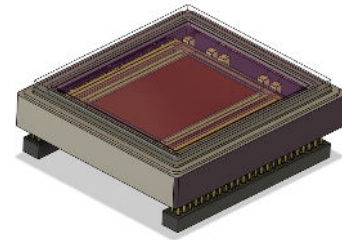


ACUROS[®] 6 CQD[®] SWIR Sensor

Advance Information **S060SCSSM00SLKA0**



SWIR Sensing Meets High Resolution:

Large format sensors are essential for generating high resolution, wide field of view images. Data generated by these sensors is vital for precision-driven industries, including pharmaceutical, medical, defense, and aerospace. The ACUROS 6 high-resolution sensor empowers users and algorithms to detect and identify objects, defects, and materials, generating high-value images across a broad spectral range. With its 7 μm pixel pitch and single stage TEC, this sensor is an ideal candidate for compact systems.

SPECIFICATIONS

Table 1. SENSOR FEATURES

Parameter	Value/Description	
Type	ACUROS 6 CQD sensor	
Pixel Pitch	7 μm	
Format	2908 x 2040	
Array Size	20.36 mm x 14.28 mm	
Array Diagonal	24.87 mm	
Shutter	Global Shutter	
Max FPS (full frame)	100 Hz (8 bit), 50 Hz (12 bit)	
Min Exposure Time	10 μs	
Detector Technology	Colloidal quantum dot photodiode	
Detector Type	SWIR	
Spectral Range	400–1700 nm	
QE	>20% @ 1550 nm typical	
Pixel Operability	>99.75% typical	
Dark Noise (at 30 °C)	TBD (e^-/s)	
Dark Noise Doubling Temperature	9 °C	
Analog Gain Modes	Low Gain	High Gain
Read Noise	125 e^-	20 e^-
Well-Depth	350 Ke^-	52 Ke^-
Dynamic Range	68 dB	63 dB
ADC Bit Depth	8-bit or 12-bit	
Region of Interest (ROIC)	Yes (8 row increments)	
ROI FPS Scaling	Yes. FPS up to 10 kHz for 2908 x 8 pixel ROI	
Frame Readout Mode	ITR (with CDS) or IWR (without CDS)	
Input Clock	350 MHz	
Data Output	8 ports, LVDS, 700 Mb/s per port	

ORDERING INFORMATION

Part Number
S060SCSSM00SLKA0

Features

- 7 μm Pixel Pitch
- Global Snapshot Shutter
- 12-bit ADC
- Vis-SWIR
- 2 Gain Modes
- Up to 100 Hz Frame Rates (8-bit Mode)

Applications

- Silicon Inspection
- Machine Vision
- Surveillance
- Free Space Optics
- Situational Awareness
- Degraded Visual Environments

This document contains information on a new product. Specifications and information herein are subject to change without notice.

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Table 2. ELECTRICAL

Parameter	Value/Description
Supply Voltages	3.3 V & 1.8 V
Power Consumption	1.5 W (TEC off, full frame, 100 FPS)

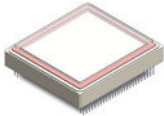
Table 3. PACKAGE

Parameter	Value/Description
Architecture	100 pin Ceramic PGA with Internal TEC
Length	36.6 mm
Width	33.3 mm
Height	7.125 mm

TABLE 4. ENVIRONMENTAL & POWER SPECIFICATIONS

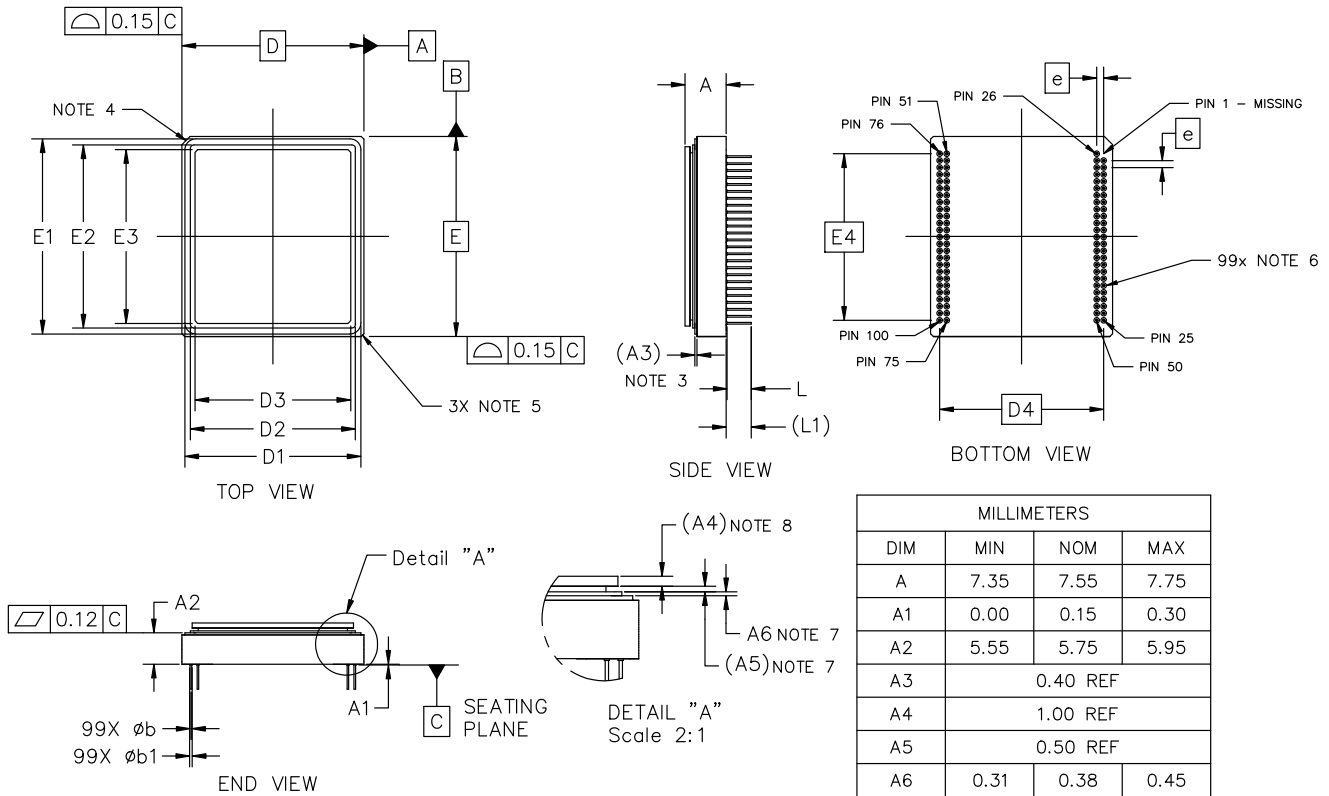
Parameter	Value/Description
Sensor Temperature Stabilization	Single-stage TEC
Operating Case Temperature	-20 °C to +55 °C
Storage Temperature	-10 °C to +55 °C

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CPGA99 33.30x36.60x5.75, 1.27P
CASE 107CD
ISSUE O

DATE 03 MAR 2025



- NOTES:
1. DIMENSIONING AND TOLERANCING AS PER ASME Y14.5M, 2018.
 2. CONTROLLING DIMENSION: MILLIMETERS.
 3. SEAL RING.
 4. CHAMFER : 1.5 REF
 5. CHAMFER : 0.5 REF
 6. ALUMINA COAT PATTERN : ϕ 1.02
 7. KOVAR RIM
 8. SAPPHIRE GLASS

MILLIMETERS			
DIM	MIN	NOM	MAX
A	7.35	7.55	7.75
A1	0.00	0.15	0.30
A2	5.55	5.75	5.95
A3	0.40 REF		
A4	1.00 REF		
A5	0.50 REF		
A6	0.31	0.38	0.45
b	0.15	0.30	0.45
b1	0.33	0.48	0.63
D	33.30 BSC		
D1	32.05	32.20	32.35
D2	30.10	30.20	30.30
D3	28.40	28.50	28.60
D4	30.00 BSC		
E	36.60 BSC		
E1	35.55	35.70	35.85
E2	33.40	33.50	33.60
E3	31.70	31.80	31.90
E4	30.48 BSC		
e	1.27 BSC		
L	4.17	4.42	4.67
L1	4.57 REF		

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