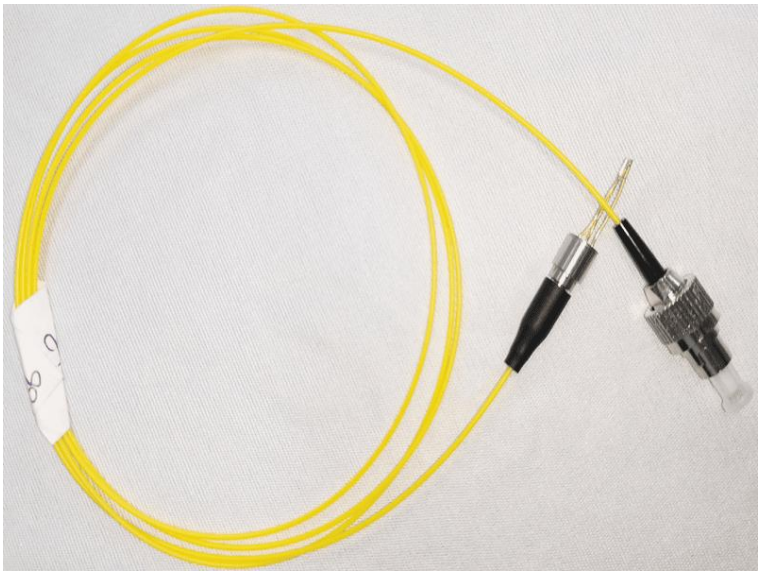
900-1700nm InGaAs Geiger Mode Avalanche Photodiode Uncooled



Product Description

InGaAs avalanche photodiode (APD) is a dedicated device for short-wave near-infrared single photon detection. It can meet the technical requirements of quantum communication, weak light detection and other fields for high-efficiency and low-noise single photon detection, and realize single photon detection of 0.9 ~ 1.7μm wavelength.

Product features

Spectral response range 0.9~1.7μm、 High detection efficiency, low dark count rate、 3 pin TO46

Part Number

MP-GMD-B-I-9N

Application area

Weak light detection、 Quantum secure communication、 Biomedical

Core parameters

Wavelength	Responsivity
0.9-1.7um	0.85A/W@1550nm

General Parameters

Linear mode parameters

Parameter	Symbol	Unit	Test conditions	Min.	Typical	Max.
Reverse breakdown voltage	V_{BR}	V	22°C±3°C , I_D=10μA	60	80	90
Responsivity	R_e	A/W	22°C±3°C, λ =1550nm , M =1	0.8	0.85	
Dark current	I_D	nA	22°C±3°C, M =10		0.1	0.3
Capacitance	C	pF	22°C±3°C , M =10, f=1MHz			0.25
Breakdown voltage temperature coefficient	η	V/K	-40°C ~80°C, I_D =10μA			0.15

Geiger mode parameters

Parameter	Unit	Test conditions	Min.	Typical	Max.
Single photon detection efficiency PDE	%	-45℃, λ =1550nm, 0.1ph/pulse, Poisson distribution single photon source	20	-	
Dark count rate DCR	kHz	-45℃, 1ns gate width, 2MHz gated repetition rate, 1MHz optical repetition rate, PDE=20%	-	-	20*
After pulse probability APP		-45℃, 1ns gate width, 2MHz gated repetition rate, 1MHz optical repetition rate, PDE=20%	-	-	1×10^{-3}
Time jitter T_j	ps	-45℃, 1ns gate width, 2MHz gated repetition rate, PDE=20%	-	-	100

* Different grades and specifications are available