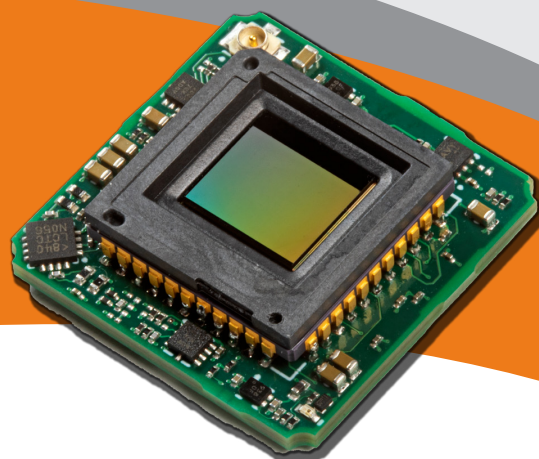


DIONE 640 OEM SERIES

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 OEM 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.

The Dione 640 OEM comes as a single PCB based core, with an ultra-compact form factor of just 25 x 25 x 10 mm³.

The Dione 640 OEM 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 OEM 40 mK	Dione 640 OEM 50 mK
Mechanical specifications		
Camera dimensions (width x height x length) [mm] (approx.)	25 x 25 x 10	
Optical interface	-	
Camera weight [gr]	6	
Connector general I/O	SAMTEC ST5-30-1.50-L-D-P-TR	
Environmental & power specifications		
Operating temperature range (housing temperature) [°C]	From -40 to +70	
Storage temperature [°C]	From -45 to +85	
Power consumption [W]	0.750 (60 Hz operation)	
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	
Detector type	Microbolometer	
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 30 Hz, 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 recommended (1 - 100 is possible)	
Region of interest	Yes	
Min region size [pixels]	80 x 80	
Analog-to-Digital [ADC] [bits]	14	
Command and control	via SAMTEC ST5 connector	
Digital output format	16bit DV (standard), MIPI CSI-2 (optional), UVC (optional)	
Trigger	via SAMTEC ST5 connector	
Product selector guide		
Part number	XEN-000734	XEN-000733



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DIONE 640 CAM SERIES

Ultra-compact LWIR thermal imaging core

- SWaP optimized, uncooled operation
- 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



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*; 40 x 40 x 24*	
Optical interface (optional)	M24 or M34 x 0.5	
Camera weight [gr]	27*; 30*	
Connector general I/O	SAMTEC ST5-30-1.50-L-D-P-TR	
Environmental & power specifications		
Operating temperature range (housing temperature) [°C]	From -40 to +70	
Storage temperature [°C]	From -40 to +85	
Power consumption [W]	0.750 (60 Hz operation; 16bit DV)	
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	
Detector type	Microbolometer	
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 recommended (1 - 100 is possible)	
Region of interest	Yes	
Min region size [pixels]	80 x 80	
Analog-to-Digital [ADC] [bits]	14	
Command and control	via SAMTEC ST5 connector	
Digital output format	16bit DV**, MIPI CSI-2**, UVC**, USB**	
Trigger	via SAMTEC ST5 connector	
Product selector guide		
Part number	XEN-000697	XEN-000696

* refers to specifications applicable for optical interfaces (optional)

** refers to digital output formats/interfaces that are available as options



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