

128x128 InAlAs-InGaAs APD Array

Product Brief

Our Photodiodes, Your Circuits

Features:

- High uniformity across the FPA
- Wide operating gain range
- Large dynamic range
- High damage threshold
- Fast Recovery
- Low noise
- Low capacitance
- Built-in lens option available

Applications:

- Precision vehicle maneuvering
- Machine vision
- Defense and Security

Overview:

Our 2D APD arrays offer a wide dynamic range with high damage threshold and pixel gain uniformity across the array. These arrays are critical for precision vehicle maneuvering in space and defense applications. OGI designs these APDs in close collaboration with customer's requirements e.g. pixel pitch and can incorporate built-in lens on pixels for enhanced sensitivity.

Operating Characteristics: Temperature = 25°C

Parameter	Min	Typical	Max	Units
Wavelength Range	1000	-	1630	nm
Responsivity @ M = 1 1550nm wavelength (1550nm optimized AR coating)	0.80	0.85	0.90	A/W
Dark Current @ M=10	-	2	20	nA
Operating voltage, Vr @ M=10	46	55	73	volts
Breakdown Voltage, Vbr (Id = 10 μA)	55	63	82	volts
Active Diameter (without lens, @90% maximum)	48	50	60	μm
Capacitance		0.08	0.1	pF
Temperature coeff. of Vbr		0.07		V/°C
A-factor, M = A / (Vbr-Vop)	70	85	100	volts
Bandwidth @ M = 10	1.5	2.5	3	GHz
Bandwidth @ M = 20	1	1.5	2	GHz
Excess Noise Factor, F @ M=10	-	3.2	3.7	-
Excess Noise Factor, F @ M=20	-	5.5	6.0	-
Noise Equivalent Power, NEP @ M=10	-	0.01	0.05	pW/Hz ^{1/2}

Array Uniformity (within a single array with 100 μm pitch)

Parameter	Variation	Units
V10 non-uniformity	+/-0.5	V
A-factor non-uniformity	+/-2	%
Id20 non-uniformity	+/-5	nA
k _{eff} non-uniformity	+/-5	%
Responsivity non-uniformity at V for M=10	+/-7	%

info@optogration.com

Optogration reserves the right to change product specifications without notice.