

# DIONE S 1280 CAM SERIES

Ultra-compact LWIR thermal imaging core

- SWaP optimized, uncooled with mechanical shutter
- Microbolometer detector with 1280x1024 pixel resolution and 12  $\mu\text{m}$  pixel pitch



## STATE-OF-THE-ART THERMAL IMAGING CORE

The Dione S 1280 CAM Series is based on an uncooled microbolometer detector with a 1280x1024 pixel resolution and 12  $\mu\text{m}$  pitch. The detector NETD is less than 40 mK (available upon request) or 50 mK.

Dione S 1280 CAM is a LWIR uncooled thermal imaging core with housing supporting M34/M45 lens (optional).

All Dione S 1280 versions benefit 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)
- 1280 x 1024 microbolometer detector with 12  $\mu\text{m}$  pitch
- Frame rates up to 60 Hz
- Detector NETD is less than 40 mK (available upon request) or 50 mK
- Uncooled with mechanical shutter



Border Security



Thermal Security



Vision Enhancement

## SPECIFICATIONS

Camera Specifications	Dione S 1280 CAM 40 mK	Dione S 1280 CAM 50 mK
Mechanical specifications		
Camera dimensions (width x height x length) [mm] (approx.)	60x55x39 (M34 - 16bit DV); 65x62x40 (M45 - 16bit DV); 55x60x39 (M34 - MIPI CSI-2, USB), 62.2x65.3x40 (M45 - USB); 60x60x40 (M45 - MIPI CSI-2)	
Optical interface	M34x0.5 or M45x 0.75	
Camera weight [gr]	188 (M34 - 16bit DV); 190 (M45 - 16bit DV); 194 (M34 - USB), 196(M45 USB); 192 (M34 - MIPI CSI-2), 194 (M45 - MIPI CSI-2)	
Connector general I/O	SAMTEC ST5-30-1.50-L-D-P-TR [16bit DV]; 22-pin FFC/FPC connector (Molex) [MIPI CSI-2]; Type B USB 3.0 [USB]	
Environmental & power specifications		
Operating temperature range (housing temperature) [°C]	From -40 to +70 (16bit DV, USB); From -30 to +70 (MIPI CSI-2)	
Storage temperature [°C]	From -40 to +85 (16bit DV, USB); From -30 to +85 (MIPI CSI-2)	
Power consumption [W]	2.3 (at 60 Hz operation; 16bitDV); <2.6 (MIPI CSI-2), < 2.7 (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]	1280x1024	
Pixel pitch [µm]	12	
Integration type	Rolling shutter	
Active area and diagonal [mm]	15.36 x 12.29 (diagonal 19.67)	
Detector NETD (Noise Equivalent Temperature Difference) [mK]	<40 (at 30 Hz, 300 K, 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 (16bit DV, MIPI CSI-2); 40 (USB)	
Integration time range [µs]	20 - 65	
Analog-to-Digital [ADC] [bits]	14	
Command and control	via SAMTEC ST5 connector [16bit DV]; I2C [MIPI CSI-2]; GenCP over virtual COM port enumerated over the USB interface [USB];	
Digital output format	16bit DV, MIPI CSI-2; USB	
Trigger	via SAMTEC ST5 connector (16bit DV); NA (MIPI CSI-2, USB)	
Product selector guide		
Part number	XEN-000736	XEN-000735

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