LYNRED®

See Beyond Horizons

STARING ARRAY INFRARED DETECTOR

LYNRED Staring Array

NGP SW™

1024 x 1024 - 15µm pitch – MCT – SWIR

NGP SW is a high spectral and spatial resolution space qualified detector well-suited for integration in different kinds of space applications like superspectral or hyperspectral imaging as well as spectroscopy. Based on LYNRED space proven MCT technology, this detector offers the highest level of performances as well as numerous features to fit with the different needs.

LARGE SHORT-WAVE INFRARED(SWIR) DETECTOR FOR SPACE IMAGING APPLICATIONS

- **HIGH SPECTRAL AND SPATIAL RESOLUTION**
- **SPACE QUALIFIED**
- **WELL ADAPTED FOR HYPERSPECTRAL AND SPECTROSCOPY IMAGING**

SPACE

ORDERING REFERENCE: **NGP SW™**

HIGH RESOLUTION

MULTI-APPLICATION

SPACE QUALIFIED

ADVANCED PERFORMANCES

LARGE SHORT-WAVE INFRARED (SWIR) DETECTOR FOR SPACE IMAGING APPLICATIONS

ARRAY FEATURES	
Spectral range	■ *0.9 – 2.5µm*
Array format & Pixel pitch	■ *1024 x 1024 pixels, 15µm pitch*
FPA operating temperature	■ *150K – 200K*
ROIC (READ-OUT INTEGRATED CIRCUIT)	
ROIC architecture	■ *CTIA input stage* ■ *Snapshot integration type* ■ *Readout: IWR/ITR/non-destructive multi-reading* ■ *Analog outputs: 4 outputs*
ROIC main functionalities	■ *Line selection to be readout* ■ *Anti-blooming* ■ *Power management*
Operating characteristics	■ *Maximum full frame rate (IWR): 29 Hz @ 8Mhz* ■ *Frame rate depending on windowing (examples): 58 Hz (512 rows), 111 Hz (256 rows)* ■ *Integration time: adjustable in the frame*
Charge Handling Capacity	■ *650 ke-*
TYPICAL PERFORMANCES (NOMINAL CONFIGURATION)	
Quantum Efficiency	■ *80%*
PRNU	■ *< 1%*
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 @150K	■ *140e-*
Operability	■ *> 99.5%*
Power Dissipation	■ *<150mW @ 29Hz (full frame)*
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: 20 x 18.8 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	*< 150mW @ 29 Hz (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

Actipole - CS 10021 - 364, route de Valence
38113 Veurey-Voroize - France
Phone +33 (0)4 76 28 77 00
info@lynred.com

LYNRED
USA

373 US Highway 46W
Fairfield, NJ 07004, USA
Phone +1 973.882.0211
info@lynred-usa.com

NIT (New Imaging Technologies)
Premium SWIR by LYNRED

1 impasse de la Noisette
91370 Verrières-le-Buisson - France
Phone +33 1 64 47 88 58
info@new-imaging-technologies.com