Xenics
Infrared Solutions

BOBCAT 640 SERIES

Area-scan SWIR Camera

- SWIR cooled camera with 640 x 512 resolution
- In-house developed InGaAs sensor

SMALL, HIGH PERFORMANCE InGaAs CAMERA WITH HIGH IMAGE RESOLUTION

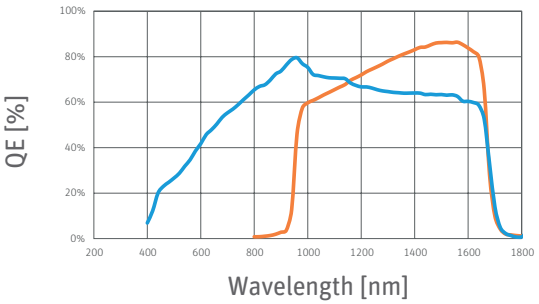
The Bobcat 640 series is based on an in-house developed, temperature stabilized InGaAs detector with a 640 x 512 pixel resolution.

The Bobcat 640 cameras are offered with high frame rate of 100 Hz.

The camera comes with a CameraLink or GigE Vision interface and features low weight and power.

We offer a visible enhanced short-wave infrared (vSWIR) option for extended wavelength response into the visible band.

The cameras have standard on-board image correction featuring non-uniformity correction (NUC), bad pixel replacement (BPR) and automatic gain control (AGC). For more info on other image enhancement features, contact our sales department.



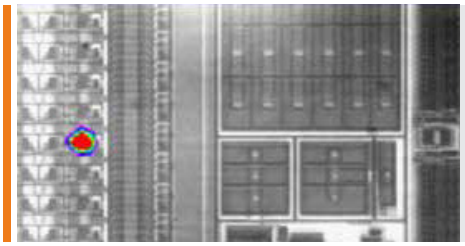
DESIGNED FOR USE IN

- Machine Vision
- Safety & Security
- Scientific & Advanced research
- Process Monitoring

ADVANTAGES

- vSWIR optional
- Low noise, low dark current
- CameraLink or GigE Vision interfacing options
- Small SWIR area-scan camera

Crack inspection (solar wafer)



Semiconductor inspection

Art inspection

SPECIFICATIONS

Camera Specifications	Bobcat 640 CL	Bobcat 640 CL vSWIR	Bobcat 640 GigE	Bobcat 640 GigE vSWIR
Mechanical specifications				
Approximate dimensions - excluding lens [width x height x length] [mm]	55 x 55 x 72	55 x 55 x 72	55 x 55 x 82	55 x 55 x 82
Weight [gr] - excluding lens	285	285	334	334
Optical interface	C-mount or M42			
Connector GigE	-	-	RJ-45	RJ-45
Connector CameraLink	Standard SDR	Standard SDR	-	-
Connector power	Hirose HR10-7R-SA[73]			
Connector trigger	SMA			
Environmental & power specifications				
Operating case temperature [°C]	From -40 to +70 Also availble in temperature range 0 - 50			
Storage temperature [°C]	From -45 to +85			
Power consumption [W]	2.8 [no TE cooler]	2.8 [no TE cooler]	4 [no TE cooler]	4 [no TE cooler]
Power supply voltage	DC 12 V			
Shock	IEC60068-2-27 Ed4.0; half-sine; terminal saw tooth; 50 g [11 ms]			
Vibration	Random: IEC60068-2-64 Ed2.0; 4.3 g [20 - 1000 Hz]. Sine: IEC60068-2-6 Ed7.0; 1 g [10 - 2000 Hz]			
IP rating	IP40			
Regulatory compliance	CE, RoHS			
Electro-optical specifications				
Image format [pixels]	640 x 512			
Pixel pitch [µm]	20			
Detector type	InGaAs photodiode array with CTIA ROIC			
Sensor temperature stabilization	TE cooler			
Integration type	Snapshot - global shutter			
Active area and diagonal [mm]	12.8 x 10.24 [diagonal 16.4]			
Optical fill factor	100%			
Spectral range [nm]	900 - 1700	500 - 1700	900 - 1700	500 - 1700
Quantum efficiency	~80% [typical peak value]			
Gain modes	High Gain [HG] & High Dynamic Range [HDR]			
Full well capacities [electrons]	45k [HG] & 500k [HDR]			
Read noise [electrons]	120 [HG] & 500 [HDR]			
Dark current [electrons/second]	<100k [at 288K sensor temp and 150 mV reverse bias]	<200k [at 288K sensor temp and 150 mV reverse bias]	<100k [at 288K sensor temp and 150 mV reverse bias]	<200k [at 288K sensor temp and 150 mV reverse bias]
Read out mode	IWR & ITR			
Pixel operability	>99%			
Preconfigured exposure time range [ms]	0.1 to 40 in HG; 0.1 to 20 in HDR	0.1 to 40 in HG; 0.1 to 20 in HDR	0.1 to 10 in HG; 0.1 to 20 in HDR	0.1 to 10 in HG; 0.1 to 20 in HDR
Max frame rate [Hz] [full frame]	100			
Region of interest	Yes			
Min region size [pixels]	32 x 4 [step 16 x 4]			
Max frame rate [Hz] [min region size]	>10000			
Analog-to-Digital [ADC] [bits]	14			
Command and control	CameraLink	CameraLink	GigE Vision	GigE Vision
Digital output format	CameraLink [16 bit]	CameraLink [16 bit]	GigE Vision [16 bit]	GigE Vision [16 bit]
Trigger	In or out via SMA or in via CL-CC1 [Configurable]	In or out via SMA or in via CL-CC1 [Configurable]	In or out via SMA [Configurable]	In or out via SMA [Configurable]
Product selector guide				
Part number	XEN-000297	XEN-000140	XEN-000298	XEN-000139