

TYPE
NAME

PD7088,PD708B8

DESCRIPTION

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

PD7XX8 is suitable for receiving 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

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

APPLICATION

Receiver for long-distance optical fiber communication systems

ABSOLUTE MAXIMUM RATING

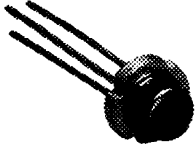
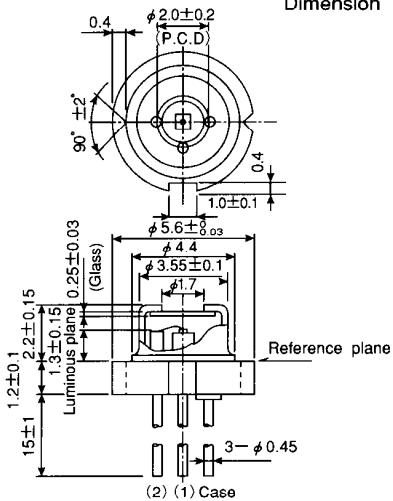
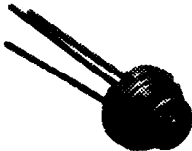
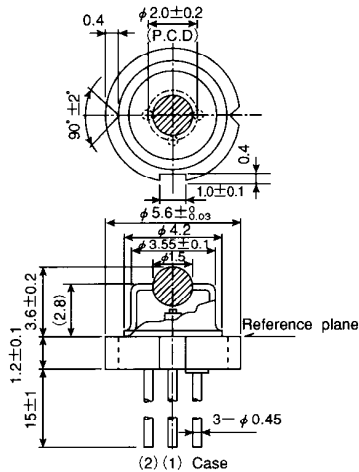
Symbol	Parameter	Conditions	Ratings	Unit
V_R	Reverse voltage	—	20	V
I_R	Revers current	—	500	μA
I_F	Forward current	—	2	mA
T_C	Case temperature	—	$-40 \sim +85$	$^{\circ}\text{C}$
T_{stg}	Storage temperature	—	$-40 \sim +100$	$^{\circ}\text{C}$

ELECTRICAL/OPTICAL CHARACTERISTICS ($T_C = 25^{\circ}\text{C}$)

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

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

OUTLINE DRAWINGS

PD7088 	Dimension : mm  Top view dimensions: $\phi 2.0 \pm 0.2$ (P.C.D.), 0.4, $90^\circ \pm 2^\circ$, 1.0 ± 0.1, 0.4. Side view dimensions: $\phi 5.6 \pm 0.03$, 1.2 ± 0.1, 2.2 ± 0.15, 1.3 ± 0.15, 15 ± 1, 0.25 ± 0.03 (Glass), $\phi 4.4$, $\phi 3.55 \pm 0.1$, $\phi 1.7$, $3 - \phi 0.45$. Reference plane (2) (1) Case	
PD70B8 	Dimension : mm  Top view dimensions: $\phi 2.0 \pm 0.2$ (P.C.D.), 0.4, $90^\circ \pm 2^\circ$, 1.0 ± 0.1, 0.4. Side view dimensions: $\phi 5.6 \pm 0.03$, 1.2 ± 0.1, 3.6 ± 0.2, (2.8), 15 ± 1, $\phi 4.2$, $\phi 3.55 \pm 0.1$, $\phi 1.5$, $3 - \phi 0.45$. Reference plane (2) (1) Case	

TYPICAL CHARACTERISTICS

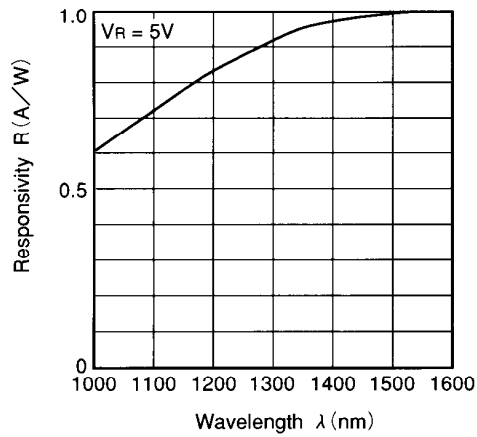


Fig.1 Spectral response

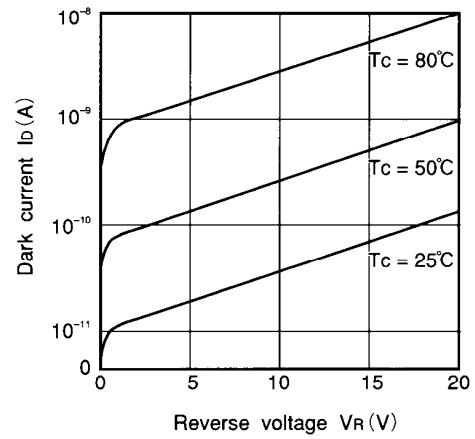


Fig.2 Dark current vs. reverse voltage

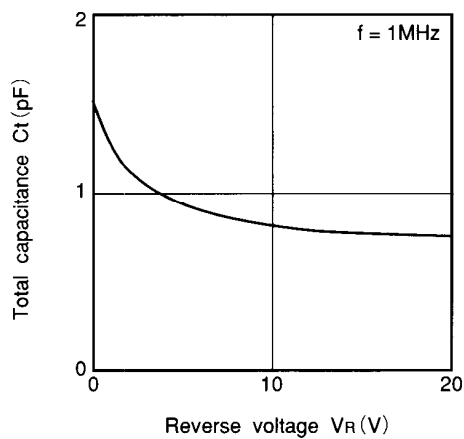


Fig.3 Total capacitance vs. reverse voltage