



APD430 series avalanche photodetector

OVERVIEW

Avalanche Photodetector (APD) Offer Higher Sensitivity and Lower Noise Than Standard PIN Detectors for Low Optical Power Applications, Our detectors integrate a temperature sensor to adjust the bias voltage to compensate for the effect of temperature changes on the M factor. The detector is powered by a single power supply, easy to use, designed for spatial coupling, and can be equipped with FC optical connectors.

FEATURES

- ◆ M-factor temperature compensation
- ◆ APD 过流保护
- ◆ APD overcurrent protection
- ◆ Low noise
- ◆ DC9-12V single supply operation
- ◆ All-metal shell with excellent shielding performance
- ◆ M6 threaded holes for easy installation
- ◆ Free space coupling, 30mm optical cage system mounting holes

APPLICATIONS

- ◆ Detect ultra-weak light signals
- ◆ Detect fast laser pulses
- ◆ Lidar
- ◆ Non-destructive testing
- ◆ Industrial testing
- ◆ Analytical instruments

SPECIFICATIONS

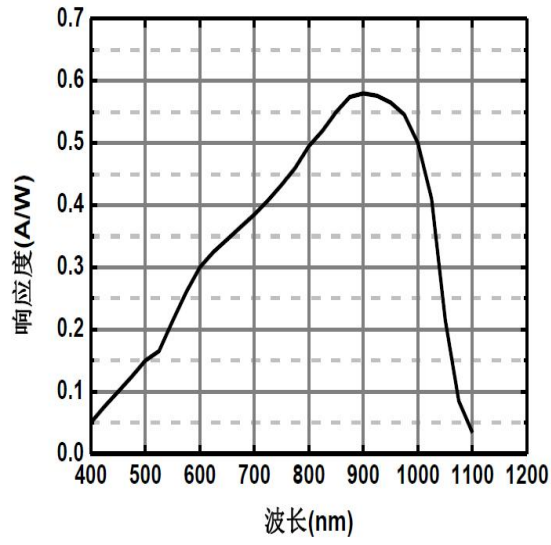
Item	APD430A-400M	APD430C-400M
Detector	Si	InGaAs
Wavelength Range	400-1100nm	1000-1700nm
Optical Input	Free-Space	Free-Space
Active Area	230um	200um
Peak Response	55A/W @ 905nm (M = 100)	18A/W @ 1550nm (M = 20)
Bandwidth	DC-400MHz	DC-400MHz
Rise Time	0.9ns	0.9ns
Maximum conversion gain	$5.5 \times 10^5 \text{V/W}$	$1.8 \times 10^5 \text{V/W}$
Comprehensive noise	15nW (RMS)	40nW (RMS)
Saturated optical power	5.5uW	16.7uW
Noise voltage @ 50 Ω	<18mVpp	<18mVpp
Maximum output amplitude@ HiZ	3V	3V
Work voltage	9-12VDC	
Work current	<200mA	
Output connector	SMA	
Output impedance	50 Ω	
Output coupling mode	DC	
Work temperature	-20~60°C	
Storage temperature	-40~85°C	
Package Size	60mm x 50mm x 32mm (长 x 宽 x 厚, 不含连接器)	

Item	APD430A-200M	APD430C-200M
Detector	Si	InGaAs
Wavelength Range	400-1100nm	1000-1700nm
Optical Input	Free-Space	Free-Space
Active Area	230um	200um
Peak Response	55A/W @ 905nm (M = 100)	18A/W @ 1550nm (M = 20)
Bandwidth	DC-200MHz	DC-200MHz
Rise Time	1.8ns	1.8ns
Maximum conversion gain	$1.2 \times 10^6 \text{V/W}$	$4.0 \times 10^5 \text{V/W}$
Comprehensive noise	7nW (RMS)	21nW (RMS)
Saturated optical power	2.5uW	7.5uW
Noise voltage @ 50 Ω	<12mVpp	<12mVpp
Maximum output amplitude@ HiZ	3V	3V
Work voltage	9-12VDC	
Work current	<200mA	
Output connector	SMA	
Output impedance	50 Ω	
Output coupling mode	DC	
Work temperature	-20~60°C	
Storage temperature	-40~85°C	
Package Size	60mm x 50mm x 32mm (长 x 宽 x 厚, 不含连接器)	

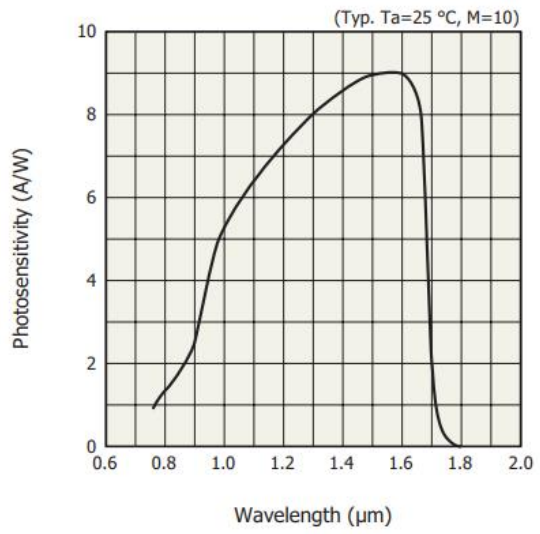
Item	APD130A-50M	APD130C-50M
Detector	Si	InGaAs
Wavelength Range	400-1100nm	1000-1700nm
Optical Input	Free-Space	Free-Space
Active Area	500um	500um
Peak Response	27A/W @ 905nm (M = 50)	18A/W @ 1550nm (M = 20)
Bandwidth	DC-50MHz	DC-50MHz
Rise Time	9ns	9ns
Maximum conversion gain	$3.0 \times 10^6 \text{V/W}$	$2.0 \times 10^6 \text{V/W}$
Comprehensive noise	3.7nW (RMS)	5.5nW (RMS)
Saturated optical power	1.0uW	1.5uW
Noise voltage @ 50Ω	<15mVpp	<15mVpp
Maximum output amplitude@ HiZ	3V	3V
Work voltage	9-12VDC	
Work current	<200mA	
Output connector	SMA	
Output impedance	50Ω	
Output coupling mode	DC	
Work temperature	-20~60℃	
Storage temperature	-40~85℃	
Package Size	60mm x 50mm x 32mm (长 x 宽 x 厚, 不含连接器)	

Item	APD410A-10M	APD410C-10M
Detector	Si	InGaAs
Wavelength Range	400-1100nm	1000-1700nm
Optical Input	Free-Space	Free-Space
Active Area	500um	500um
Peak Response	55A/W @ 905nm (M = 100)	18A/W @ 1550nm (M = 20)
Bandwidth	DC-10MHz	DC-10MHz
Rise Time	36ns	36ns
Maximum conversion gain	$3.0 \times 10^7 \text{V/W}$	$9.8 \times 10^6 \text{V/W}$
Comprehensive noise	0.8nW (RMS)	2.3nW (RMS)
Saturated optical power	0.1uW	0.3uW
Noise voltage @ 50Ω	<18mVpp	<18mVpp
Maximum output amplitude@ HiZ	3V	3V
Work voltage	9-12VDC	
Work current	<200mA	
Output connector	SMA	
Output impedance	50Ω	
Output coupling mode	DC	
Work temperature	-20~60℃	
Storage temperature	-40~85℃	
Package Size	60mm x 50mm x 32mm (长 x 宽 x 厚, 不含连接器)	

RESPONSE CURVE



Si 探测器响应曲线



InGaAs 探测器响应曲线

MECHANICAL DRAWING

