

PN323

PIN Photodiode

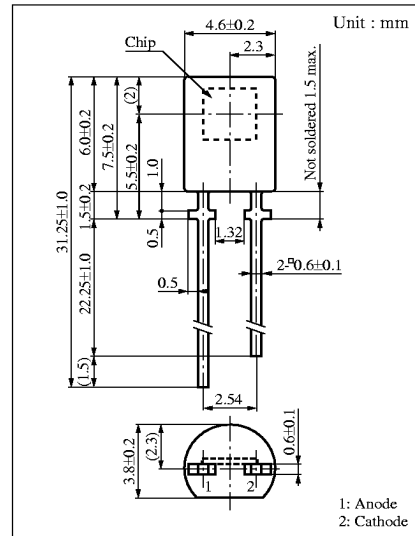
For optical control systems

■ Features

- Fast response which is well suited to high speed modulated light detection : $t_r, t_f = 50$ ns (typ.)
- High sensitivity, high reliability
- Peak sensitivity wavelength matched with infrared light emitting diodes : $\lambda_p = 900$ nm (typ.)
- Wide detection area, wide acceptance half angle : $\theta = 70$ deg. (typ.)
- Adoption of visible light cutoff resin

■ Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Ratings	Unit
Reverse voltage (DC)	V_R	30	V
Power dissipation	P_D	100	mW
Operating ambient temperature	T_{opr}	-30 to +85	°C
Storage temperature	T_{stg}	-40 to +100	°C



■ Electro-Optical Characteristics (Ta = 25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Dark current	I_D	$V_R = 10V$		5	50	nA
Photo current	I_L	$V_R = 10V, L = 1000 lx^{*1}$		55		μA
Sensitivity to infrared emitters	S_{IR}^{*2}	$V_R = 5V, H = 0.1mW/cm^2$	4.5	6		μA
Peak sensitivity wavelength	λ_p	$V_R = 10V$		900		nm
Response time	t_r, t_f^{*3}	$V_R = 10V, R_L = 1k\Omega$		50		ns
Response time	t_r, t_f^{*3}	$V_R = 10V, R_L = 100k\Omega$		5		μs
Capacitance between pins	C_t	$V_R = 0V, f = 1MHz$		70		pF
Acceptance half angle	θ	Measured from the optical axis to the half power point		70		deg.

*1 Measurements were made using a tungsten lamp (color temperature T = 2856K) as a light source.

*2 Light source : $\lambda = 940$ nm

*3 Switching time measurement circuit

