TELEDYNE
IMAGING SENSORS
Everywhereyoulook™

Micro-Cam™

Infrared Camera System for Very Low Background Instrumentation

Camera Components

- Focal Plane Array (FPA): Detector array integrated with Read out integrated circuit (ROIC) in a hybrid unit
- Dewar: LN2 pour filled dewar with no internal optics, other than a limiting cold aperture defining the F/# and a AR coated sapphire entrance window
- Orientation: Available in Sideward looking, Downward looking or Upward looking options
- LN2 Cooling System: Includes dewar interface bulb, hoses and tank valve
- Control Electronics: Provide all clocking and biases to the FPA and digitizing array in multiple video taps at selected pixel rates
- Cables: Data, Communication and Power
- Temperature sensor/control electronics: Internally mounted temperature sensor and heater

Available Options

- Power supply
- Image acquisition system

Upward Looking Configuration

Specifications

FPA format	256 x 256 with 40 micron pixel pitch (PICNIC ROIC) 640 x 512 or 1016 x 1016 with 18 micron pixel pitch (HAWAII ROIC)
Detector material	Silicon for visible band from 400 nm to 1.0 mm InGaAs for NIR from 900 to 1600 nm HgCdTe for SWIR to MWIR from 900 nm to 5.0 mm
Mean QE	Wavelength, AR coating and temperature dependent. >80% peak QE achievable.
Frame rate	Range from 1Hz to >60 Hz, depending on FPA array size, clock speed and ROIC type
Mean dark current	Detector material and temperature dependent (e.g. < 2e- for HgCdTe at 77K)
Total Noise per frame	ROIC dependent (e.g. < 20 e- for HAWAII ROIC achievable)
Mean well capacity	>80,000 e- depending on system gain
Response operability	≥98%
Integration and triggering	Can be triggered by TTL compatible input signal. Integration time will be Pattern Generator register entry controlled by customer
Windowing mode	ROIC type dependent
Electrical interface	16-bit data digitization with either CameraLink or AIA 16 bit RS422 w/ RS232 differential serial link, electrically isolated from camera electronics

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