

DIONE S 1280 CAM SERIES

Ultra-compact LWIR thermal imaging core

- SWaP optimized, uncooled with mechanical shutter
- Microbolometer detector with 1280x1024 resolution and 12 μm pixel pitch



STATE-OF-THE-ART HIGH RESOLUTION THERMAL IMAGING CORE

The Dione S 1280 series is based on an uncooled microbolometer detector with a 1280x1024 pixel resolution and 12 μm pixel pitch. The NETD (Noise Equivalent Temperature Difference) is less than 60 mK and the maximum frame rate is 60 Hz.

The Dione S 1280 CAM comes in two variations:

- (1) Dione S 1280 CAM M34 with a small housing and M34x0.5 optical mount
- (2) Dione S 1280 CAM M45 with a small housing and M45x0.75 optical mount

All Dione S 1280 versions benefit from Xenics image enhancement for advanced image processing while keeping power consumption low (approximately 2.1 W).

A 16 bit digital video output (compatible with CameraLink) is available on all versions, via the SAMTEC ST5 connector. Moreover, GenICam compliance and availability of multiple lenses adds flexibility for integration programs in the target markets such as safety and security, transportation and industrial process monitoring.

DESIGNED FOR USE IN

- Safety & Security
- Transportation
- Process Monitoring

ADVANTAGES

- Ultra-compact size, high resolution, low weight and power (SWaP)
- 1280x1024 microbolometer detector with 12 μm pixel pitch
- Frame rates up to 60 Hz
- Uncooled with mechanical shutter



Thermal security



Vision enhancement



Border security

SPECIFICATIONS

Camera Specifications	Dione S 1280 CAM M34	Dione S 1280 CAM M45
Mechanical specifications		
Dimensions (excluding lens)	55 x 60 x 39 mm ³	65 x 62 x 40
Weight (excluding lens)	TBD	TBD
Optical interface	M34 x 0.5	M45 x 0.75
Connector GigE		-
Connector CameraLink		-
Connector power		-
Connector trigger		-
Connector analog		-
Connector RS232		-
Connector RS232		-
Connector general I/O	SAMTEC ST5-30-1.50-L-D-P-TR	
Environmental & power specifications		
Ambient operating temperature range [°C]	From -40 to +70	
Storage temperature [°C]	From -40 to +85	
Power consumption [W]	2.1 (at 60Hz); 1.9 (at 30 Hz)	
Power supply voltage	DC 5 V	
Shock	40 g, 11 ms, MIL-STD810G	
Vibration	5 g [20 to 2000 Hz], MIL-STD810G	
IP rating	-	
Regulatory compliance	RoHS	
Electro-optical specifications		
Image format [pixels]	1280x1024	
Pixel pitch [µm]	12	
Detector type	Microbolometer	
Sensor cooling	-	
Integration type	Rolling Shutter	
Active area and diagonal [mm]	15.36 x 12.29 [diagonal 19.67]	
Detector NETD [Noise Equivalent Temperature Difference] [mK]	<60 [at 30Hz, 300K, F/1]	
Optical fill factor	-	
Spectral range [µm]	8 - 14	
Quantum efficiency	-	
Gain modes	-	
Full well capacities [electrons]	-	
Read noise [electrons]	-	
Dark current [electrons/second]	-	
Read out modes	-	
Pixel operability	>99.5% (excluding 3 peripheral rows and columns)	
Preconfigured exposure time range [ms]	-	
Max frame rate [Hz] (full frame)	60	
Integration time range [µs]	20 - 65 recommended (1-65 µs is possible)	
Region of interest	No	
Min region size [pixels]	-	
Max frame rate [Hz] (min region size)	-	
Analog-to-Digital (ADC) [bits]	14	
Command and control	Via SAMTEC ST5 connector	
Digital output format	16 bit (compatible with CameraLink)	
Trigger	Via SAMTEC ST5 connector	

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