



The XGS CMOS image sensor family provides high resolution, high performance global shutter image capture. The family comes in different resolutions in a single package; 8.8, 9.4 and 12.6 MP with up to 1-inch optical format. The 21 mm x 20 mm package makes the XGS family particularly suited for integration in 29 mm x 29 mm camera formats. The high speed, 12-bit output maximally leverages interfaces such as USB 3.2, Thunderbolt  $^{\mathbb{M}}$  2 and 10 GigE.

Image data is read out through a column ADC architecture and then transferred over a HiSPi interface. On–chip logic, programmable via the serial interface, generates internal timing for integration and readout control. Up to three register configurations can be programmed and sequentially enabled (frame by frame) using a single command over the control interface.

**Table 1. KEY PERFORMANCE PARAMETERS** 

Parameter	Typical Value			
Optical Format	XGS 12000	1-inch (16.4 mm Diagonal)		
	XGS 9400	1/1.2-inch (13.9 mm Diagonal)		
	XGS 8000	1/1.1-inch (14.8 mm Diagonal)		
Active Pixels	XGS 12000	4096 (H) x 3072 (V)		
	XGS 9400	3072 (H) x 3072 (V)		
	XGS 8000	4096 (H) x 2160 (V)		
Pixel Size	3.2 μm			
Color Filter Array	Monochrome, Bayer			
Shutter Type	Global Shutter			
Input Clock	32.4 MHz			
Output Interface	HiSPi (24 Lanes – 777.6 Mbps/lane)			
Frame Rate (12-bit)	24 Lanes (–X1)			
	XGS 12000	90 fps		
	XGS 9400	90 fps		
	XGS 8000	128 fps		
	12 Lanes (–X2)			
	XGS 9400	56 fps		
	XGS 8000	80 fps		
	6 Lanes (–X3)			
	XGS 12000	28 fps		
Read Noise	< 4 e <sup>-</sup> (1x), 1.9 e <sup>-</sup> (4x)			
SNR <sub>MAX</sub>	40 dB			
Dynamic Range	68 dB			
Supply Voltages	1.2 V, 2.8 V, 3 V (0.4 V, 1.8 V Optional)			
Power Consumption	1 W (Full Speed, Full Resolution)			

# **XGS Family**

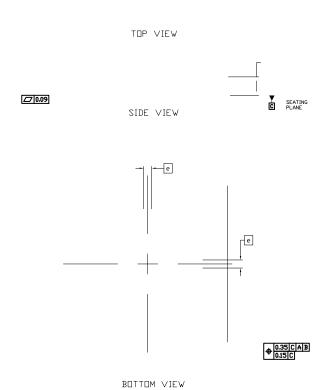
### **ORDERING INFORMATION**

Table 2. ORDERABLE PART NUMBERS (Notes 1 and 2)

Part Number	Minimum Order Quantity	Produ	Product Description		Product Descriptio		n	Speed Grade	Resolution (H x V)
NOIX1SN012KB-LTI	25	12.6 MP	Mono	0	CRA	24 Lanes	4096 x 3072		
NOIX1SN012KB-LTI1	4	1							
NOIX1SE012KB-LTI	25	12.6 MP	Color	0	CRA				
NOIX1SE012KB-LTI1	4	1							
NOIX1SF012KB-LTI	25	12.6 MP	Color	7.3	CRA				
NOIX1SF012KB-LTI1	4	1							
NOIX3SN012KB-LTI	25	12.6 MP	Mono	0	CRA	6 Lanes			
NOIX3SN012KB-LTI1	4								
NOIX3SE012KB-LTI	25	12.6 MP	Color	0	CRA				
NOIX3SE012KB-LTI1	4								
NOIX1SN9400B-LTI	25	9.4 MP	Mono	0	CRA	24 Lanes	3072 x 3072		
NOIX1SN9400B-LTI1	4								
NOIX1SE9400B-LTI	25	9.4 MP	Color	0	CRA				
NOIX1SE9400B-LTI1	4ï ————								
NOIX2SN9400B-LTI	25	9.4 MP	Mono	0	CRA	12 Lanes			
NOIX2SN9400B-LTI1	4	1							
NOIX2SE9400B-LTI	25	9.4 MP	Color	0	CRA				
NOIX2SE9400B-LTI	4	1							
NOIX1SN8000B-LTI	25	8.8 MP	_						
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## CLGA163 20.88x19.9, 1P CASE 621AB ISSUE A

## DATE 11 SEP 2018

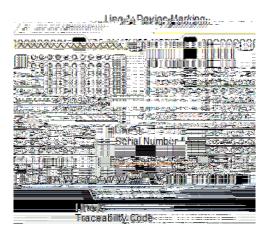


MILLIMETERS					
DIM	MIN.				
Α					
A2	0.91				
b	0.55				
D					

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#### GENERIC MARKING DIAGRAM\*



XXXX = Specific Device Code

A = Assembly Location

WL = Wafer Lot

YY = Year

WW = Work Week

NN = Serial Number

\*This information is generic. Please refer to device data sheet for actual part marking. Pb–Free indicator, "G" or microdot "•", may or may not be present. Some products may not follow the Generic Marking.

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