

Fiber Optics — MOD Family Photo Detector Diode Output

... designed for low cost infrared radiation detection in high frequency Fiber Optics Systems. Motorola's package fits directly into standard fiber optics connectors. Metal connectors provide excellent RFI immunity. Major applications are: CATV, video systems, M68000 microprocessor systems, industrial controls, computer and peripheral equipment, etc.

- Fast Response — 5 ns Max @ 5 Volts
- Analog Bandwidth (–3 dB) Greater Than 100 MHz
- Performance Matched to Motorola Fiber Optics Emitters
- Plastic Package — Small, Rugged and Inexpensive
- Mates snugly with AMP #228756-1, Amphenol #905-138-5001, OFTI #PCR001 Receptacles
- Low Cost

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Reverse Voltage	V _R	50	Volts
Total Device Dissipation (at T _A = 25°C Derate above 25°C)	P _D	50 0.67	mW mW/°C
Operating Temperature Range	T _A	–40 to +100	°C
Storage Temperature Range	T _{stg}	–40 to +100	°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

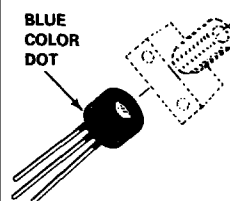
Characteristic	Symbol	Min	Typ	Max	Unit
Dark Current (V _R = 5 V, I _H ≈ 0, Figure 2)	I _D	—	—	1	nA
Reverse Breakdown Voltage (I _R = 10 μA)	V _{(BR)R}	50	—	—	Volts
Total Capacitance (V _R = 5 V, f = 1 MHz)	C _T	—	—	5	pF
Noise Equivalent Power	NEP	—	50	—	fW/√Hz

OPTICAL CHARACTERISTICS (T_A = 25°C)

Responsivity @ 850 nm (V _R = 5 V, P = 10 μW, Figure 3)	R	0.2	0.3	—	μA/μW
Response Time @ 850 nm (V _R = 20 V)	t _r , t _f	—	2	5	ns

MFOD3100

**MOD FAMILY
 FIBER OPTICS
 PHOTO DETECTOR
 DIODE OUTPUT**



**CASE 366-01
 PLASTIC**

MFOD3100

TYPICAL CHARACTERISTICS

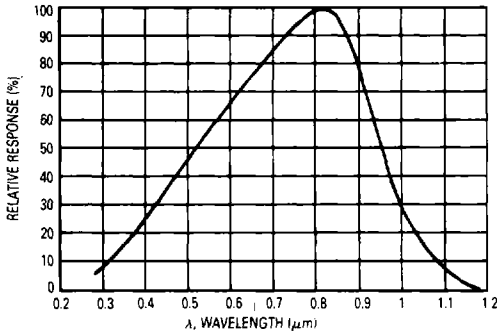


Figure 1. Relative Spectral Response

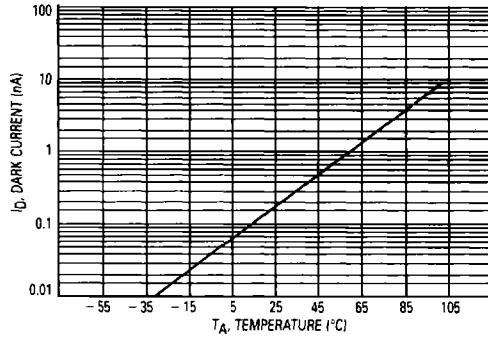


Figure 2. Dark Current versus Temperature

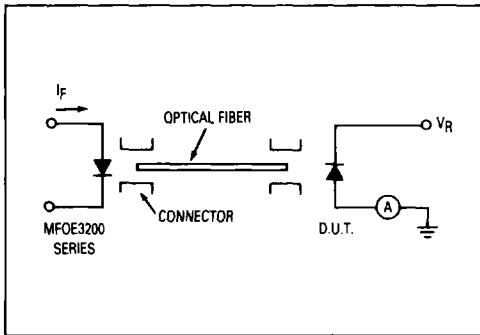
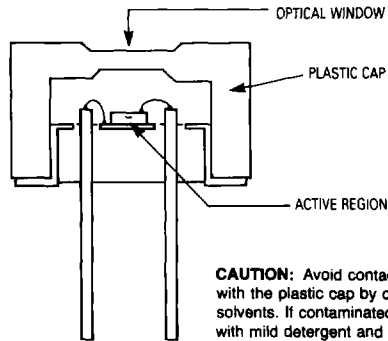


Figure 3. Responsivity Test Configuration



CAUTION: Avoid contact with the plastic cap by organic solvents. If contaminated, clean with mild detergent and water.

Figure 4. Package Cross Section

