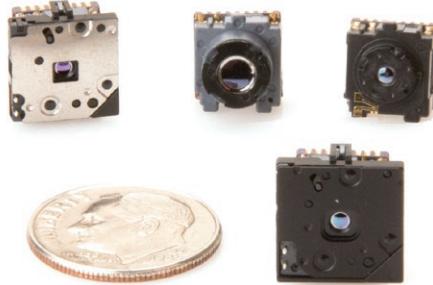


LWIR MICRO THERMAL CAMERA MODULE

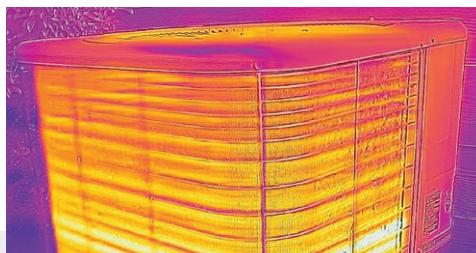


FLIR Lepton® 2.5

The FLIR Lepton® is a revolutionary radiometric-capable LWIR camera solution that is smaller than a dime, fits inside a smartphone, and is one tenth the cost of traditional IR cameras. With a focal plane array of 80 x 60 active pixels, Lepton easily integrates into native mobile devices and other electronics as an IR sensor or thermal imager. The rawwwdiometric Lepton captures accurate, calibrated, and noncontact temperature data in every pixel of each image for even greater utility in commercial applications. Non-radiometric versions are also available.

Lepton is the technology behind many groundbreaking thermal imagers from FLIR, from the FLIR ONE thermal imaging accessory for smartphones to the MR176 Imaging Moisture Meter. New devices equipped with thermal imaging have incredible potential in the areas of safety, temperature measurement, and presence detection. And due to high volume manufacturing techniques, FLIR can deliver Lepton at a price point that is an order of magnitude below other thermal camera cores.

www.flir.com/Lepton



ENHANCED IR SENSOR

Radiometry, unbeatable SWaP for mobile devices, and greater sensitivity than common thermopile arrays.

- Greater sensitivity than common thermopile arrays at <50 mK (0.050°C)
- Temperature stabilized output for radiometric processing
- Low operating power – 150 mW typical, 650 mW during shutter event
- Low power standby mode

MICRO THERMAL IMAGER

Uncooled thermal imaging for mobile devices, unattended sensors, and small electronics designs.

- Integrated digital thermal image processing
- Industry standard 50° FOV
- Shutterless option available
- Fast time to image (<0.5 seconds)

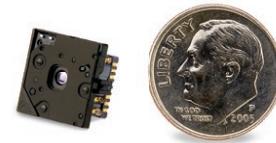
EASY INTEGRATION

Simplifies development and manufacturing of thermal-enabled devices.

- Small package size of 11.5 x 12.7 x 6.835 mm
- SPI video interfaces
- Uses standard cell phone-compatible power supplies
- Two-wire serial control interface and 32-pin socket interface to connector

SPECIFICATIONS

Thermal Imager	
Sensor technology	LEPTON 50° Radiometric
Spectral range	Uncooled VOx Microbolometer
Array format	Longwave infrared, 8 μ m to 14 μ m
Pixel size	80 \times 60 progressive scan
Effective frame rate	17 μ m
Thermal sensitivity	8.6 Hz (commercial application exportable)
Temperature compensation	<50 mK (0.050°C)
Scene dynamic range	Automatic. Output image independent of camera temperature.
Radiometric accuracy	High Gain Mode: Greater of $\pm 5^\circ$ C or 5% (typical) Low Gain Mode: Greater of $\pm 10^\circ$ C or 10% (typical)
Non-uniformity corrections	Automatic with shutter
Image optimization	Factory configured and fully automated
FOV - horizontal	51°
FOV - diagonal	63.5°
Output format	User-selectable 14-bit, 8-bit (AGC applied), or 24-bit RGB (AGC and colorization applied)
Solar protection	Integral
Electrical	
Input clock	25-MHz nominal, CMOS IO Voltage Levels
Video data interface	Video over SPI
Control port	CCI (I2C-like), CMOS IO Voltage Levels
Input supply voltage (nominal)	2.8 V, 1.2 V, 2.5 V to 3.1 V IO
Power dissipation (Typical, room temp)	150 mW (operating), 650 mW (during shutter event), 4 mW (standby)
Physical Attributes	
Package dimensions – socket version (w x l x h)	11.5 \times 12.7 \times 6.835 mm (0.45 \times 0.5 \times 0.27 in)
Weight	0.9 g
Environmental	
Optimum operating temperature range	-10°C to +80°C
Non-operating temperature range	-40°C to +80°C
Shock	1500 G @ 0.4 ms



Actual size

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

**CORPORATE
HEADQUARTERS**
FLIR Systems, Inc.
27700 SW Parkway Ave.
Wilsonville, OR 97070

SANTA BARBARA
FLIR Systems, Inc.
6769 Hollister Ave.
Goleta, CA 93117
PH: +1 805.964.9797

EUROPE
FLIR Systems, Inc.
Luxemburgstraat 2
2321 Meer
Belgium

CHINA
FLIR Systems Co., Ltd
Room 502, West Wing,
Hanwei Building No. 7 Guanghua Ave.
Chaoyang District, Beijing 100004, P.R. China
PH: +86-13810551110

www.flir.com
NASDAQ: FLIR

Equipment described herein is subject to US export regulations and may require a license prior to export. Diversion contrary to US law is prohibited. Imagery for illustration purposes only. Specifications are subject to change without notice. ©2019 FLIR Systems, Inc. All rights reserved. 05/13/19

19-0372-OEM-COR-Lepton 2.5 Datasheet



The World's Sixth Sense®

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[FLIR:](#)

[500-0763-01](#)