

PD739C13

DESCRIPTION

PD739C13 is a f20mm InGaAs pin photodiodes with Trans-Impedance Amplifier (TIA).

This PD with TIA features a high-speed response and low noise, and is suitable for 2.5Gb/s optical communication systems.

Feature

- Build-in TIA
- Single 3.3V supply voltage for TIA
- Differential output
- Ball lens cap

APPLICATION

Receiver for optical communication system

ABSOLUTE MAXIMUM RATINGS Note 1)

Symbol	Parameter	Conditions	Ratings	Unit
V _{pd}	PD supply voltage	-	20	V
V _{cc}	TIA supply voltage	-	6	V
P _{in}	Photo input power	-	2.0	mW
I _{pd}	PD reverse current	-	2.0	mA
T _{stg}	Storage temperature	-	-40 ~ +85	°C

Note 1: The maximum rating and limitation over which the device should not be operated instant time. And this does not mean the guarantee of its lifetime. As for the reliability, please refer to the reliability report from Mitsubishi Semiconductor Quality Assurance section.

RECOMMENDED OPERATING CONDITIONS

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
V _{cc}	TIA supply voltage	-	3.0	3.3	5.5	V
T _c	Case temperature	-	-20	-	+85	°C

ELECTRICAL / OPTICAL CHARACTERISTICS (T_c=25°C, V_{cc}=3.3V, V_{pd}=3.3V, λ=1300nm)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
R	Responsivity	R _L =50W, Single-ended	0.75	1.2	-	kV/W
I _{cc}	TIA consumption current	P _{in} =0mW	-	35	70	mA
f _c	Cut-off frequency	R _L =50W, -3dB, P _{in} =10mW	1.5	2.0	-	GHz
i _n	Averaged equivalent input noise current density	P _{in} =0mW, f=10MHz-1.4GHz, R _L =50W	-	9.0	-	pA/ Hz ^{1/2}
Pr	Minimum received sensitivity	NRZ, PBS=2 ²³ -1, BER=10 ⁻¹⁰ , 2.488G/s,	-	-23	-	dBm

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InGaAs PIN PHOTO DIODES

Outline drawing

<h3>PD739C13</h3>	<p>Unit:mm</p> <p>The center of active diameter is 180um away from the center of stem.</p> <p>Lead Connection</p> <ol style="list-style-type: none"> 1) Vpd 2) Vcc 3) $\overline{\text{Out}}$ 4) Out 5) GND(Case) 	