



UC320D OEM MICROBOLOMETER INFRARED CAMERA SPECIFICATION

Lumitron introduces the fully customizable OEM Microbolometer Infrared Camera Module. This product includes a baseline FPA and allows the customer to select an optic, select a housing, select the I/O requirements and select their own product name (since this is your product). This camera will have your company's look and feel including any labeling that you desire. These options can be selected from our existing solutions, can be fully developed by the customer and integrated into the product or designed to your requirements by our engineering staff.



The Lumitron ECS320A Embeddable Camera Electronics System provides the foundation of the camera module. The ECS320A is comprised of three primary printed circuit board assemblies (each 2 inches x 2 inches). The ECS320A architecture includes an FPA-specific FPA Support Electronic PCB, a universal Camera Controller PCB and a universal Camera Support Electronic PCB. The ECS320A provides high-functionality imaging capabilities which include: FPA clocking / biasing / power generation, FPA analog video conditioning, FPA video analog-to-digital conversion (14-Bit), FPA non-uniformity correction (two point with ambient temperature compensation and run-time refresh), defective pixel replacement, dual 14-Bit in / 16-Bit out intensity transformation tables (contrast enhancement / radiometric transforms), automatic gain and level control (linear or histogram equalization), interpolated horizontal remapping, display freeze and 2x zoom, standard format analog video generation (NTSC or PAL), 15 color full-screen bit-mapped symbology overlay onto video output, thermoelectric cooler control, calibration flag controller, and input power conditioning / regulation. An application specific Panel I/O PCB connects the ECS320A primary electronics to the external environment.



FPA Specifications

Manufacturer and Part No.	DRS U3000AR
Detector Type	Microbolometer
Array Format	320 x 240
Detector Material	VOx
Pixel Size / Fill Factor	51 x 51 μm / 60%
Spectral Range	8 - 14 μm
Dynamic Range	> 1000:1 Typical
Operability	>99.5% (Lumitron Supplied)
FPA Operating Temperature	25°C
NEdT (camera level)	<60 mK (typical w/ f1.0 optic)

Packaging / Cooler Specifications

Cooler Type	Thermoelectric Cooler (TEC) Temperature Stabilizer
TEC Stabilization Time	< 60 seconds (at 25°C Ambient)
Package Type	Hermetically Sealed Vacuum Package
Package Window	AR Coated

Camera Performance

Analog Video	NTSC or PAL (factory set)
FPA Frame Rate	59.94 frames/sec NTSC, 50 frames/sec PAL
Digital Video	14 – Bit (uncorrected, corrected, pixel replaced) 8 or 16 – Bit (post transform)
Non-Uniformity Correction Tables	Up to 3 available
Video A/D Resolution	14 Bits
Calibration Flag	Ambient and Elevated Temp, Automated / Periodic One Point Refresh
External Timing	External Sync and External Clock
Remote Control	RS232, RS422 full duplex or RS485 half duplex (factory set)
Power Input	+6 to +16 VDC, +16 to +25 VDC, or +25 to + 28 VDC (range factory set)
Power Consumption	<4 W Steady State (3.6 W typical @ 25°C amb), <12 W at Startup (1 min)

Enclosure Specifications (overall camera packaging determined by OEM Customer)

Dimensions	3.00 in H x 3.00 in W x 7.00 in L minimal (w/o lens)
Weight	3.0 lbs minimal (w/o lens)
Operating Temperature	-20 to 50°C (depending on Customer design) Contact Factory for Extended Temperature Range
Storage Temperature	-40 to 85°C
Water Resistance	NEMA 4 (depending on Customer design)
Humidity	10 to 95% non-condensing (depending on Customer design)
Connectors	Quantity and Type determined by Customer

f/1.4 Optics (other focal lengths and focus options are available)

Focal Length	Minimal Focus	FOV
13 mm	2 inches	69° x 53°
25 mm	12 inches	36° x 28°
50 mm	22 inches	18° x 14°
100 mm	36 inches	9° x 7°
200 mm	120 inches	4.5° x 3.5°

These Features and Specifications are subject to change without notice.
