C4080
CMOS 12 MP
Camera Link®

Imperx: *C4080*

The C4080 incorporates the On Semiconductor KAC-12040 CMOS image sensor with a native resolution of 4000 x 3000 in a 4/3" optical format delivering up to 67 frames per second in either global or rolling shutter mode with a Camera Link® or PoCL Full output. Extended dynamic range technology coupled with extremely robust blooming suppression provide clean imagery in even the most severe uncontrolled lighting applications. Cheetah cameras incorporate "smart" wide dynamic range technology which monitors each pixel's exposure and sets the exposure to one of four user selectable values based on the intensity of the source at the pixel. CMOS technology eliminates smear columns from areas of ultra-bright intensity and specular reflections in uncontrolled lighting applications.

Specifications

Feature	Description	Feature	Description
Interfaces available	Camera Link® Base, Full/Deca (CLF) w/PoCL	Strobe Output	2 strobes, programmable position and duration
Resolution	4000 x 3000	Pulse Generator	Yes, programmable
Sensor	KAC-12040, CMOS Color/Mono	Image Enhancement	Vertical/Horizontal flip
Sensor Format	18.8 mm (H) x 14.1 mm (V) 23.5 mm diagonal 4/3" optical format	Data Corrections	Defective/hot pixel correction (static, dynamic)
		Lens Mount	F-Mount (Default), C, M42, EF Canon
Pixel Size	4.7 µm	Supply Voltage Range	12VDC (5V – 30V), 1.5 A inrush
NIR Sensitivity	850nm: 15%, 950nm: 5%	Camera Current	Typical: 0.30A, Maximum: 0.33A
Shutter	Global shutter (GS), rolling shutter (RS)	PoCL	PoCL capable in base/medium/full mode
Digitization	10 or 12 bit	Size - Width/Height/Length	72.0mm (W) x 72.0mm (H) x 34.3mm (L) – Applies to all interfaces
Frame Rate	27 fps (12 bit), 55 fps (10 bit), 67 fps (8 bit)		
Camera Link Clock Rate	85MHz	Weight	385 g
Dynamic Range	73 dB (RS), 56 dB (GS)	Vibration, Shock	TBD
Bit Depth	8, 10, 12 bit	Environmental	-40°C to +85°C Operating, -50°C to +90°C Storage
Analog Gain Control	12-bit: 0-12 dB (16 steps); 8 or 10-bit: 0-18 dB (32 steps)	Humidity	10% to 90% non-condensing
Digital Gain	24 dB (128 steps)	MTBF	> 323,000 hours @ 40°C (Telcordia SR-332 Method 1)
White Balance	Manual, auto, off		
Shutter Speed	1 µs/step, 5 µs to 1.0 sec (GS), 2 µs to 1.0 sec (RS)	Military Standard	MIL-STD-810F
		Regulatory	FCC Part 15 Class A, CE, RoH
Exposure Control	Off, internal, external		
Regions of Interest (ROI)	1 ROI		
Averaging Decimation	4:1, 9:1 (both color and monochrome)		
Sub-sampling Decimation	N pixels: 2, 4, 6..30 by every M pixels: 2, 4, 6…32		
Trigger Inputs	External, pulse generator, software, computer		
Trigger Options	Edge, debounce		
Trigger Modes	Internal, External, Computer		
Wide Dynamic Range	100dB (typ) GS, up to 3 knee points, piecewise linear		
External Inputs/Ouputs	2 IN (OPTO, LVTTL) / 2 OUT (OPTO, TTL)		

IMPERX
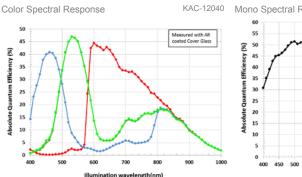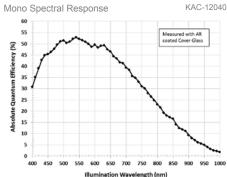Industrial Cameras & Imaging Systems

Imperx: *C4080 Applications*

The C4080 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.
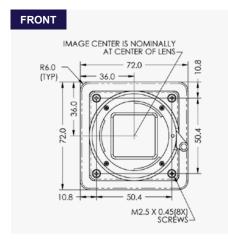
Aerospace ● Satellites ● Surveillance ● Military and Non-Military Ground Vehicles ● Ball Grid Array ● Printed Circuit Board Inspection ● Motion Analysis ●Broadcast Television ● Telepresence ● Unmanned Aerial Vehicles ● Machine Vision ● Reconnaissance ● Aerospace ● Intelligent Traffic Systems ● Aerial Imaging ● Open Road Tolling Systems ● Situational Awareness
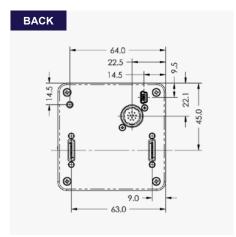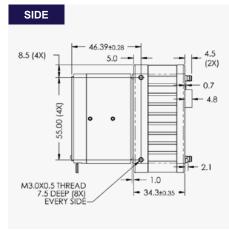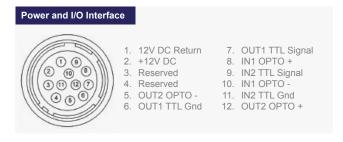
Absolute Quantum Efficiency

Color Spectral Response   KAC-12040   Mono Spectral Response   KAC-12040

Dimensions

FRONT

BACK

SIDE

Ordering Information

Interface Available
Camera Link® Full (CLF)
USB3 (U3V)

Sensor Types available
Monochrome
Bayer Color

Lens Mounts
F-Mount (Default)
C-Mount
M42
EF Canon

Accessories (Sold separately)
PS12V04A-Power Supply w/ 1 input and 1 output

Software/Drivers/Interface

Hirose Connectors

Power and I/O Interface

1. 12V DC Return
2. +12V DC
3. Reserved
4. Reserved
5. OUT2 OPTO -
6. OUT1 TTL Gnd
7. OUT1 TTL Signal
8. IN1 OPTO +
9. IN2 TTL Signal
10. IN1 OPTO -
11. IN2 TTL Gnd
12. OUT2 OPTO +