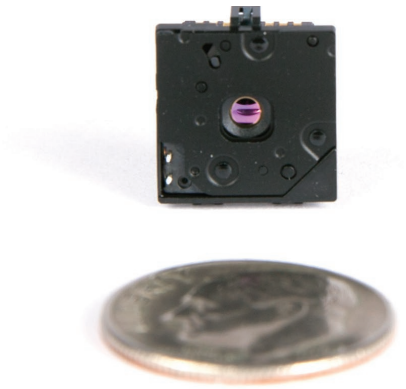
TELEDYNE FLIR

160 x 120 RESOLUTION NON-RADIOMETRIC MICRO THERMAL CAMERA



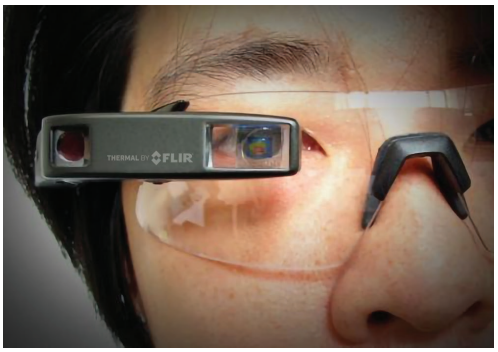
LEPTON® FS

Available in a limited supply, Lepton FS is a non-radiometric 160 x 120 resolution micro thermal camera module with reduced thermal sensitivity, reduced scene dynamic range, and up to 3% inoperable pixels. These units balance performance and price, enabling monitoring applications where radiometry is not required and pixel-level image information is less important than broad thermal data. With the lowest cost per pixel in the Lepton family, low power consumption, and simple integration, Lepton FS provides integrators an appropriate thermal capability for innovative thermal monitoring products in smart building automation, security, occupancy sensing, and more.

COMMON INTERFACES AND FACTORY SUPPORT TO SHORTEN TIME TO MARKET

Standard Lepton mechanical interface, electrical interface, and US-based Technical Services team

- 160 x 120 thermal pixel resolution
- Low operating power – 140 mW typical and 650 mW during shutter event
- Small 11.8 x 12.7 x 7.2 mm package



ACCEPTABLE PERFORMANCE AT DISCOUNTED PRICE

Affordable, non-radiometric thermal imagery and data

- -10 °C to 350 °C scene dynamic range
- Thermal sensitivity <75 mK
- ≤3% inoperable pixels

BUILD INNOVATIVE THERMAL MONITORING SOLUTIONS

Appropriate for heat, security, and comfort monitoring applications

- Home and building automation
- Heat and occupancy sensing
- Security and location monitoring

For More Information Visit:
https://www.flir.com/lepton

www.teledyneflir.com

10/13/2021 REV1

SPECIFICATIONS

Overview	Lepton FS
Sensor technology	Uncooled VOx microbolometer
Spectral range	Longwave infrared, 8 µm to 14 µm
Array format	160 x 120, progressive scan
Pixel size	12 µm
Effective frame rate	8.7 Hz (commercial application exportable)
Thermal sensitivity	<75mK NEdt
Operability	Number of non-defective pixels shall be >97% Adjacent clusters, rows, columns may contain defective pixels that are not factory corrected and unable to be corrected. 3% of operability failures allowed.
Temperature compensation	Automatic. Output image independent of camera temperature.
Non-Radiometric Performance	While some of the Lepton FS units may output radiometric values per pixel, the Lepton FS units are not guaranteed against any radiometric accuracy and users whom wish to use Lepton FS products for radiometric applications do so at their own risk. Teledyne FLIR will not support questions pertaining to calibrating Lepton FS units.
Non-uniformity corrections	Integral Shutter
Scene dynamic range	High Gain Mode: -10 to 140 degrees C typical Low Gain Mode: -10 to 350 degrees C typical
Image optimization	Factory configured and fully automated
FOV - horizontal	57°
FOV - diagonal	71°
Lens Type	f/1.1
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)	Nominally 150 mW (operating), 650 mW (during shutter event), 5 mW (standby)
Mechanical	
Package dimensions – without socket (w x l x h)	11.50 x 12.70 x 6.835 mm
Weight	0.91 grams
Environmental	
Optimum operating temperature range	-10°C to +65°C
Non-operating temperature range	-40 °C to +80 °C
Shock	1500 G @ 0.4 ms
Ordering	
Part Numbers	500-0771-FS1

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

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