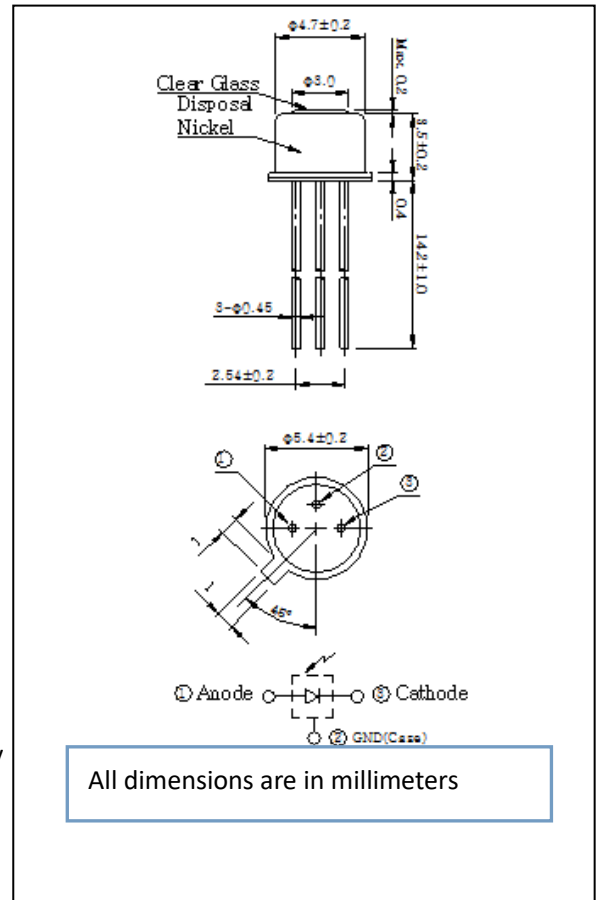


SiC-based UV Avalanched photodiode



Description

APD1.0TF-3 is broad band SiC based UV avalanched photodiode, it is Optimized for Ultra-violet , UVA, UVB and UVC wavelength.

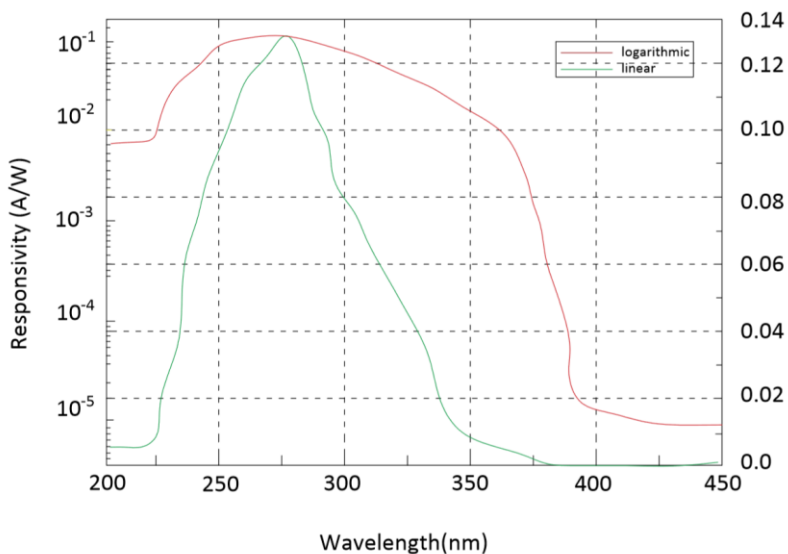
Features

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

Applications

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

Spectral response





Specifications:

| 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.

Spectral response

Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject change without notice

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