

CHEETAH

RUGGEDIZED CAMERA SERIES

SDI-C1920 CMOS 2 MP



Imperx: SDI-C1920

The SDI-C1920 camera features the Sony Pregius IMX174 Global Shutter CMOS sensor with a resolution of 1920 x 1080 in a 1/1.23" optical format delivering up to 60 fps with selectable 3G-SDI (SMPTE® 424-1) or HD-SDI (SMPTE® 292M) output. The Imperx Cheetah C1920 provides excellent sensitivity and amazing dynamic range, making it suitable for a broad range of diverse and demanding applications, but "one size doesn't fit all," and Imperx can help optimize the camera to your exact requirements.

Specifications

Feature	Description	Feature	Description
Video Output	HD-SDI (SMPTE 292M), 3G-SDI (SMPTE-424-1)	Power Consumption	3.6 W
Resolution	1920 (H) x 1080 (V)	Camera Current	Typical: 300 mA @ 12 V
Sensor	Sony Pregius IMX174 CMOS Color/Mono	Size - Width/Height/Length	37.0 mm (W) x 37.0 mm (H) x 48.6 mm (L)
Sensor Format	1/1.23" optical format, 13.0 mm diagonal	Weight	91.8 g
Pixel Size	5.86 microns square	Vibration, Shock	Complies with IEC60068-2-64 and IEC60068-2-27
Shutter	Global Shutter (GS)	Environmental	-30 °C to +75 °C Operating -40 °C to +85 °C Storage
Sensor Digitization	12-bit	Humidity	10% to 90% non-condensing
Frame Rate	23.98p, 24p, 25p, 29.97p, 30p, 50p, 59.94p, 60p	MTBF	>406,000 hours @ 40°C (Telcordia SR-332)
Dynamic Range	73 dB	Military Standard	MIL-STD-810G
Output Format	10-bit, 4:2:2 (YCrCb)	Regulatory	FCC Part 15 Class A, CE, RoHS
Analog/Digital Gain	Manual, Auto; 0 dB – 48 dB, 480 steps		
Black Level Offset	0-511		
White Balance	Auto, Once, Manual, 3200k, 5600k, Off		
Exposure Range	29 µs to 16.1 ms / 60 fps		
Exposure Control	Manual, Auto, Off		
Regions of Interest (ROI)	1 ROI		
External Inputs/Outputs	1 Tri-Level Sync IN (TTL) / 2 OUT (OPTO, LVTTTL)		
Strobe Output	1 strobe (2nd strobe optional), programmable position and duration		
Camera Control	RS-232		
Image Overlay	Optical center, programmable H & V lines		
Test Image	HD SMPTE color bars, static/moving ramp		
Data Correction	4 user LUTs, 8 Gamma LUTs, and 8 Black Gamma LUTs; Defective/Hot pixel correction; Threshold, Contrast enhancement, Knee correction		
Lens Mount	C-Mount		
P-Iris	Optional		
P-Iris Control	Auto, Programmable		
Supply Voltage Range	12 VDC (8 V – 30 V), 1.5 A inrush		

Imperx: SDI-C1920 Applications

The SDI-C1920 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

Aerospace • Satellites • Surveillance • Military and Non-Military Ground Vehicles • Ball Grid Array • Printed Circuit Board Inspection • Motion Analysis • Broadcast Television • Telepresence • Unmanned Aerial Vehicles • Machine Vision • Reconnaissance • Aerospace • Intelligent Traffic Systems • Aerial Imaging • Open Road Tolling Systems • Situational Awareness

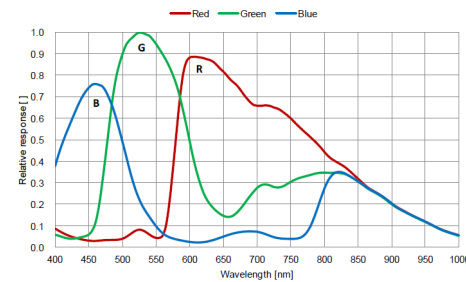
Relative Quantum Efficiency

Color Spectral Response

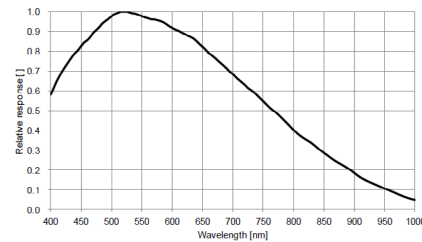
IMX174

Mono Spectral Response

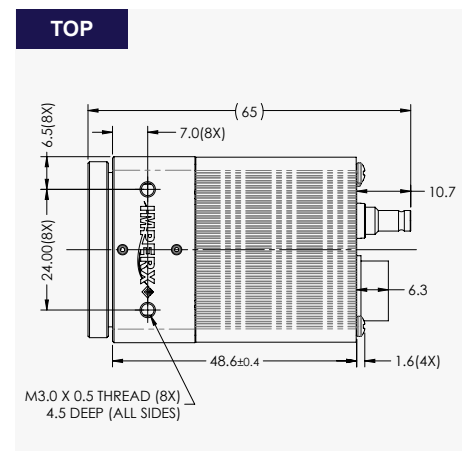
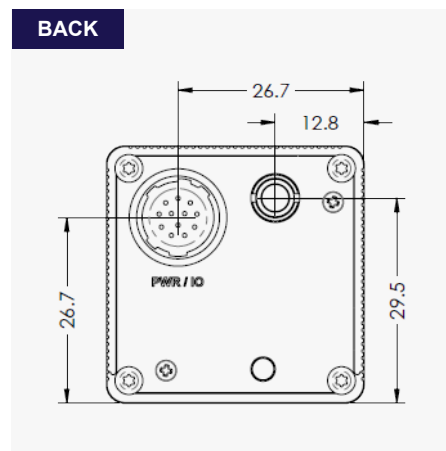
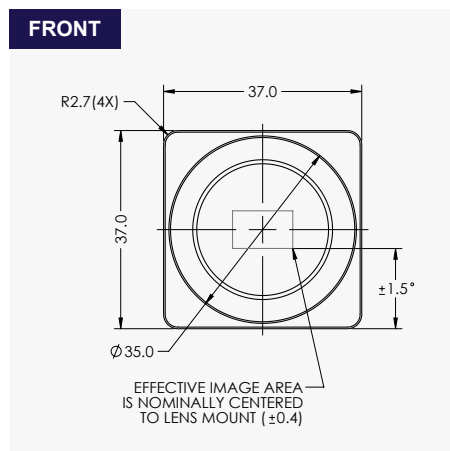
IMX174



(Excludes lens characteristics and light source characteristics.)



Dimensions

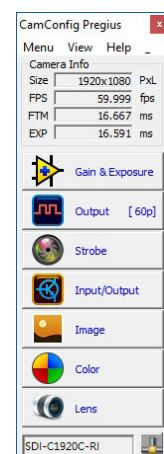


Ordering Information

Output Interface
3G-SDI / HD-SDI Selectable (SMPTE 424-1/292M Selectable)
Sensor Types available
Color Monochrome

Lens Mounts
C-Mount (Default) P-Iris (Optional)
Accessories (Sold separately)
PS12V06A - Power Supply w/1 input and 1 output

Software/Drivers/Interface



Hirose Connectors

Power and I/O Interface
12V DC Return +12 VDC Power - RS232 RX - RS232 TX - OUT2 RTN (OPTO) - RS232 RTN - OUT1 (TTL) - IN1 (TTL) - IN2 (LVTTTL) - IN1/OUT1 RTN - IN2 RTN - OUT2 (OPTO)

Connector: Hirose HR10A-10R-12PB(71)

3G-SDI output: Amphenol-RF Division 75 Ohm coaxial connector ACX1785-ND #282121-75

Rev: sdi_c1920_r2_2019

Quality Management System ISO 9001:2015 Registered
Environmental Management System ISO 14001:2015 Registered
DDTC Registered (Directorate of Defense Trade Controls, US Department of State)



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