

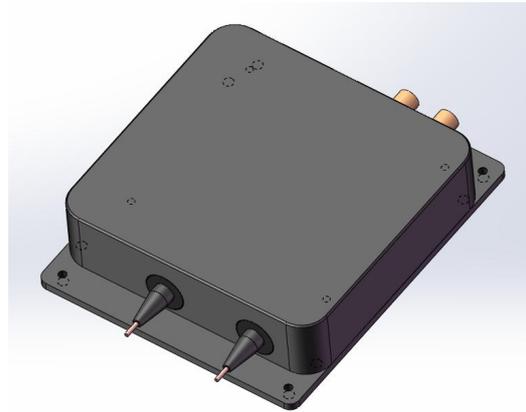
## DTS-APD Avalanche Photodetector

### 1. Overview

APD-DTS is a dual avalanche photodetector for distributed fiber optic temperature measurement. It is internally based on low noise amplifiers, boost circuits, and temperature compensation circuits, featuring high gain and fast response. The module is powered by a single power supply for easy integration, and the outputs use SMA connectors to reduce size and maximize frequency response, with a maximum bandwidth of 100MHz.

### 2. Features

- Covering wavelength range 1000-1700nm
- DTS-specific, dual-channel
- M-factor temperature compensation
- Connects to singlemode (SM) or multimode (MM) fibers
- FC fiber input header
- Supports customization



### 3. Applications

- Distributed Fiber Optic Temperature Measurement System DTS
- OTDR

### 4. Specifications

| Items                                 | DTS-APD-50M                            | DTS-APD-100M |
|---------------------------------------|--|--------------|
| Materials                             | InGaAs                                 |              |
| Wavelength                            | 1000-1700nm                            |              |
| Input connector                       | Multimode fiber with FC/APC connectors |              |
| Responsivity @M=1                     | 0.9A/W @1550nm                         |              |
| Bandwidth <sup>b</sup>                | DC-50MHz                               |              |
| Rise time <sup>b</sup>                | 9ns                                    |              |
| Gain <sup>a</sup>                     | 3.4x10 <sup>7</sup> V/W                |              |
| Saturated Optical power               | 94nW                                   |              |
| NEP                                   | 0.16pW/√ Hz                            |              |
| Maximum output amplitude <sup>a</sup> | 3.2V                                   |              |
| Operating voltage                     | 9-12V                                  |              |

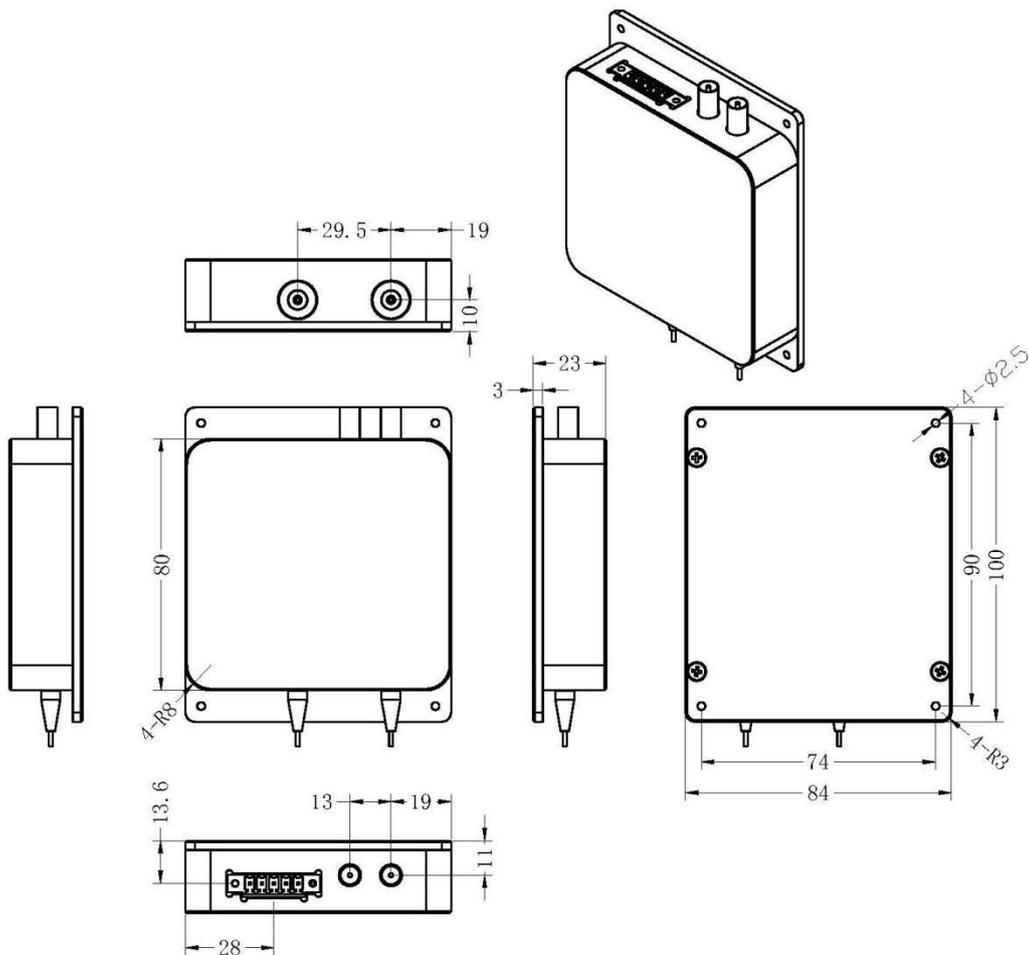
|                       |            |
|-----------------------|------------|
| Operating Current     | <500mA     |
| Output Impedance      | 50Ω        |
| Output coupling mode  | DC         |
| Output connector      | SMA female |
| Operating temperature | -10~65°C   |
| Storage temperature   | -40~85°C   |

Remarks:

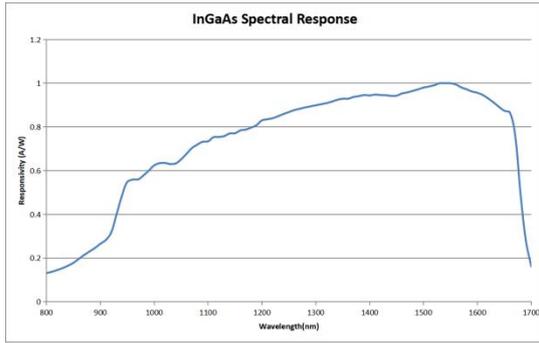
a For high resistance loads

b For 50Ω loads

## 5. Mechanical dimensions



## 6. Response curve



*Note: Response curves are typical values for reference only.*

## 7. Shipping list

| Item | Name of material    | num | unit | note |
|------|---------------------|-----|------|------|
| 1    | photodetector       | 1   | pcs  |      |
| 3    | SMA to BNC RF Cable | 2   | pcs  |      |