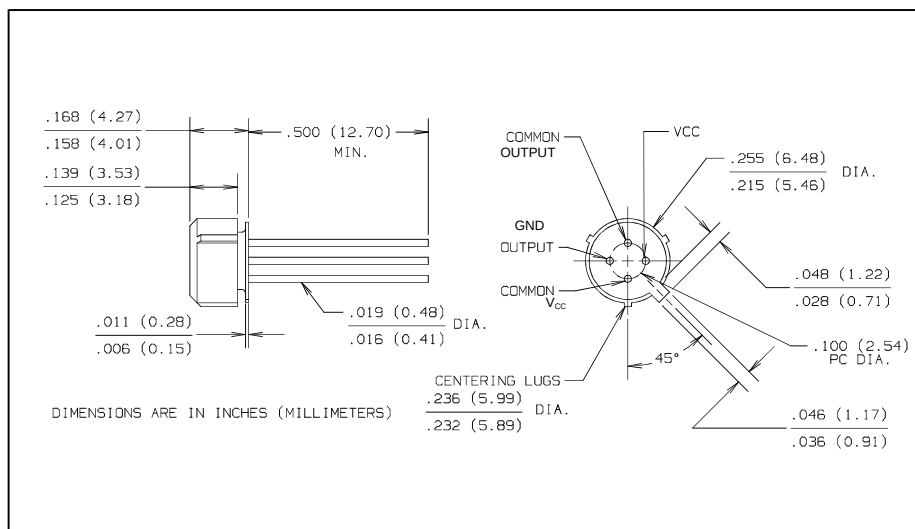
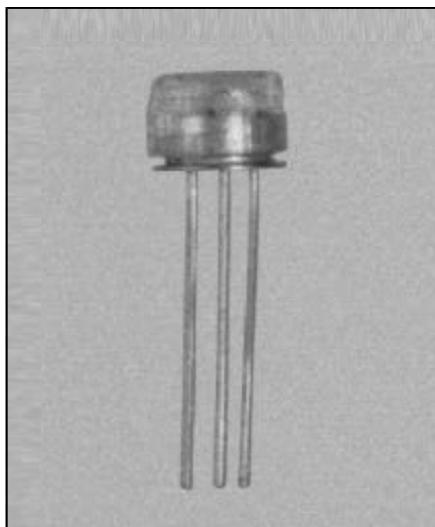


5 MBd Fiber Optic Receiver

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° C unless otherwise noted)

Storage Temperature	-55° C to +115° C
Operating Temperature	-40° C to +85° C
Lead Soldering Temperature (for 10 sec.)	260° C
Supply Voltage	-0.5 to 7.0 V
Output Current	25 mA
Output Voltage	-0.5 to 18.0 V
Open Collector Power Dissipation	40 mW
Fan Out (TTL)	5 ⁽¹⁾

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.

Types OPF520

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

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

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITION
I_{OH}	High Level Output Current		5	250	μA	$V_O = 18 \text{ V}$, $P_R < -40 \text{ dBm}$
V_{OL}	Low Level Output Voltage		0.4	0.5	V	$I_O = 8 \text{ mA}$, $P_R > -24 \text{ dBm}$
I_{CCH}	High Level Supply Current		3.5	6.3	mA	$V_{CC} = 5.25 \text{ V}$, $P_R < -40 \text{ dBm}$
I_{CCL}	Low Level supply Current		6.2	10	mA	$V_{CC} = 5.25 \text{ V}$, $P_R > -24 \text{ dBm}$
P_{RH}	Peak Input Power Level Logic HIGH			-40	dBm	$\lambda_p = 840 \text{ nm}^{(2)}$
				0.1	μW	
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	
		-24		-10	dBm	$-40^\circ \text{C} \leq T_A \leq +85^\circ \text{C}$
		4.0		100	μW	
t_{PLHR}	Propagation Delay LOW to HIGH		65		ns	$P_R = -21 \text{ dBm}$, Data Rate = 5 MBd
t_{PHLR}	Propagation Delay HIGH to LOW		49		ns	

Notes:

(1) 8 mA load ($5 \times 1.6 \text{ mA}$), $R_L = 560 \ \Omega$.

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

Types OPF520