

InGaAs-Linear Array LDA-512

The InGaAs linear detector arrays are designed for spectroscopic and WDM channel monitoring applications in the 900nm to 1700nm wavelength range.

The array chip is available in lengths of 512 pixels, and is compatible with available Silicon multiplexers. Hermetical Sealed and low dew-point kovar packaging with anti-reflection coating window glass are well developed.

Features

- NIR/SWIR Wavelength Range
- Spectroscopic grade detectors
- High Operability
- High Sensitivity
- High Dynamic Range
- Extremely low noise

Applications

- Spectroscopy
- Optical Spectrum Analyzer
- Spectrometer
- WDM Channel Monitor
- Astronomy
- Remote Sensing
- Medical Science

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Operation Temperature Range	T_{OP}	-20	85	° C
Storage Temperature Range	T_{stg}	-40	100	° C
Power Consumption	P	-	150	mW

Physical Characteristics

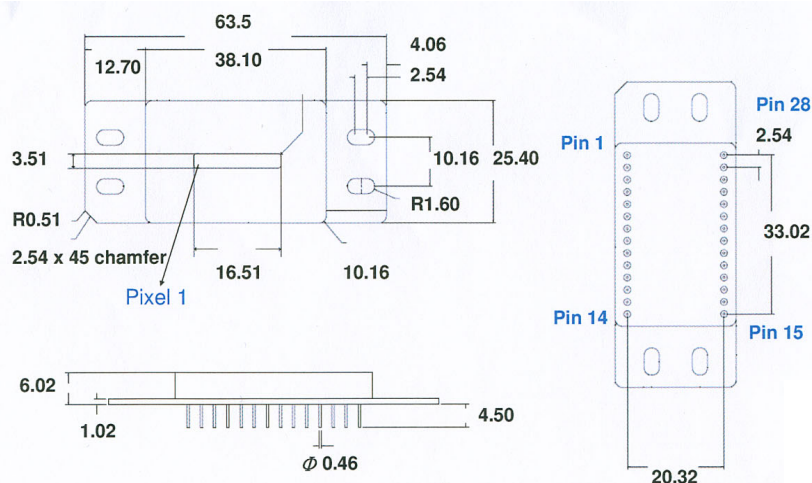
Parameter	Typ.	Unit
Array size	512	pixel
Pixel Dropouts	0 (Max 5)	pixel
Pixel Height	25, 500	μm
Pixel pitch	25	μm

Electro-Optical Characteristics

Parameter	Conditions	Typ.	Unit
Spectral Response	-	900~1700	nm
Peak Sensitivity Wavelength	-	1550	nm
Response Nonuniformity	under 50% Saturation	≤ 10	%
Quantum Efficiency	1000~1600nm	> 70	%
Detectivity	25°C ; 1550nm	≥ 5x10 ¹¹	Jones
Dark Voltage Rate (25° C)	under 50% Saturation	< 0.2	V/sec
Nonlinearity (Max Deviation)	over 10%-90% Full Well Capacity	< 1	%
Max. Pixel Rate	-	5	MHz
TEC Cooling (One Stage)	Max ΔT	65	°C

Pin Configuration and Mechanical Dimensions

Pin 1	Thermistor 1	Pin 15	OUT_EVEN
Pin 2	Thermistor 2	Pin 16	N. C.
Pin 3	TE cooler (+)	Pin 17	N. C.
Pin 4	N. C.	Pin 18	DATA_EVEN
Pin 5	VOFFSET	Pin 19	SYNC_EVEN
Pin 6	N. C.	Pin 20	CLK_EVEN
Pin 7	N. C.	Pin 21	N. C.
Pin 8	Case Ground	Pin 22	VSS
Pin 9	CLK_ODD	Pin 23	VDD
Pin 10	SYNC_ODD	Pin 24	VDETADJ
Pin 11	DATA_ODD	Pin 25	N. C.
Pin 12	N. C.	Pin 26	TE cooler (-)
Pin 13	N. C.	Pin 27	N. C.
Pin 14	OUT_ODD	Pin 28	N. C.



- 1) Unit in mm
2) Typical tolerance +/- 0.1mm