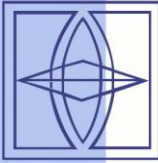


OEC



Opto-Electronic
Components



YOUR PARTNER

Stand 02.07.2018

SiC

UV Avalanche Photodiode

SIC-APD1.0TF-3



Description

APD1.0TF-3 is broad band SiC based UV avalanched photodiode, It is optimized for ultraviolet UVA, UVB and UVC wavelengths.

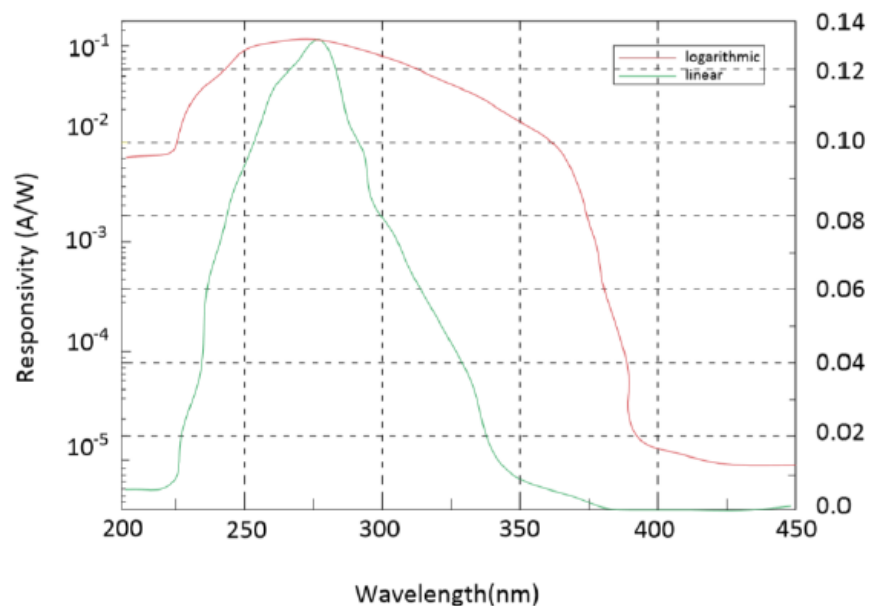
Features

- * Linear mode operation
- * Geiger mode operation
- * Single photon counting capability
- * Good visible blindness

Applications

- * UV fluorescence detection
- * UV lidar and communication
- * Remote flame sensing

Spectral Response



OEC GmbH
Vogelbergstraße 20
D-86441 Zusmarshausen

Tel. +49-(0)8291-18 86-0
Fax. +49-(0)8291-18 86-79
info@oec-gmbh.de
www.oec-gmbh.de

OEC



Opto-Electronic
Components



YOUR PARTNER

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		µW
Chip size (active area)	Dia.		120		µm
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		%

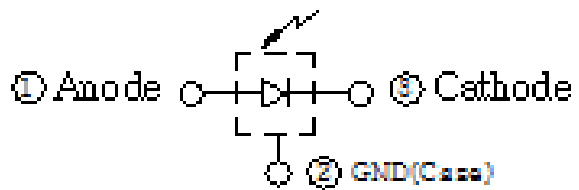
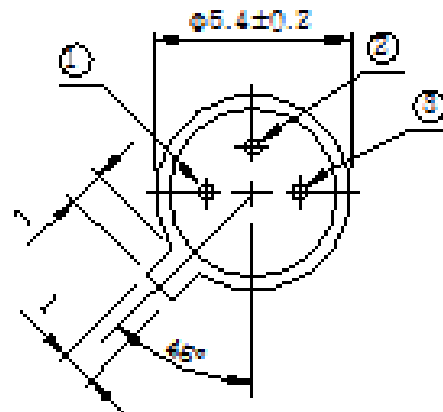
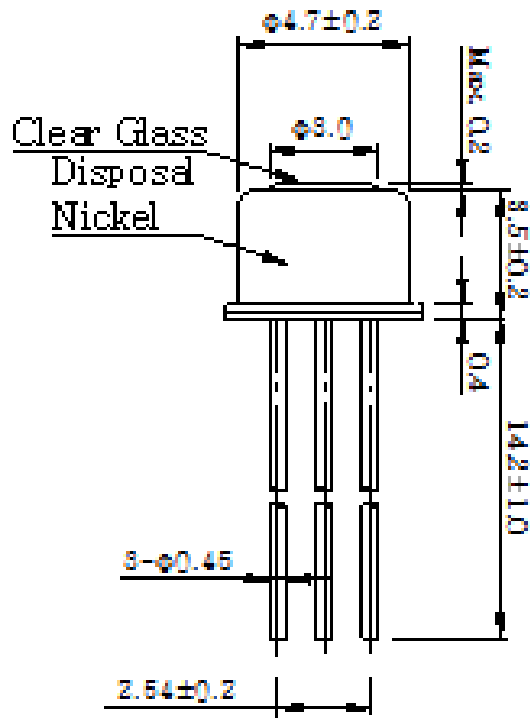
Note:

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 Drawing



All dimensions in „mm”