

ORION LINE SCAN

LINE SCAN SENSORS



Orion is a digital high speed line scan sensor with configurable photo-diode size. Over the SPI

interface the photo-diode size can be configured to a $10\mu\text{m} \times 10\mu\text{m}$ size or $10\mu\text{m} \times 200\mu\text{m}$ size. Independently from the photo-diode the conversion capacitance can be configured over SPI interface. The larger conversion capacitance, resulting in a full well capacity of 300ke- results in outstandingly high SNR. The smaller conversion capacitance, resulting in a full well capacity of 30ke- results in very high sensitivity, ideal for high speed scanning applications or detecting extremely low signal levels. The high aspect ratio photo-diode makes the Orion sensors ideal for spectrometric and OCT applications where the light is gathered over a wide area.

Please note that we offer today only engineering samples, production ramp up is expected towards Q3 2017. For pricing and lead time please contact ISS.CIS_info@ams.com.

SPECIFICATIONS

Resolution	2k
Pixel size	10 x 10 and 10 x 200
Shutter type	Global shutter
Frame rate	60k scan/s
Output interface	11/ 13 bit
Sensitivity	113 DN/nj/cm ² @12bit (10 x 10 um ² pixel) and 211 DN/nj/cm ² @12bit (10 x 200 um ² pixel)
Conversion gain	0.248 DN/e (13 bit)(Big Well) 0.022 DN/e (13 bit) (Small Well)
Full well charge	30k e- (10 x 10 um ² pixel) and 300k e- (10 x 200 um ² pixel)
Dark noise	2.05 DN
Dynamic range	59.15 dB (10 x 10 um ² pixel) and 59.44 dB (10 x 200 um ² pixel)
Fixed pattern noise	DSNU: 6 [DN] PRNU: 1%
Chroma	Mono
Supply voltage	3.3 V
Power	500 mw per 2K segment
Operating temperature range	0°C - 50 °C
RoHS compliance	Yes
Socket	Andon Electronics (http://www.andonelectronics.com) Orion 2K Ceramic LCC: 694-76-SM-G10-L14-1

ORDERING INFO - ORION LINE SCAN

Part Number	Version	Chroma	Microlens	Package	Glass
Orion-2K	10x10 um or 10x200 um	Mono	No	Ceramic LCC	No glass