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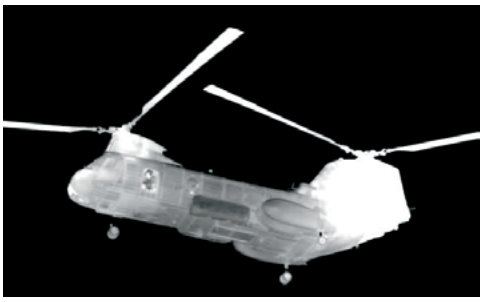
Uncooled LWIR OEM Thermal Camera Module

BOSON®

NDAA compliant and ITAR free, the Boson longwave infrared (LWIR) OEM thermal camera module set the standard for size, weight, power, and performance (SWaP). Utilizing Teledyne FLIR's advanced image processing and several industry-standard communication interfaces, Boson enables applications from firefighting to unmanned aircraft systems (UAS), security, and automotive development kits, all for as little as 600 mW.

The 12 µm uncooled detector comes in two resolutions – 640 × 512 or 320 × 256 – and multiple frame rate options. Radiometric models offer absolute temperature measurement. With multiple lens configurations also available, Boson offers the widest range of LWIR models from Teledyne FLIR and the most flexibility to integration programs. The easy-to-use Boson SDK, user-friendly GUI, and comprehensive product integration documentation further simplify OEM integrated into higher-level systems.

For a plug-and-play sensitivity upgrade, the new Boson+, provides an industry-leading NeDT of <20 mK.



INDUSTRY-LEADING SIZE, WEIGHT, AND POWER (SWAP) WITH RADIOMETRY

A full-featured VGA and QVGA LWIR thermal camera modules starting at 7.5 grams and <4.9 cm^3.

- Low power consumption, starting at 600 mW
- 640 and 320 resolutions, 12 µm pixel pitch radiometric LWIR microbolometer
- Rugged construction and stable operation across temperature rating of -40 °C to 80 °C

PROVEN PERFORMANCE AND WIDELY DEPLOYED

Consistent performance, flexibility, and availability of the widest range of LWIR model configurations from Teledyne FLIR.

- High volume manufacturing with off-the-shelf availability
- Accessible third-party accessory kits from numerous third parties
- Adapt performance to use conditions through both hardware and software configurations

DESIGNED FOR INTEGRATORS

Shared mechanical/electrical compatibility across all Boson provides plug-and-play with existing designs.

- Easy-to-use Boson SDK, user-friendly GUI, and comprehensive product integration documentation
- Highly qualified Technical Services team available to support integration
- NDAA compliant and classified under US Department of Commerce jurisdiction as EAR 6A003.b.4.a

For more information visit:
www.flir.com/boson

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06/19/2025

SPECIFICATIONS

Thermal Imager	Boson	
Resolution	320 x 256 or 640 x 512	
Pixel Pitch	12 µm	
Spectral Band	Longwave infrared; 8 µm – 14 µm	
Sensitivity [NEdT]	<40 mK (Industrial) <50 mK (Professional) <60 mK (Consumer)	
Radiometric Temperature Measurement	Available in some models	
Frame Rate	60 Hz baseline; 30 Hz runtime selectable, <9 Hz available	
Non-uniformity Correction (NUC)	Factory calibrated; updated FFCs with FLIR Silent Shutterless NUC (SSN™)	
Solar Protection	Integral	
Digital Zoom	1x to 8x zoom	
Symbol Overlay	Re-writable each frame; alpha blending for translucent overlay	
Lens Options		
Resolution	**320 x 256**	**640 x 512**
Horizontal Field of View (HFOV); Effective Focal Length	92°; 2.3 mm	95°; 4.9 mm
	50°; 4.3 mm	50°; 8.7 mm
	34°; 6.3 mm	50°; 9.2 mm
	24°; 9.1 mm	32°; 13.6 mm
	16°; 14 mm	32°; 14 mm
	12°; 18 mm	24°; 18 mm
	6°; 36 mm	18°; 24 mm
	4°; 55 mm	12°; 36 mm
		8°; 55 mm
		6°; 73 mm
Physical Attributes		
Size	21 x 21 x 11 mm (0.83 x 0.83 x 0.43 in) without lens	
Weight	7.5 g (0.26 oz) without lens	
Precision Mounting Holes	Four tapped M1.6x0.35 (rear cover)	
Interfacing		
Input Voltage	3.3 VDC	
Power Consumption	Varies by configuration; as low as 500 mW	
Video Channels	CMOS or USB-2	
Control Channels	UART or USB	
Configurable GPIO	Up to 11; user configurable	
Environmental		
Operating Temperature Range	-40 °C to 80 °C (-40 °F to 176 °F)	
Non-Operating Temperature Range	-50 °C to 85 °C (-58 °F to 185 °F)	
Shock	1,500 g @ 0.4 msec	
Operational Altitude	12,192 m (40,000 ft) (max altitude of a commercial airliner or airborne platform)	

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

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