

DIONE 640 CAM SERIES

Ultra-compact LWIR thermal imaging core

- SWaP optimized, uncooled and shutterless
- Microbolometer detector with 640x480 pixel resolution and 12 μm pixel pitch



STATE-OF-THE-ART THERMAL IMAGING CORE

The Dione 640 CAM series is based on an uncooled microbolometer detector with a 640x480 pixel resolution and 12 μm pixel pitch. The detector NETD is less than 40 mK (available upon request) or 50 mK. The maximum frame rate is 60 Hz.

Dione 640 CAM is a LWIR uncooled thermal imaging core with housing supporting M24/M34 lens (optional).

Dione 640 CAM benefits from Xenics image enhancement for advanced image processing while keeping power consumption low. Moreover, GenICam compliance and availability of multiple lenses adds flexibility for integration programs in the target markets like safety and security, transportation and industrial process monitoring.

DESIGNED FOR USE IN

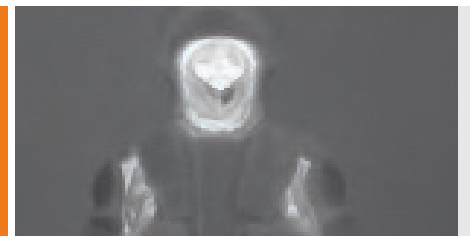
- Safety & Security
- Transportation
- Process Monitoring

ADVANTAGES

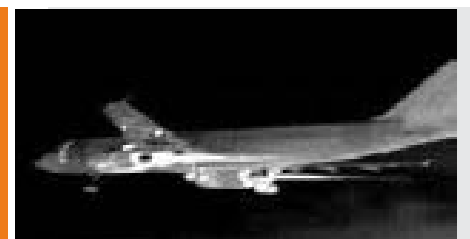
- Ultra-compact size, low weight and power (SWaP)
- 640x480 microbolometer detector with 12 μm pixel pitch
- Frame rates up to 60 Hz
- Detector NETD is less than 40 mK (available upon request) or 50 mK
- Uncooled and shutterless



Border Security



Thermal Security



Vision Enhancement

SPECIFICATIONS

Camera Specifications	Dione 640 CAM 40 mK	Dione 640 CAM 50 mK
Mechanical specifications		
Camera dimensions (width x height x length) [mm] (approx.)	31 x 31 x 22 (M24 - 16bit DV); 40 x 40 x 24 (M34 - 16bit DV); 31 x 31 x 30 (M24 - MIPI CSI-2); 40 x 40 x 32 (M34 - MIPI CSI-2); 31 x 31 x 29 (M24 - UVC); 40 x 40 x 31 (M34 - UVC); 31 x 31 x 31 (M24 - USB); 40 x 40 x 33 (M34 - USB)	
Optical interface (optional)	M24x0.5 or M34x 0.5	
Camera weight [gr]	27 (M24 - 16bit DV); 30 (M34 - 16bit DV); 37 (M24 - MIPI CSI-2, USB); 40 (M34 - MIPI CSI-2); 36 (M24 - UVC); 39 (M34 - UVC); 42 (M34 - USB)	
Connector general I/O	SAMTEC ST5-30-1.50-L-D-P-TR [16bit DV]; 22-pin FFC/FPC connector (Molex) [MIPI CSI-2]; 80-pin Hirose DF40C-80DP-0.4V (51) [UVC]; Type B USB 3.0 [USB]	
Environmental & power specifications		
Operating temperature range (housing temperature) [°C]	From -40 to +70 (16bit DV, UVC, USB); From -30 to +70 (MIPI CSI-2)	
Storage temperature [°C]	From -45 to +85(16bit DV, UVC); From -40 to +85 (USB); From -30 to +85 (MIPI CSI-2)	
Power consumption [W]	0.750 (60 Hz operation; 16bit DV); < 1.1 (MIPI CSI-2); <1.32 (UVC); < 1.3 (USB)	
Power supply voltage	DC 5 V	
Shock	40 g, 11 ms, MIL-STD810G	
Vibration	5 g (20 to 2000 Hz), MIL-STD810G	
Regulatory compliance	RoHS	
Electro-optical specifications		
Image format [pixels]	640x480	
Pixel pitch [µm]	12	
Integration type	Rolling shutter	
Active area and diagonal [mm]	7.68 x 5.76 (diagonal 9.6)	
Detector NETD (Noise Equivalent Temperature Difference) [mK]	<40 (at 30 Hz, 300K, F/1), available upon request	<50 (at 30Hz, 300K, F/1)
Spectral range [µm]	8-14	
Pixel operability	>99.5% (excluding 3 peripheral rows and columns)	
Max frame rate [Hz] [full frame]	60	
Integration time range [µs]	20 - 65	
Analog-to-Digital [ADC] [bits]	14	
Command and control	via SAMTEC ST5 connector [16bit DV]; I2C (or via SAMTEC ST5 connector on Dione 640) [MIPI CSI-2]; GenCP protocol over COM port [UVC]; GenCP over virtual COM port enumerated over the USB interface [USB]	
Digital output format	16bit DV, MIPI-CSI-2, UVC, USB	
Trigger	via SAMTEC ST5 connector (16bit DV); NA (UVC, USB, MIPI CSI-2)	
Product selector guide		
Part number	XEN-000697	XEN-000696

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