

LINEAR IR-DETECTION MODULES

AIM is a global supplier of state of the art IR-detection modules for most challenging programs.

LWIR focal plane arrays in linear TDI configuration with formats of 288 x 6 or 576 x 7 are in full scale production using state-of-the-art MCT detector technology. Also MWIR configurations are available.

Special adapted command control electronics (CCEs) with integrated analog-to-digital converters and power regulation provide easy system interfacing.



LINEAR IR-DETECTION MODULES

288 x 6 TDI

Format	288 x 6	
TDI	TDI with individual pixel deselect function	
Spectral Band	LWIR	MWIR
Spectral range [μm]	7.6 - 10	3.4 - 5
Pixel size [μm]	25 x 42	25 x 50
Pitch (scan direction)	42	
F/#	1.7 (**)	1 (**)
$D_{\lambda} * (\lambda_{peak})$ (mean) for sampling time / integration time	> 1.7 x 10 ¹¹ cmHz ^{1/2} /W 20μs / 18.25μs	> 4.0 x 10 ¹¹ cmHz ^{1/2} /W 20μs / 20μs
Outputs	1 digital (14bit)	
Control	serial data control interface	
Max. pixel Rate [MHz]	20	
Scan Speed	14μm / sampling	
Dewar	Integrated Detector Cooler Assembly with Command and Control Electronics	
Cooler	1/3 Watt Split Linear Stirling Cooler SL035	
Cooler regulation	internal	
Cooldown time***	5min	
MTTF cooler****	> 6,000h	
Cooler power consumption***	< 35W	

** others on request
 *** at ambient room temperature
 **** will depend on usage profile

576 x 7 TDI

Format	576 x 7	
TDI	TDI with individual pixel deselect function	
Spectral Band	LWIR	
Spectral range [μm]	7.6 - 10	
Pixel size [μm]	20 x 30	
Pitch (scan direction)	32	
F/#	2.0 (**)	
$D_{\lambda} * (\lambda_{peak})$ (mean) for sampling time / integration time	> 1.6 x 10 ¹¹ cmHz ^{1/2} /W 19.6μs / 17.9μs	
Scan speed	10.7μm / sampling	
Outputs	1 digital (14bit)	
Control	serial control interface	
Max. pixel Rate [MHz]	72	
Dewar	Integrated Detector Cooler Assembly with Command and Control Electronics	
Cooler	Split Linear Stirling Cooler SL150C	Long Life Split Linear Cooler SF100
Cooler regulation	internal	external digital DCE100
Cooldown time***	5min	5min
MTTF cooler****	> 6,000h	> 20,000h
Cooler power consumption***	< 50W	< 40W

** others on request
 *** at ambient room temperature
 **** will depend on usage profile

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