

EPSILON MW

384×288 HgCdTe MWIR (15µm pitch) THE MOST COMPACT AND THE LOWEST POWER CONSUMPTION IR DETECTOR

The starting snapshot 384×288 Mid Wave (MW) Infrared Focal Plane Array (IRFPA) from Sofradir is offered to meet the compact, lightweight and very low power requirements in the 3-5µm detection waveband (band II) for applications such as hand-held thermal imaging and small UAVs.

This IRFPA takes full advantage of Sofradir's HgCdTe technology and of the unique ability to operate at an FPA Temperature above 100K.

Hybridized on a Sofradir state-of-the-art 15µm pitch CMOS Read-Out Integrated Circuit (ROIC), this IRFPA is configured in a long-life vacuum Dewar and with a special low power consumption cooler.

Available configurations:

- Integrated Detector Dewar Cooler Assemblies (IDDCA) with miniature Stirling-cycle rotary cooler.



ARRAY FEATURES

■ Pixel pitch	15 µm×15 µm
■ Material spectral response	0.8 µm – 5.0 µm
■ Detector spectral response	3.4 µm – 4.8 µm
■ FPA Operating Temperature	100 -110K

ROIC FEATURES

■ Selection	Serial electrical interface
■ Modes	Snap shot operation, direct injection input circuit, Integrate While Read mode, programmable integration time, anti-blooming, image invert/revert/inverse, selection of two format, 384x288 or 320x256, two gains
■ Max charge handling capacity	3.4 10 ⁶ e ⁻ (gain 0) and 1.8 10 ⁶ e ⁻ (gain 1) for 100% well fill
■ Readout noise	400 e ⁻ (gain 0) and 310 e ⁻ (gain 1)
■ Number of output	1
■ Pixel output rate	up to 17 MHz
■ Frame rate	up to 120 Hz full frame rate

TYPICAL PERFORMANCE

■ Pixel NETD (average)	<24 mK @110K (300K, f/3, 50% well fill)
■ Residual Fixed Pattern Noise	low and stable (< NETD)
■ Non uniformity	< 7 % RMS (σ/mean, 300K uncorrected performance)
■ Array operability	> 99 % typical

OPTIONS

- Proximity driving electronics (including ADC)
- Technical training and support

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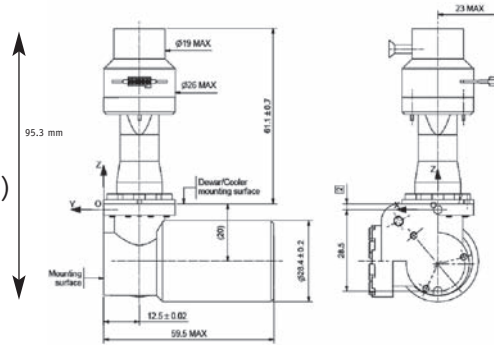
STANDARD CONFIGURATION

EPSILON MW
K562S



K562S microcooler

FOV : F/3
 Weight : < 0.28 kg
 Operating Temperatures : -30°C / + 71°C
 Power supply : 12 V
 Typical characteristics at 20°C, 110K :
 Cooldown input power < 14 W_{DC} (*)
 Regulated input power < 2.5 W_{DC}
 Cooldown time < 5 min
 (*) W_{DC} = at cooler C&CE DC input



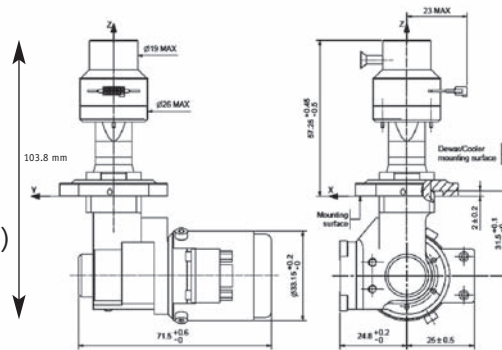
CONFIGURATION ON REQUEST

EPSILON MW
RM1



RM1 microcooler

FOV : F/3
 Weight : < 0.32 kg
 Operating Temperatures : -30°C / + 65°C
 Power supply : 12 V
 Typical characteristics at 20°C, 110K :
 Cooldown input power < 14 W_{AC} (*)
 Regulated input power < 2.5 W_{AC}
 Cooldown time < 5 min
 (*) W_{AC} = at cooler pins AC input



Technical characteristics described in this data sheet are for information only. They are not contractual and may change without prior notice.

SOFRADIR HEADQUARTERS

43-47, rue Camille Pelletan
 92290 CHATENAY-MALABRY – France
 Phone : + 33 1 41 13 45 30 / Fax : + 33 1 46 61 58 84

DEVELOPMENT AND PRODUCTION CENTER

Z.I. - B.P. 21
 38113 VEUREY-VOROIZE - FRANCE
 Phone : + 33 4 76 28 77 00 / Fax : + 33 4 76 53 95 97

web site : www.sofradir.com