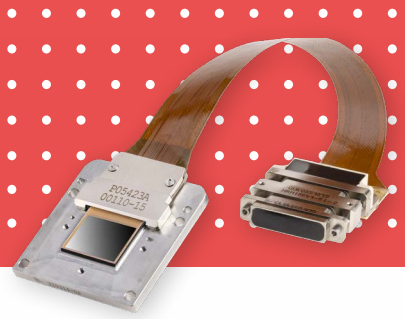
LYNRED®

See Beyond Horizons

LINEAR INFRARED DETECTOR



LYNRED Linear

CAPYORK™

(1200 x 12) x 4 – 15µm pitch – MCT - SWIR to MWIR

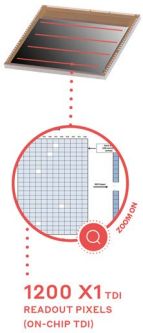
LYNRED Linear CAPYORK is a large linear detector specially tailored for earth observation applications from SWIR up to MWIR spectral range. Based on LYNRED space proven MCT technology, LYNRED Linear CAPYORK detector, developed in the frame of LSTM mission offers the highest level in terms of performance (100% operability, high frame rate, on-chip TDI…) and versatility (compatible design with staggered/butted configuration, gain selection, integration time adjustment per readout line…).

LINEAR INFRARED DETECTOR FOR SPACE IMAGING APPLICATIONS

- **MULTISPECTRAL AND MULTI LINEAR ARRAY INFRARED DETECTOR**
- **TAILORED ARCHITECTURE FOR PUSHBROOM AND WHISKBROOM INSTRUMENTS**
- **VERSATILE AVAILABLE CONFIGURATIONS**

SPACE

PRODUCT NUMBER: **LYNRED LINEAR CAPYORK™**



VERSATILE ARCHITECTURE

100% OPERABILITY

SPACE PROVEN ARCHITECTURE

ON BOARD LSTM MISSION

LINEAR INFRARED DETECTOR FOR SPACE IMAGING APPLICATIONS

ARRAY FEATURES	Nominal configuration	On demand
Spectral range	■ *0.9 – 2.5µm*	■ *Spectral adjustment in the MW range*
Format & Pixel pitch	■ *4 bands of 1200 TDI pixels, 15µm pitch*	
Distance between two bands	■ *4.02 mm*	
Operating temperature	■ *200 K*	■ *[90 K – 200 K]*
ROIC (READ-OUT INTEGRATED CIRCUIT)		
ROIC architecture	■ *CTIA input stage* ■ *TDI (on-chip, 12 stages)* ■ *Snapshot integration type* ■ *Readout: IWR/ITR* ■ *Analog outputs: 4 outputs*	
ROIC main functionalities	■ *Anti-blooming* ■ *Power management* ■ *Bands switch ON/OFF* ■ *Bi-directional TDI* ■ *Pixel deselection*	
Operating characteristics	■ *Maximum full frame rate (IWR) : 4.6 kHz @ 5.5 MHz, 6.6 kHz @ 8 MHz* ■ *Integration time: adjustable in the frame*	
Charge Handling Capacity	■ *180ke- / 239ke- / 386ke-*	
TYPICAL PERFORMANCES (NOMINAL CONFIGURATION)		
Quantum Efficiency	■ *80%*	
PRNU	■ *< 2%*	
Dark Current	■ *2 10^{-3} fA/µm² @ 150K* ■ *2 fA/µm² @ 200K*	
MTF @Nyquist	■ *0.5*	
Non linearity	■ *< 1% p-p from 5 to 95% of FWC*	
ReadOut Noise @200 K	■ *36e- / 47e- / 71e-*	
Operability	■ *> 99.5%*	
Power Dissipation	■ *230mW @ 4.6 kHz (4 activated TDI readout line & maximum integration time)* ■ *-55 mW/deactivated TDI readout line*	
Radiation hardness	■ *TID: up to 20 krad(Si)* ■ *TNID: up to 6e10 protons/cm² @ 60MeV* ■ *SEE robustness: SEL free / Low SEU & SEFI rate*	

PACKAGING	PASSIVE (NO CRYOCOOLER)	CRYO-XS R	CRYO-XS PT
			
Dimensions	*IRFPA: 21 x 18 mm²* *Baseplate adjusments on demand*	*85 x 64 x 152 mm3*	*Dewar: 60 x 60 x 220 mm3* *Cooler: 60 x 60 x 122 mm3*
Operating temperature	*[150K,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	*230mW @ 4.6 KHz*	*Steady State: < 4.5Wdc @ 22°C*	*Steady State: < 15Wdc @ 22°C*
Power supply range	*4.3V*	*24V*	*24V*

LYNRED HEADQUARTERS
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