kΩ ±25%	1 MΩ ±20%
	Gain 1x	Gain 2x	Gain 4x	Gain 8x	Gain 16x
Integration Time	Programmable from 1 μs to 1 ms in steps of 1 period of system clock				
Number of Analog Outputs	Programmable 1, 2, or 4 analog video, Programmable 1 or 2 analog reference				
Analog Outputs	Swing ≤ 2.0 V		Load Capacitance ≤ 15 pF		Load Resistance ≥10MΩ
Gain and Offset	On-Chip Programmable gain and offset				
Windowing	Programmable size and location				
Frame Rate	≤ 150 fps				
Supply Voltage	Analog : 3.3 V Core and I/O			Digital: 1.8V Core, 3.3V I/O	
System Clock	Nominal: 12 MHz			Maximum: 48 MHz	
Pixel Clock	Nominal: 3 MHz			Maximum: 12 MHz	
Programming Interface	6-Wire Serial Programming Interface (SPI) Address based control and NUC			4-bit Input (for NUC Operations) 1-bit Serial Output, and 1-bit Enable	
Power Dissipation	≤ 100mW @ 50 fps with 2 outputs				
Output Noise Level	≤ 0.5mV rms at 300K				
Temperature	Operated with TEC: 25 °C ≤ T _{op} ≤ 30 °C Operated w/o TEC: -35 °C ≤ T _{op} ≤ 60 °C				
Temperature Sensor	On-chip sensor with 1mV/K sensitivity				
Wafer / Die Sizes, DPW	Wafer: 200mm	Die: 9.8 mm×12.2 mm	Total: 196 Die	165 A+ Grade Die (Typical)	
Pads	Dual pad structure: 1 for probing and 1 for wirebonding				
Package Pin Count	≤ 22 (when used with a fan-out ceramic board in the package)				
Synchronization	Master Mode: self-triggered Slave Mode: Frame synchronization via frame sync input				
TEC-LESS Operation	Supported using dynamically updated NUC tables based on ROIC operation temperature				