
Connectorized PIN-PREAMP

Technical Data

PPA0515-052/155/622

Features

- **Integrated InGaAs PIN and GaAs Preamplifier**
- **FC or SC Receptacle**
- **Compact Package**
- **High Reliability Planar InGaAs PIN Photodiode**
- **High Responsivity**

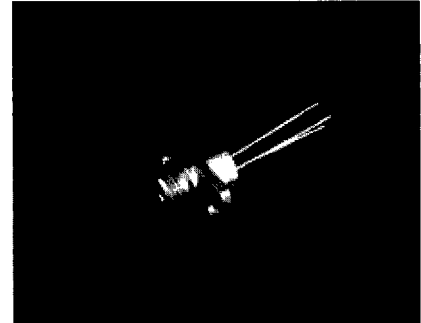
Applications

- **SONET/SDH**
- **Instrumentation**
- **O-E Convertors**
- **Single and Multimode Fiber Communications Systems**
- **Data Communication Receivers**
- **FDDI**

Description

The PPA0515 is a compact connectorized InGaAs photodiode with preamplifier designed for wide operating temperature range, low cost applications such as SONET/SDH and Fiber in the Loop. The planar InGaAs photodiodes are manufactured using MOVPE growth technology which gives low leakage and high responsivity performance with excellent reliability. The wide dynamic range GaAs IC preamplifier ensures compliance with SONET/SDH standards.

The construction of the devices includes a hermetically sealed photodiode and amplifier in an actively aligned receptacle housing and is designed to be compliant with Bellcore TA-TSY-000983.



Specifications

Absolute Limiting Ratings

Absolute (limiting) ratings mean that no catastrophic damage will occur if the product is subjected to these ratings for short periods, provided each limiting parameter is in isolation and all other parameters have values within the performance specification. It should not be assumed that limiting values of more than one parameter can be applied to the product at the same time.

| Parameter | Symbol | Minimum | Maximum | Units |
|-------------------------------|--------|---------|---------|-------|
| Positive voltage | Vdd | - | +7 | V |
| Photodiode Voltage (Negative) | V pin | - | -7 | V |
| Power Dissipation | - | - | 350 | mW |
| Operating Temperature | Tc | -40 | 85 | °C |
| Storage Temperature | Ts | -40 | 85 | °C |
| Soldering - 10 secs. | - | - | 260 | °C |

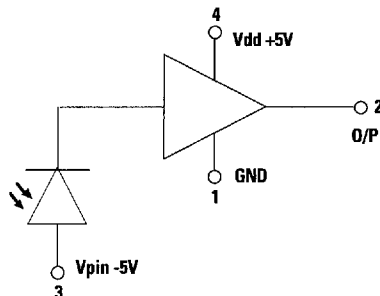
Performance Specifications (Note 1)

| Parameter | Data Rate | Minimum | Maximum | Units |
|-------------------------|------------|---------|---------|-------|
| Sensitivity [Note 2] | 52 Mbit/s | -39 | - | dBm |
| | 155 Mbit/s | -36 | - | dBm |
| | 622 Mbit/s | -30 | - | dBm |
| Overload [Notes 2,3] | 52 Mbit/s | -7 | - | dBm |
| | 155 Mbit/s | -7 | - | dBm |
| | 622 Mbit/s | -7 | - | dBm |
| Bandwidth -3dB | 52 Mbit/s | 35 | - | MHz |
| | 155 Mbit/s | 90 | - | MHz |
| | 622 Mbit/s | 400 | - | MHz |
| Output Impedance | - | 25 | 65 | Ohms |
| Photodiode Responsivity | - | 0.80 | - | A/W |
| Vdd Supply Voltage | - | 4.75 | 5.25 | V |
| Vdd Supply Current | - | - | 50 | mA |
| Photodiode Supply | - | -7.0 | -4.5 | V |

Notes:

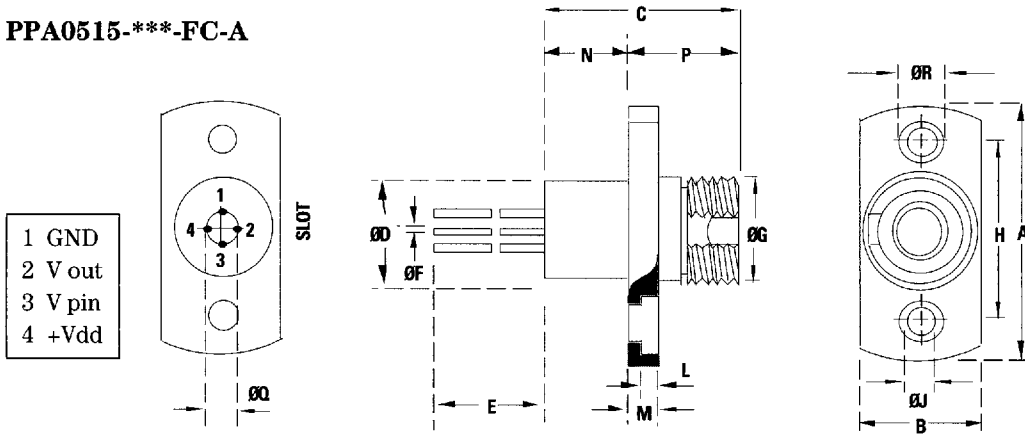
1. Measured over the operating temperature range and power supply tolerance.
2. Measured at the data rate specified for 1×10^{-9} BER using an infinite extinction ratio laser source modulated with a $2^{23}-1$ PRBS pattern.
3. Higher overload performance available. Contact your local Hewlett-Packard Components representative for details.

Schematic Diagram



Drawing Dimensions

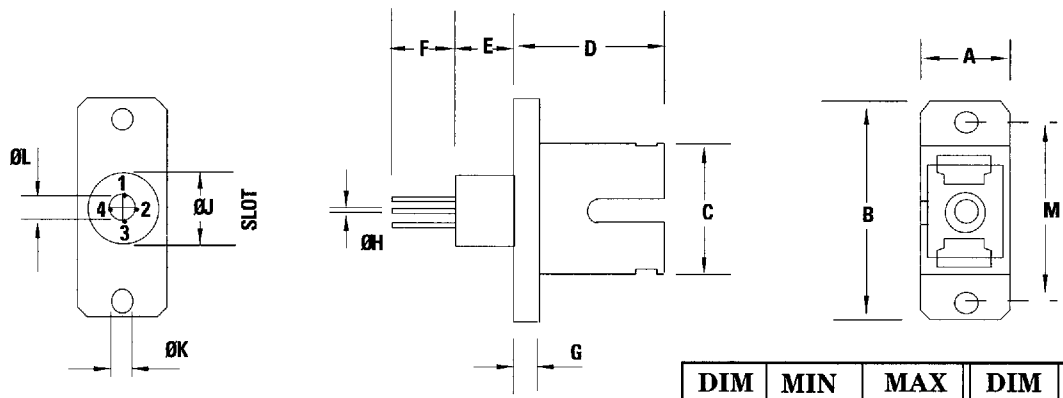
PPA0515-***-FC-A



| DIM | MIN | MAX | DIM | MIN | MAX |
|-----|-----------|-------|-----|----------|------|
| A | - | 19.5 | ØJ | 2.08 | 2.32 |
| B | - | 9.5 | L | - | 1.65 |
| C | - | 15.0 | M | - | 2.2 |
| ØD | - | 9.1 | N | - | 6.8 |
| E | 12.0 | - | P | - | 8.2 |
| ØF | 0.27 | 0.33 | ØQ | 2.54 NOM | |
| ØG | M8 X 0.75 | | ØR | - | 4.2 |
| H | 13.35 | 13.55 | | | |

All dimensions in mm

PPA0515-***-SC-A

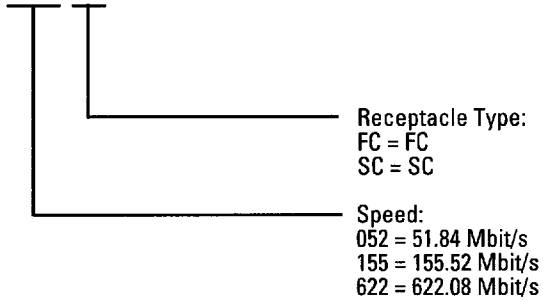


| DIM | MIN | MAX | DIM | MIN | MAX |
|-----|------|------|-----|----------|------|
| A | - | 9.5 | G | 2.0 | 3.0 |
| B | - | 23.0 | ØH | 0.27 | 0.33 |
| C | - | 13.5 | ØJ | - | 7.5 |
| D | - | 15.5 | ØK | 2.08 | 2.5 |
| E | - | 8.0 | ØL | 2.54 NOM | |
| F | 12.0 | - | M | 17.8 | 18.2 |

All dimensions in mm

Ordering Information

PPA0515-XXX-XX-A



Allowable Part Numbers
PPA0515-052-FC-A
PPA0515-155-FC-A
PPA0515-622-FC-A
PPA0515-052-SC-A
PPA0515-155-SC-A
PPA0515-622-SC-A

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*Call your local HP sales office listed in your telephone directory and ask for a Components representative.

Data subject to change
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Printed in USA 5963-5065E (1/95)