



Griffin™ 5-L Series MWIR Camera Core

VGA5-L and HD5-L MWIR Camera Cores with Low System SWaP-C



The Griffin™ 5-L Series camera cores include the Griffin™ VGA5-L (640x512) and Griffin™ HD5-L (1280x1024), featuring the industry's smallest MWIR sensors made to enable the smallest of cryocooled infrared imaging systems. The Griffin™ 5-L Series captures snapshot MWIR imagery using Attollo Engineering's HOT Type-II Superlattice (T2SL) detector material. The extremely small pixel pitch of 5 μm enables more pixels on target with a short focal length optic, reducing overall sensor size. The Griffin™ 5-L series uses a linear cooler for short optical axis length and high power efficiency. The Griffin™ VGA5-L and Griffin™ HD5-L sensors are also capable of supporting broadband imaging along with day and night laser see-spot capabilities. The Griffin™ 5-L series MWIR Cores are built for low SWaP applications and offers a significant opportunity for cost savings at the system level compared to competing MWIR cameras. With a volume of 169 cm^3 and a weight of 340 grams, these linear cooled cameras are ideal for small gimbal integration as well as use in SWaP-constrained handheld and soldier-carried systems.

Highlights

- Technology: HOT T2SL MWIR provides imagery with smaller cooler 3–5.0 μm (MW) and 0.9–5.0 μm (SW/MW) wavelength bands
- Small pitch: 640 x 512, 5 μm and 1280 x 1024, 5 μm pixel pitch reduces the lens size
- Small: 62.35 x 58.25 x 51.21 mm and 340 grams
- Fast cooldown: less than 4 minutes to operating temp
- Low power consumption: 12 W cooldown and 6.5 W typical with room temperature ambient
- Easy to talk to: Multiple output interfaces including USB-C, MIPI, and Camera Link
- Export friendly: has US Commerce classification as EAR 6A003.b.4.a

Applications

- Thermal imaging
- Soldier Borne and handheld systems
- Security & surveillance
- Small gimbals and SUAS
- Laser See-Spot
- Precision agriculture
- Gas leak detection
- Microscopy
- Medical– tissue analysis
- Structural non-destructive fatigue assessment

The Griffin™ VGA5-L and Griffin™ HD5-L camera cores are designed and manufactured in Attollo's 34,000 ft^2 facility in Camarillo, California. Attollo Engineering specializes in sensors that combine infrared and laser imaging as well as standard and custom IDCA designs for your applications. Attollo is a merchant supplier of standard and custom format III-V detector arrays, hybridized focal plane arrays, and camera assemblies. Attollo Engineering is AS9100 certified.

SYSTEM FEATURES

Griffin™ 5-L Series: **Griffin™ VGA5-L** **Griffin™ HD5-L**

Top Level		
Sensor Type	HOT MWIR T2SL	
Sensor Size	640 x 512, 5 μm	1280 x 1024, 5 μm
Spectral Band	3.0—5.0 μm (Standard)* 0.9—5.0 (Broadband)* Shorter wavelengths and CO2 cold filter available *subject to change based on operating temperature and manufacturing tolerances	
NETD	< 30 mK (50% well fill at T _{bb} = 20°C)	
Frame Rate Options	Typical: 30Hz	Typical: 30Hz
	Max: 200Hz	Max: 60Hz
Time to Image	< 4.0 min	

Mechanical	
Size (L x W x H)	62.35 x 58.25 x 51.21 mm
f/#	f/1.2, f/1.4, f/1.8
Cold Aperture Height	9.5 mm, 12 mm
Weight	340 grams

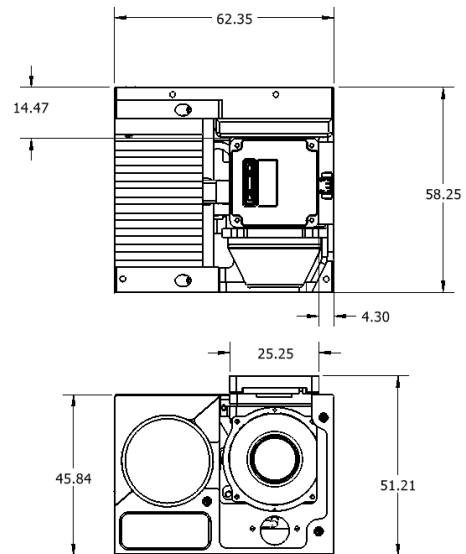
FPA Characteristics	
Shutter Mode	Snapshot
Well Capacity	2.6 x 10 ⁶ electrons (effective)
Quantum Efficiency	> 50%
Readout Mode	Integrate then read
Min Integration Time	0.1 μsec
Windowing Capable	Yes, max frame rate increases as a function of row reduction
External Sync	Sync In and Sync Out
Operability	> 99.5%

Video Interface	
Parallel (16 bit)	Included
USB-C	With personality board
MIPI	With personality board
Camera Link	With personality board
Image Processing	Windowing, NUC, BPR, AEC, AGC, Averaging, Histogram Equalization

Interfacing	
Parallel	50 pin Hirose DF40-50
Input Voltage	Camera: 5V±10%; Cooler: 12V±10%
Power Dissipation	12 W cooldown, 6.5 W steady state (23°C), typical
Communication	USB (USB-C or Camera Link) UART, SPI or I2C (Parallel)
SDK and GUI Available	Yes

Cooler Reliability	
Cooler MTTF	>10,000 hours

Environmental	
Operating Temperature	-40°C to +71°C* *In accordance with thermal considerations described in the mechanical ICD
Storage Temperature	-50°C to +85°C
Max Altitude	40,000 feet
Humidity	5-95% relative humidity (non-condensing)



See More



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