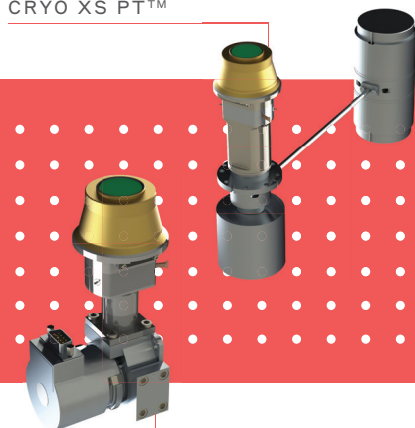




LYNRED®

See Beyond Horizons

CRYO XS PT™



CRYO XS R™

COBRA™ is a **high spectral and spatial resolution staring array detector** well-suited for integration in various space-based Earth observation applications like **atmosphere chemistry or hyperspectral imaging**.

Based on LYNRED space proven MCT technology, large format COBRA detector offers the **highest level of performances** (high operability, high frame rate, low readout noise...) and **versatility** to fit with numerous needs (format selection, adjustable gain, CDS/multi-reading...).



STARING ARRAY INFRARED DETECTOR

LYNRED Staring Array

COBRA™

1380x640 - 20µm pitch - MCT - SWIR

STARING ARRAY INFRARED DETECTOR FOR SPACE IMAGING AND SOUNDING APPLICATIONS



**HIGH SPECTRAL AND
SPATIAL RESOLUTION**



**ADAPTABLE AND VERSATILE
CONFIGURATIONS**



**EMBEDDED SPACE PROVEN
TECHNOLOGIES**



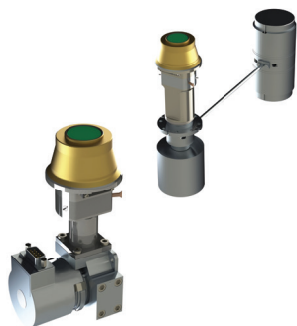
**WELL ADAPTED FOR
HYPER SPECTRAL AND
SPECTROSCOPY IMAGING**



PRODUCT NUMBER: LYNRED STARING ARRAY COBRA™

TECHNICAL DATA NOT CLASSIFIED UNDER EXPORT CONTROL REGULATION

●● STARING ARRAY INFRARED DETECTOR FOR SPACE IMAGING AND SOUNDING APPLICATIONS ●●



MULTI-PURPOSE



ADVANCED PERFORMANCES



MULTI-APPLICATION



VERSATILE CONFIGURATION



SPACE PROVEN ARCHITECTURE



ARRAY FEATURES		Nominal configuration	On demand	
Spectral range		■ 0.9 – 2.5µm	■ Spectral adjustment in the MW range	
Array format & Pixel pitch		■ 1380 x 640, 20µm pitch		
FPA operating temperature		■ 150 K	■ [90K,200K]	
ROIC (READ-OUT INTEGRATED CIRCUIT)				
ROIC architecture		■ CTIA input stage ■ Snapshot integration type ■ Readout: IWR/ITR/non-destructive multi-reading ■ On-chip CDS in high gain mode ■ Analog outputs: 6 or 12 outputs (selectable)		
ROIC main functionalities		■ Gain selection (by line) ■ Line selection to be readout ■ Anti-blooming ■ Power management		
Operating characteristics		■ Maximum full frame rate (IWR): 130Hz ■ Frame rate depending on windowing (examples): 645 Hz (128 rows), 325Hz (256 rows) ■ Integration time: adjustable in the frame		
Charge Handling Capacity		■ 142ke- or 1.3Me-		
TYPICAL PERFORMANCES (NOMINAL CONFIGURATION)				
Quantum Efficiency		■ 80%		
PRNU		■ < 3%		
Dark Current		■ 2 10 ⁻³ fA/µm ² @ 150K ■ 5 10 ⁻¹ fA/µm ² @ 190K		
MTF @Nyquist		■ 0.5		
Non linearity		■ < 1 % p-p from 5 to 95 % of FWC		
ReadOut Noise @150 K		■ High gain: 100e-, 45e- with CDS ■ Low gain: 340e-		
Operability		■ > 99.5 %		
Power Dissipation		■ < 220 mW @130Hz (full frame)		
Radiation hardness		■ TID: up to 20 krad(Si) ■ TNID: up to 6e10 protons/cm ² @60MeV ■ SEE robustness: SEL free / Low SEU & SEFI rate		
PACKAGING™		PASSIVE™ (NO CRYOCOOLER)	CRYO-XS R™	CRYO-XS PT™
				
Dimensions		■ IRFPA: 30.3 x 16.7mm ² ■ Baseplate adjustments on demand	■ 85 x 64 x 152 mm ³	■ Dewar : 60 x 60 x 220 mm ³ ■ Cooler : 60 x 60 x 122 mm ³
Operating temperature		■ [90K,200K]	■ [-40°C,71°C]	■ [-40°C,71°C]
Cooler		■ NA	■ Rotary cryocooler Thales Cryo RM3 or Ricor K508	■ Pulse Tube cryocooler Thales Cryo LPT9511
Product power consumption		■ 220mW @130Hz (full frame)	■ Steady State : < 4.5Wdc @ 22°C	■ Steady State : < 15Wdc @ 22°C
Power supply range		■ 3.3V to 4.3V	■ 24V	■ 24V

LYNRED HEADQUARTERS DEVELOPMENT & PRODUCTION CENTER

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