



SPECTRA L04U

384×288 Ultra-Compact Uncooled LWIR Module

Overview

Spectra L04U is an ultra-compact infrared module built around a 384×288-resolution infrared detector with a choice of optical lenses, an image processing board and a high-load-bearing mechanical structure. Video is delivered via analog or digital interfaces for integration into back-end platforms, and the larger array thermal output serves a wide range of customer applications.



384×288

RESOLUTION



12 μm

PIXEL PITCH



$\leq 30 \text{ mK}$

NETD



22.2×22.2×27.2 mm

DIMENSIONS

Key Features

Low Cost, High Energy Efficiency

- In-house 384×288/12 μm uncooled infrared detector with a clear cost advantage
- Dedicated ASIC chip for high energy efficiency

SWaP Optimized, Smaller and Lighter

- Cross-section of only 22.2×22.2×27.2 mm (excl. lens)
- Weight of only 30.3±2 g
- Power consumption of 680 mW

Simple Development, Fast Integration

- Native analog or digital video output supporting CVBS / USB / MIPI to streamline development
- Easy fixing with no additional mechanical design required

Typical Applications



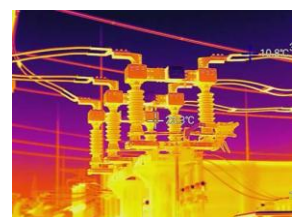
Security Monitoring



Industrial Inspection



Firefighting & Rescue



Power Line Inspection



Technical Specifications

Detector

Material	Uncooled VOx
Array Format	384×288
Pixel Size	12μm
NETD	≤30mK/F1.0/25°C
Spectral Band	8 ~ 14μm

Lens Options

Focal Length / F#	4.8/F1.0
Field of View	51°(H)×39°(V)
Type	Athermal fixed-focus
Window Sealing / Coating	IP67
DRI (est.)	340/110/57 m

D/R/I: estimated detection / recognition / identification range (m), Johnson criteria at 50% probability, standard human target 1.7 m × 0.5 m; actual range varies with scene and target.

Image Processing

Analog Video	PAL (default) / NTSC
Digital Video	USB/MIPI
Frame Rate	25Hz/30Hz/50Hz
Boot-up Time	≤6s
Image Algorithms	NUC/DRC/DNS/DDE/SFFC
Color Palettes	11, custom palettes supported

Electrical Interfaces

Standard Connector	3-pin (A1251-WV-S-3P)
Video Interface	CVBS

Power Supply

Supply Range	DC:5V~24V
Steady-state Power	≤680mW@5V, 23±3°C

Physical

Dimensions	22.2 × 22.2 × 27.2 mm (L×W×H)
Weight	30.3±2g

Environmental

Operating Temp.	-40°C ~ +70°C
Storage Temp.	-45°C ~ +85°C
Humidity	5%~95%, non-condensing
Vibration	Random vibration 5.35 grms, 3 axes
Shock	Half-sine 40 g / 11 ms, 3 axes 6 directions
Certification	RoHS 2.0 / REACH compliant

Specifications subject to change without notice.

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