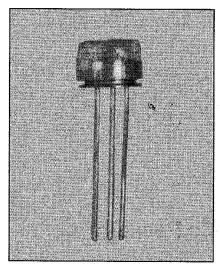


June 2003

5 MBd Fiber Optic Receiver Type OPF520



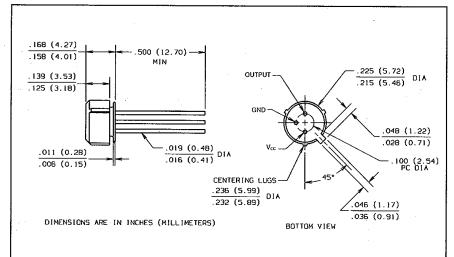
Features

- Low cost plastic cap package
- Designed to self align in the 0.228 diameter bore of standard fiber optic receptacles
- Press fit simplifies component installation
- Optimized for fiber optic applications using 50 to 200 micron fiber

Description

The OPF520 contains a monolithic photo-IC comprised of a photodetector and DC amplifier driving an open collector output Schottky transistor. The output makes the OPF520 compatible with TTL and CMOS logic.

The receiver is designed to operate from a single +5 V supply. It is essential that a bypass capacitor be connected from V_{CC} to Common of the receiver.



Absolute Maximum Ratings (T_A = 25^o C unless otherwise noted)

| Storage Temperature |
|--|
| Lead Soldering Temperature (for 10 sec.) |
| Supply Voltage |
| Output Current |
| Output Voltage |
| Open Collector Power Dissipation 40 mW |
| Fan Out (TTL) |

This component is susceptible to damage from electrostatic discharge (ESD). Normal static precautions should be taken in handling and assembly of this component to prevent ESD damage or degradation.

Optek Technology, Inc.

Carroliton, Texas 75006

Types OPF520

Electrical Characteristics ($T_A = 25^{\circ} C$ unless otherwise noted)

| $4.75 \le V_{CC} \le 5.25$, Fiber Sizes ≤ 100 Microns, N.A. ≤ 0.35 , BER $\le 10^{-9}$ | $4.75 \leq V_{CC} \leq 5.25$ | , Fiber Sizes | ≤ 100 Microns, | N.A. ≤ 0.35, | BER ≤ 10 ⁻⁹ |
|---|------------------------------|---------------|----------------|--------------|-------------------------------|
|---|------------------------------|---------------|----------------|--------------|-------------------------------|

| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | TEST CONDITION |
|--------------------------|-----------------------------------|-------|-----------|------|-------|---|
| ЮН | High Level Output Current | | 5 | 250 | μA | V _O = 18 V, P _R < -40 dBm |
| V _{OL} | Low Level Output Voltage | | 0.4 | 0.5 | · V | I _O = 8 mA, P _R > -24 dBm |
| Іссн | High Level Supply Current | | 3.5 | 6.3 | mA | V _{CC} = 5.25 V, P _R < -40 dBm |
| ICCL | Low Level supply Current | | 6.2 | 10 | mA | V _{CC} = 5.25 V, P _R > -24 dBm |
| PRH Peak Input Power Lev | Peak Input Power Level Logic HIGH | | | -40 | dBm | $\lambda p = 840 \text{ nm}^{(2)}$ |
| | | | a di seri | 0.1 | μW | λμ – 040 mm |
| P _{RL} | Peak Input Power Level Logic LOW | -25.4 | | -9.2 | dBm | $\lambda p = 840 \text{ nm}, I_{OL} = 8 \text{ mA}^{(2)}$ |
| | | 2.9 | | 120 | μW | $A_{\mu} = 640 \text{ mm}, \text{ 10L} = 6 \text{ mA}$ |
| | 11 J | -24 | - | -10 | dBm | $-40^{\circ} \text{ C} \le \text{T}_{\text{A}} \le +85^{\circ} \text{ C}$ |
| | | 4.0 | | 100 | μW | |
| t PLHR | Propagation Delay LOW to HIGH | | 65 | | ns | P _R = -21 dBm; Data Rate = 5 MBd |
| t PHLR | Propagation Delay HIGH to LOW | | 49 | | ns | |

Notes:

(1) 8 mA load (5 x 1.6 mA), $R_L = 560 \Omega$.

(2) Measured at the end of 100/140 μm fiber cable with a large area detector.

Optek reserves the right to make changes at any time in order to improve design and to supply the best product possible.Optek Technology, Inc.1215 W. Crosby RoadCarrollton, Texas 75006(972)323-2200Fax (972)323-2200