

PDA-1500-SA

InGaAs PIN Photodiode Module for CATV Receiver

DESCRIPTION

PDA-1500-SA InGaAs PIN Photodiode series are high quality analog photodetectors designed for AM CATV receiver applications. These receptacle type modules are optically aligned to optimize performance and balance the parameters of responsivity, distortion and back reflection. PDA-1500 series are suitable in forward and return path applications including AM-VSB CATV, QAM 64/256, PON, FTTC and FTTH receivers.

FEATURES

Electro-Optical

- Low Inter-modulation Distortion
- High Responsivity
- Low Back Reflection

Packaging

- Receptacle

ABSOLUTE MAXIMUM RATINGS

Stress in excess of the absolute maximum rating can cause permanent damage to the device. These are absolute stress rating only. Functional operation of the device is not implied at these or any other conditions in excess of these given in the operational sections of the datasheet. Exposure to absolute ratings for extended periods can adversely affect device reliability.

| Parameter | Symbol | Min | Max | Unit |
|-----------------------------|---------------------|-----|--------|--------|
| Forward Current | | | 10 | mA |
| Reverse Current | | | 10 | mA |
| Reverse Voltage | | | 25 | V |
| Power Dissipation | P _{DISS} | | 100 | mW |
| Soldering Temperature | T _{solder} | | 260/10 | °C/sec |
| Operating Temperature Range | T _{op} | -40 | 85 | °C |
| Storage Temperature Range | T _{stg} | -40 | 85 | °C |

CHARACTERISTICS

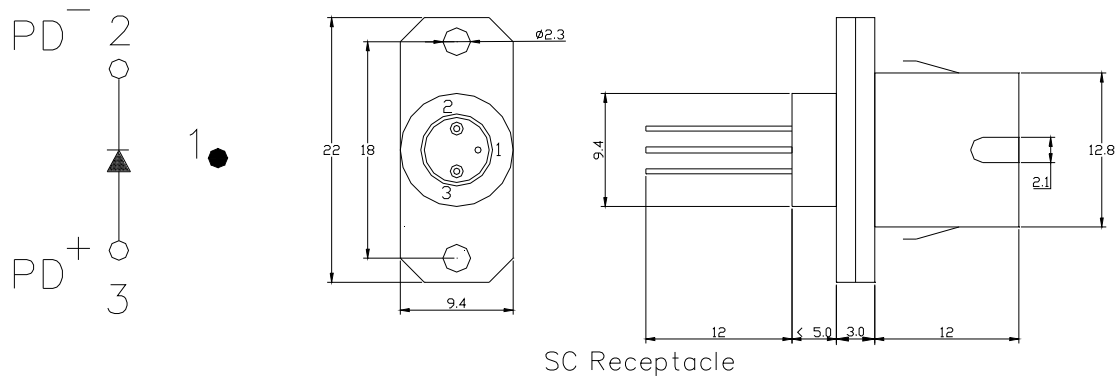
| ELECTRICAL AND OPTICAL CHARACTERISTICS (T _C = 25°C, V _R = 12V) | | | | | | |
|--------------------------------------------------------------------------------------|--------------------------------------------------|-----------------------------------------|------|------|------|------|
| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
| R | Responsivity | λ= 1300nm | 0.80 | | | A/W |
| | | λ= 1550nm | 0.85 | | | |
| IM2 | 2 nd Order Intermodulation Modulation | Note (1*) | | | -70 | dBc |
| I _{dark} | Dark Current | V _R =5V | | | 1 | nA |
| C | Capacitance | f=1MHz, Case Ground, V _R =5V | | | 1.0 | pF |
| BW | Bandwidth | 3 dB down, R _L =50Ω | 2.0 | | | GHz |

1*. IM2 measured at V_R=12V, λ=1550nm, P_{avg}=0dBm, MI=0.7, R_{LOAD}=50, f₁+f₂=850.25 MHz, f₁-f₂=50.25MHz

PRECAUTIONS for USE

ESD protection is imperative. Use of grounding straps, anti-static mats, and other ESD protective equipment is recommended when handling or testing an InGaAs PIN or any other junction photodiodes.

MECHANICAL DIMENSION (mm) and PIN ASSIGNMENT



Note: 1. Specifications subject to change without notice.

2. Other PIN assignment is available upon request.

ORDER INFORMATION

Part No.: P D A - 1 5 0 0 - □ □

| Code | Receptacle |
|------|------------|
| SA | SC/APC |
| FA | FC/APC |

Revision History

| Version | Subject | Release Date |
|---------|-------------------|--------------|
| 1.0 | Initial datasheet | 2004/8/1 |
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