PD7XX8 SERIES

InGaAs PIN PHOTO DIODES

TYPE NAME

PD7088,PD708B8

DESCRIPTION

PD7XX8 series are InGaAs pin photodiode which has a sensitive area of $\phi 80\,\mu m$.

PD7XX8 is suitable for receving the light having a wavelength band of 1000 to 1600nm. This photodiode features high-speed response and a high quantum efficiency, and is suitable for the light receiving elements for optical fiber communication systems.

FEATURES

- $\phi 80\,\mu m$ active diameter
- 1000~1600nm wavelength band
- Small dark current
- High speed responce
- High quantum efficiency
- High reliabilty, long operation life
- Ball lens cap (PD708B8)

APPLICATION

Receiver for long-distance optical fiber communication systems

ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Conditions	Ratings	Unit
V_R	Reverse voltage	—	20	V
I_R	Revers current	—	500	μA
I_F	Forward current	—	2	mA
T_C	Case temperature	—	−40~+85	℃
T_{stg}	Storage temperature	—	−40~+100	℃

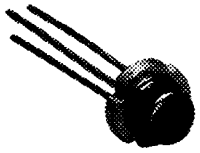
ELECTRICAL/OPTICAL CHARACTERISTICS (T_C = 25℃)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
C_t	Capacitance	V_R = 5V,f = 1MHz	—	1	2	pF
I_D	Dark current	V_R = 5V	—	0.05	1	nA
R	Responsivity	V_R = 5V, λ = 1300nm	0.6	0.9*	—	A/W
fc	Cutoff frequency	V_R = 5V, λ = 1300nm,R_L = 50Ω,−3dB	1	3	—	GHz
t_r,t_f	Rise and fall times	V_R = 5V, λ = 1300nm,R_L = 50Ω	—	0.3	—	ns

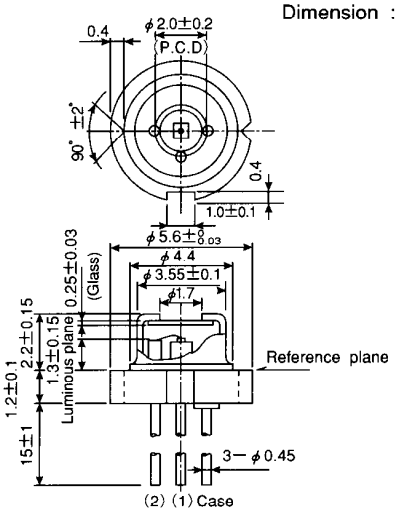
*0.85A/W typical fiber coupling sensitivity with GI 50/125 for PD708B8

OUTLINE DRAWINGS

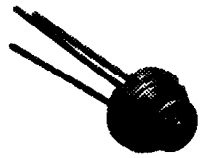
PD7088



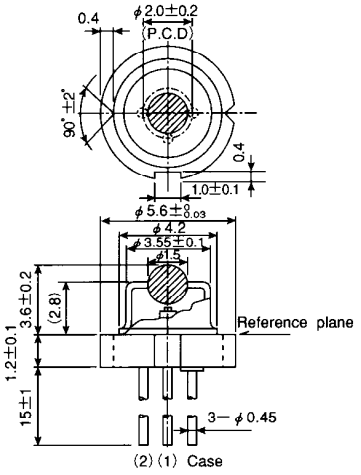
Dimension : mm



PD70B8



Dimension : mm



TYPICAL CHARACTERISTICS

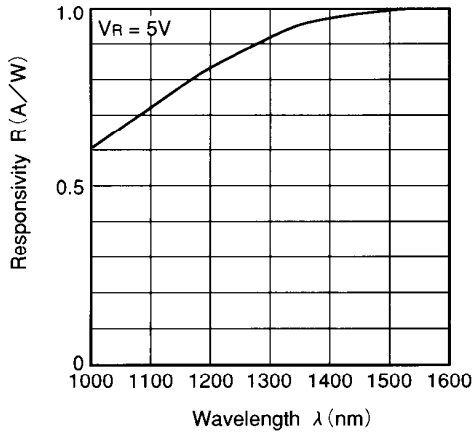


Fig.1 Spectral response

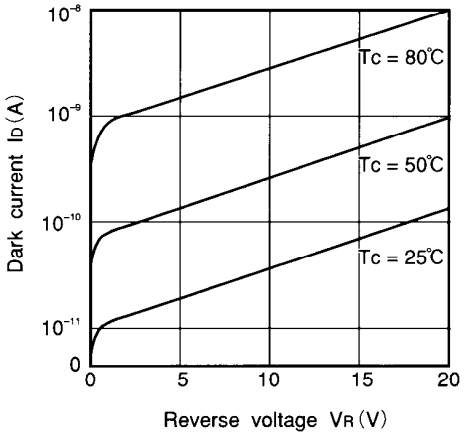


Fig.2 Dark current vs. reverse voltage

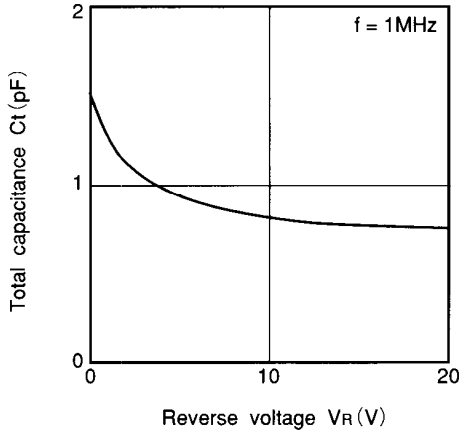


Fig.3 Total capacitance vs. reverse voltage