

Compact Thermal and Visible OEM Camera Module Featuring Prism ISP

LEPTON XDS



The ITAR-free Lepton® XDS combines a factory-aligned radiometric 160 x 120 Lepton 3.5 thermal camera with a 5 MP visible camera in an easy-to-integrate module featuring onboard Prism™ ISP image-signal-processing software. Its size, weight, and power (SWaP)-optimized design streamlines OEM integration for mobile devices, compact electronics, smart buildings, fire detection, occupancy analytics, and equipment-condition-monitoring applications.

Prism ISP includes Teledyne FLIR's patented MSX® technology, which overlays visible-edge detail onto thermal imagery for enhanced real-time clarity. Thermographic tools include regions of interest (ROI), spot meters, isotherms, adjustable color palettes, and additional measurement overlays. VividIR™, Teledyne FLIR OEM's patented image-processing technique, delivers superior thermal sharpness and detail typically associated with more expensive QVGA sensors.

For the first time, Lepton XDS also supports saving images in advanced radiometric JPEG (RJPG) format, ensuring seamless compatibility with the broader software ecosystem, including FLIR Thermal Studio for post-processing and report generation.



STREAMLINE OEM INTEGRATION

Optimize design and schedule with intelligent and compact dual-camera module

- Factory-aligned radiometric 160x120 thermal and 5MP visible camera
- Accelerate integration with Development Board Kit accessory
- Compact size and lightweight 5.6 g with USB output



SUPERIOR IMAGERY FEATURING PRISM ISP

Real-time, advanced image signal processing optimizes multi-spectral image

- Patented FLIR MSX and VividIR included
- Advanced measurement and symbology provide ROIs, spot meters, and color palettes
- Access to radiometric JPEG file formats for seamless use in the FLIR ecosystem



HIGH-VOLUME PRODUCTION

Develop with the industry-leading thermal camera manufacturer to reduce risk, cost, and time to market

- ITAR free and classified under US Department of Commerce jurisdiction as ECCN 6a993.a
- Highly qualified, technical services team available to support integration
- Proven consumer electronics quality assurance metrics

For more information visit:
oem.flir.com/XDS

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SPECIFICATIONS

Imaging & Optical	
Thermal Imaging Detector	Lepton 3.5 160 x 120 pixels, 12 µm pitch
Thermal Sensitivity	<50 mK (0.050 °C)
EO Camera Optics	EFL 1.57mm, 98.2° HFOV, f/1/2.2
EO Camera Sensor	2592 x 1944 pixels (5 MP), 1.4 µm pitch
EO Camera Video	640x480 @ 30Hz
Aspect Ratio, Visible	4 to 3
IMU	No IMU installed
IR Camera Optics	57° HFOV, f/1.1
IR Camera Video	8.7 Hz (commercial application exportable)
Aspect Ratio, Thermal	5 to 4
Radiometry	
Temperature Accuracy	High Gain: Greater of ±5 °C (41 °F) or 5% (typical) Low Gain: Greater of ±10 °C (50 °F) or 10% (typical)
Electrical	
Power	1.6 W Operating, 1.9 W Shutter Event, and 500 mW Standby
Mechanical	
Size	29 x 26.7 x 8.8 mm (1.14 x 1.05 x 0.35 in.)
Weight	5.6 g (0.20 oz)
Environment & Approvals	
Environmental Sealing	N/A
Operational & Storage Temperature	0 °C to +60 °C (32 °F to 140 °F)
Non-Operating Temperature Range	-40 °C to +70 °C (-40 °F to 158 °F)
Tested EMI Performance	FCC: 47 CFR FCC Part 15, Subpart B, Class B
Ordering	
Part Numbers	Lepton XDS - P/N: 500-1395-00 Lepton XDS Development Board Kit - P/N: 4255414 - Supports Lepton XDS Integration

Specifications are subject to change without notice.
For the most up-to-date specs, go to oem.flir.com/XDS

ACCESSORIES: LEPTON XDS DEVELOPMENT BOARD KIT



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For more information visit:
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