



Description

The APD1.0TF-3 is a broad band SiC UV avalanche photodiode. It is optimized for the UV in all three spectral ranges UV-A, UV-B and UV-C.

Chips thereof are available

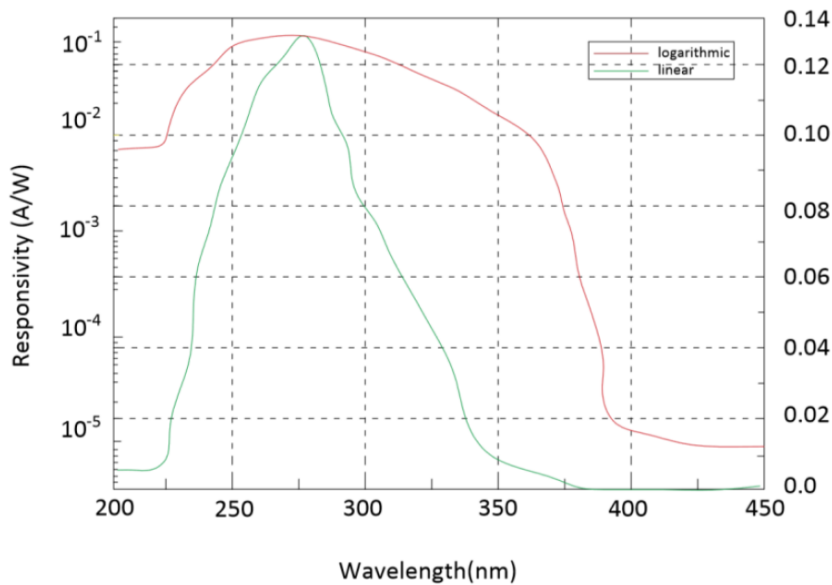
Features

- Linear and Geiger Mode operation
- Single photon counting capability
- Good visible blindness

Application

- UV fluorescence detection
- UV Lidar and communication
- Remote flame sensing

Spectral response

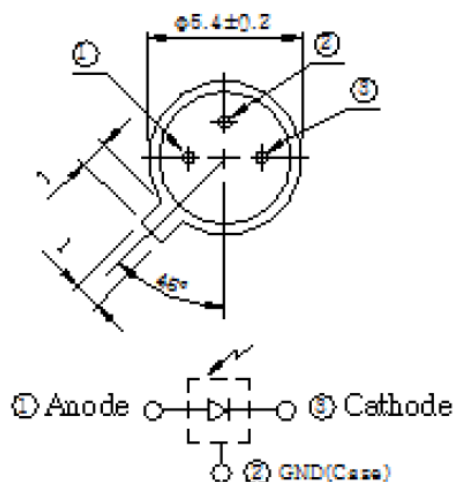
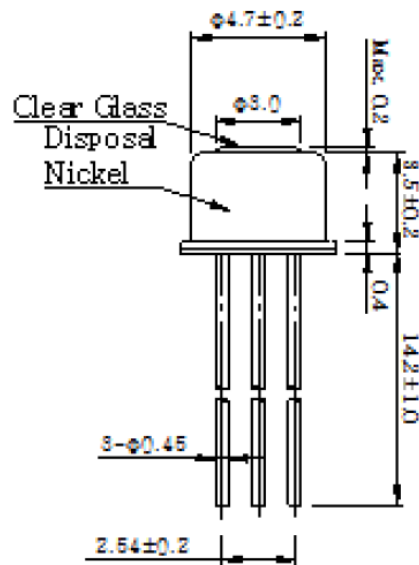


Electro-optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operation temperature range	T _{opt}	-20		+100	°C
Storage temperature range	T _{sto}	-40		+120	°C
Soldering temperature (3s)	T _{sol}		260		°C
Forward voltage (continuous bias)	V _f		5		V
Forward current (continuous bias)	I _f		1		mA
Reverse current (continuous bias)	I _r		0.1		mA
Reverse voltage (continuous bias)	V _r		V _{bias} +5		V
Reverse voltage (Pulsed, gated operation)	V _r		V _{bias} +7		V
Optical power (continuous wave, CW)	P _o		10		uW
Chip size (active area)	Dia.		120		um
Linear mode parameter	Case temperature 300K, all voltage and currents are reverse biased)				
Breakdown voltage (M>1)	V _{br}	165	170	178	V
Temperature coefficient of V _{bias} (Between 300K with 473K, linear approximation)	T _c		0.034		V/K
Quantum Efficiency (280nm, M=1, linear mode)	QE		35		%
Total dark current	I _d		1.5		pA
Geiger mode parameters					
Dark count rate (Case temperature 300K, 2V overbias)	DCR		10		KHz
Photon detection efficiency (Case temperature 300K, 280nm, 2V overbias)	PDE		10		%

Note:
Maximum ratings indicate conditions that the device can be exposed for short periods of time without damage. Although there are reports that SiC APDs can operate at temperatures above 150°C, these devices have not yet been tested to establish their reliability characteristics at very high temperature and under extreme conditions of thermal cycling.

Package



All Dimensions in "mm"

The information in this data sheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omissions. The specifications are subject to change without notice.