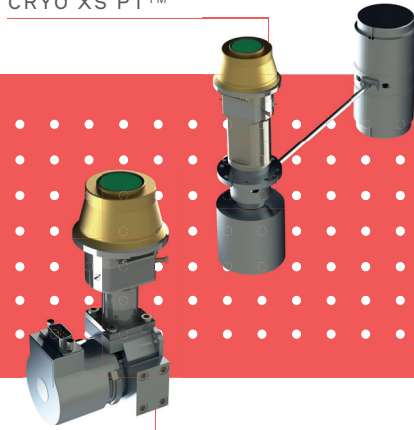




LYNRED®

See Beyond Horizons

CRYO XS PT™



CRYO XS R™

INFRARED DETECTORS

# SPACE SIROCCO™

640 x 512 - 15µm - eSWIR

SPACE SIROCCO™ is a **VGA staring array detector** well-suited for integration in various space-based Earth observation applications like **atmosphere chemistry, greenhouse gas monitoring or hyperspectral imaging**.

Based on LYNRED space proven MCT technology, SPACE SIROCCO™ detector offers the **highest level of performances** (high operability, high frame rate, low readout noise...) as well as a cost effective approach.

## STARING ARRAY INFRARED DETECTOR FOR NEW SPACE HYPERSPECTRAL AND SPECTROSCOPY IMAGING APPLICATIONS



**HIGH SENSITIVITY EXTENDED UP TO 2.5µm**



**EMBEDDED SPACE PROVEN TECHNOLOGIES**

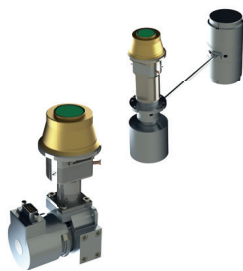


**WELL ADAPTED FOR HYPERSPECTRAL AND SPECTROSCOPY IMAGING**



ORDERING REFERENCE: SPACE SIROCCO™

# ●● STARING ARRAY INFRARED DETECTOR FOR NEW SPACE HYPERSPECTRAL AND SPECTROSCOPY IMAGING APPLICATIONS ●●



## MULTI-PURPOSE



## MULTI-APPLICATION



## SPACE PROVEN ARCHITECTURE



## HIGH PERFORMANCE






## LARGE eSWIR SPECTRAL RANGE

ARRAY FEATURES	
Spectral range	■ 0.9 – 2.5 $\mu$ m
Format & Pixel pitch	■ 640 x 512, 15 $\mu$ m pitch
FPA operating temperature	■ [150K,200K]

ROIC (READ-OUT INTEGRATED CIRCUIT)	
ROIC architecture	<ul style="list-style-type: none"> <li>■ CTIA input stage</li> <li>■ Snapshot integration type</li> <li>■ Readout: IWR/ITR</li> <li>■ Analog outputs: 4 outputs</li> </ul>
ROIC main functionalities	<ul style="list-style-type: none"> <li>■ Windowing (minimum window size is 160 x 2)</li> <li>■ Anti-blooming</li> <li>■ Power management</li> </ul>
Operating characteristics	<ul style="list-style-type: none"> <li>■ Maximum full frame rate (IWR) : 200Hz</li> <li>■ Frame rate depending on windowing (examples) : 400Hz (640x256), 800Hz (640x128)</li> <li>■ Integration time: adjustable in the frame</li> </ul>
Charge Handling Capacity	■ 1.0 Me-

TYPICAL PERFORMANCES (NOMINAL CONFIGURATION)	
Quantum Efficiency (QE)	■ 80%
PRNU	■ < 2%
Dark current	<ul style="list-style-type: none"> <li>■ 2 10-3 fA/<math>\mu</math>m<sup>2</sup> @ 150K</li> <li>■ 5 10-1 fA/<math>\mu</math>m<sup>2</sup> @ 190K</li> </ul>
MTF @Nyquist	■ 0.5
Non linearity	■ < 1% p-p from 5 to 95% of FWC
ReadOut Noise	■ 150 e-
Operability	■ > 99.5%
Power Dissipation	■ 150mW @200Hz (full frame)

PACKAGING	PASSIVE™ (NO CRYOCOOLER)	CRYO-XS R™	CRYO-XS PT™
			
Dimensions	<ul style="list-style-type: none"> <li>■ IRFPA: 12 x 11.3mm<sup>2</sup></li> <li>■ Baseplate adjustments on demand</li> </ul>	■ 85 x 64 x 152 mm <sup>3</sup>	<ul style="list-style-type: none"> <li>■ Dewar : 60 x 60 x 220 mm<sup>3</sup></li> <li>■ Cooler : 60 x 60 x 122 mm<sup>3</sup></li> </ul>
FPA operating temperature	■ [150 - 200 K]	■ [-40°C,71°C]	■ [-40°C,71°C]
Cooler	■ N/A	■ Rotary cryocooler Thales Cryo RM3 or Ricor K508	■ Pulse Tube cryocooler Thales Cryo LPT9511
Product power consumption	■ 150mW @200Hz (full frame)	■ Steady State : < 4.5Wdc @ 22°C	■ Steady State : < 15Wdc @ 22°C
Power supply range	■ 2.75V	■ 24V	■ 24V

### LYNRED HEADQUARTERS DEVELOPMENT & PRODUCTION CENTER

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