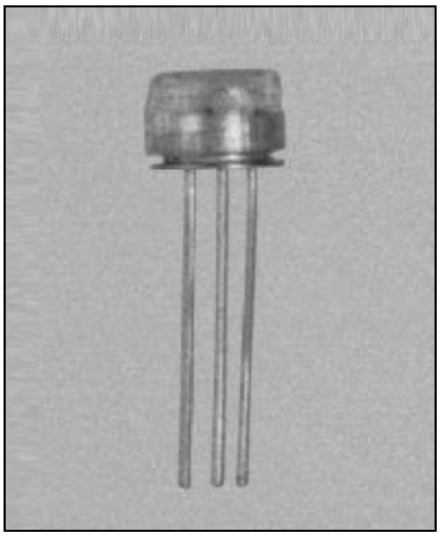
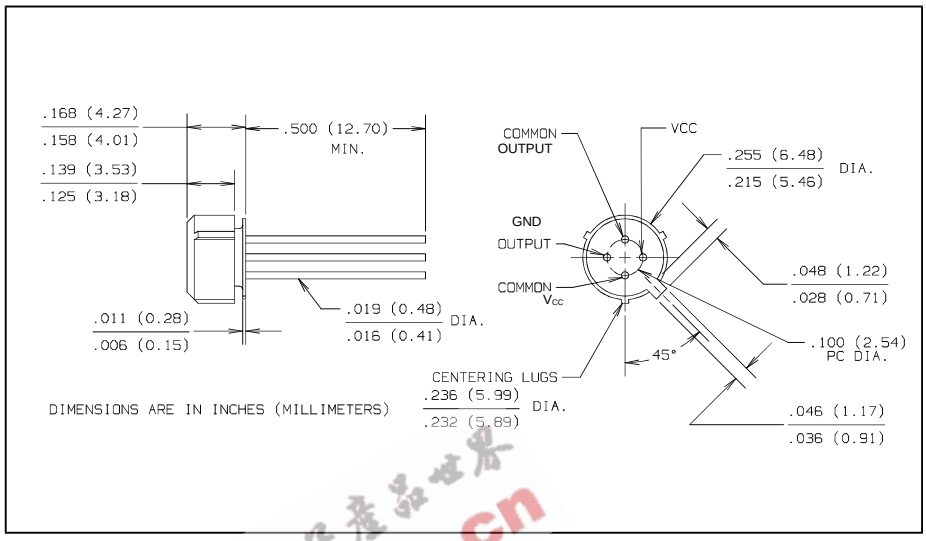
5 MBd Fiber Optic Receiver
Type OPF520





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° C unless otherwise noted)

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

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITION
I_{OH}	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
I_{CCH}	High Level Supply Current		3.5	6.3	mA	V_{CC} = 5.25 V, P_R < -40 dBm
I_{CCL}	Low Level supply Current		6.2	10	mA	V_{CC} = 5.25 V, P_R > -24 dBm
P_{RH}	Peak Input Power Level Logic HIGH			-40	dBm	λp = 840 nm(2)
				0.1	µW	
P_{RL}	Peak Input Power Level Logic LOW	-25.4		-9.2	dBm	λp = 840 nm, I_{OL} = 8 mA(2)
		2.9		120	µW	
		-24		-10	dBm	-40° C ≤ T_A ≤ +85° 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 Ω.
(2) Measured at the end of 100/140 µm fiber cable with a large area detector.

Types OPF520