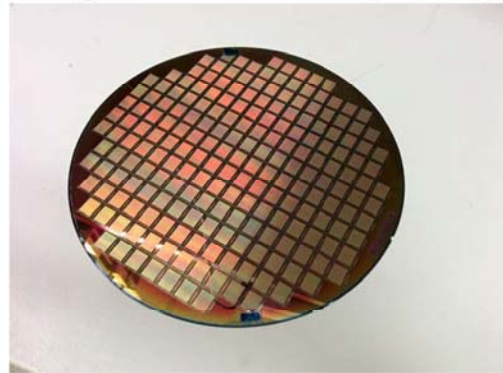


High-Performance Digital Readout Integrated Circuit (ROIC)

Key Features

- VGA Resolution: 640 x 512 pixels
- Active Pixel Area: 9.6 mm (H) × 7.7 mm (V); 12.29 mm (Diagonal)
- 15 μm x 15 μm Square Pixels
- 1 inch Optical Format
- Frame Rate: 800 FPS @ VGA resolution
- Windowing (ROI): High-Speed Sub-Window: 4500 FPS (64x64)
- Electronic Global Shutter
- 12-bit per Pixel ADC
- Digital Output
- Selectable Analog Gain
- Power Supply of 3.3V/ 1.8V
- -40°C to +85°C Operational Temperature Range



Description

B92-640C is a VGA (640x512-pixel) resolution CMOS Digital Readout Integrated Circuit (ROIC) for next generation high performance 2-D array image sensors that require high-sensitivity, low-noise, and high dynamic range. It can operate at high frame rates up to 800 frames per second (FPS) at full VGA resolution while maintaining a low power profile. It is compatible with various material systems focal plane arrays for VIS-SWIR, MWIR, and LWIR imaging.

Applications

- High Speed Imaging / Short Integration
- SWIR Imaging, Night Vision /Fog Vision
- Homeland Security – Security & Surveillance, Military
- First-responders, Law Enforcement & Public Safety
- Automotive – Autonomous & Non-Autonomous Driving Sensors – Safety, Collision, Obstacle Avoidance
- Machine Vision
- Inspection – Solar Cell & Silicon Ingot
- Agricultural QC & Food Sorting
- Process Control – Semiconductor
- Spectroscopy, Microscopy, Scientific Imaging, Raman Chemical ID - Pharma
- Space & Atmospheric Remote Sensing
- Bio - Medical Imaging
- VIS-SWIR (Multispectral) Imaging
- MWIR/LWIR Imaging

Parameter	Specification
Optical Format	1" Format
Pixel size	15 μm x 15 μm
Number of Total Pixels	640 (H) x 512 (V)
Dynamic Range	100 dB
Shutter Type	Global Shutter
ROI	Programmable
ADC Resolution	12-bit
Frame Rate	Max. 800 FPS @ VGA
Full well charge	HG: 100,000 e- LG: 500,000 e-
Digital LVDS output	24 LVDS
Data output Rate	160 MHz
Power Supply	1.8V/3.3V
Power Consumption	Typ. < 500 mW
Integration Time	HG: 3.33 us - 26 ms LG: 12.8 us - 100 ms
Type of Package	CLCC 84 pin