

**PRELIMINARY**  
Notice: This is not a final specification.  
Some parametric limits are subject to change.

**mitsubishi** LASER DIODES  
**PD7XX11 SERIES**  
InGaAs PIN PHOTO DIODES

TYPE  
NAME

**PD7XX11**

## DESCRIPTION

PD7XX11 is an InGaAs pin photodiode which has a sensitive area of  $\phi 20\mu\text{m}$ .

PD7XX11 is suitable for receiving the light having a wavelength band of 1000 to 1600nm. This photodiode features a high speed response and a high quantum efficiency and is suitable for long-distance optical communication systems.

## FEATURES

- High speed response
- High quantum efficiency
- $\phi 20\mu\text{m}$  active diameter
- Low dark current
- Low capacitance

## APPLICATION

Receiver for long-distance optical fiber communication systems

## ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Conditions	Ratings	Unit
$V_R$	Reverse voltage	-	20	V
$I_R$	Reverse current	-	500	$\mu\text{A}$
$I_F$	Forward current	-	2	mA
$T_C$	Case temperature	-	0~+85	$^{\circ}\text{C}$
$T_{\text{stg}}$	Storage temperature	-	-40~+100	$^{\circ}\text{C}$

## Electrical/Optical Characteristics (T<sub>C</sub> = 25 $^{\circ}\text{C}$ )

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
$C_{\text{chip}}$	Chip Capacitance	$V_R = 5\text{V}, f = 1\text{MHz}$	-	0.2	0.3	pF
$I_D$	Dark current	$V_R = 5\text{V}$	-	0.01	1.0	nA
R	Responsivity	$V_R = 5\text{V}, \lambda = 1.30\mu\text{m}$	-	0.85	-	A/W
		$V_R = 5\text{V}, \lambda = 1.55\mu\text{m}$	-	1.0	-	A/W
$f_c$	Cutoff frequency	$V_R = 5\text{V}, R_L = 50\Omega, -3\text{dB}$	-	16	-	GHz

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### TYPICAL CHARACTERISTICS

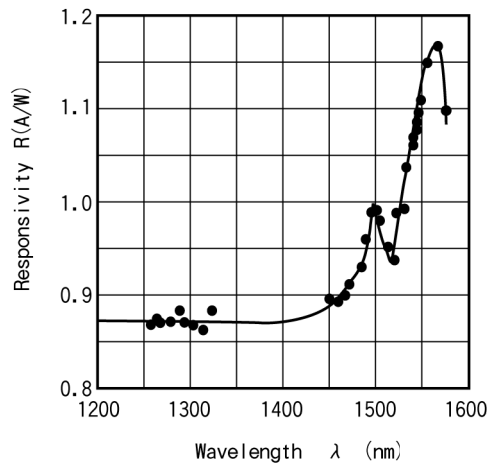


Fig.1 Spectral response

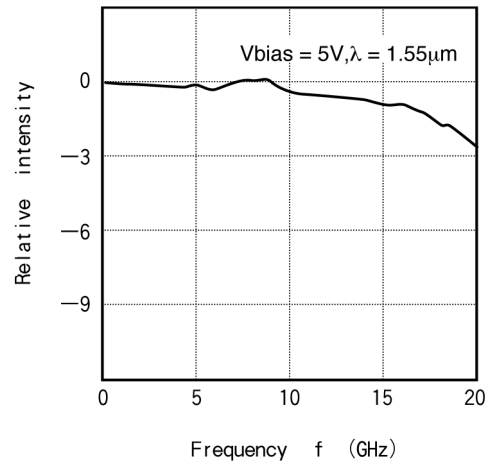


Fig.2 Frequency Response