

PHOTODIODE

PHOTODIODE FOR IR DATA COMMUNICATION

GENERAL DESCRIPTION

Sharp's PD413PI photodiode is excellent for use in IR data communications.

FEATURE

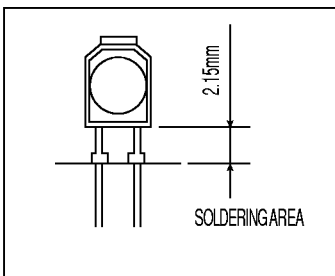
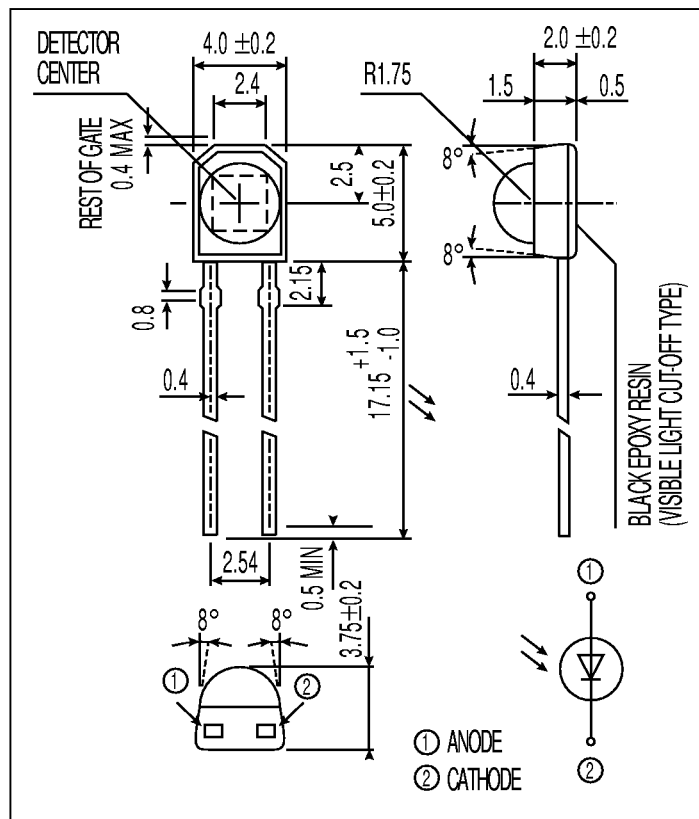
- Beam angle $\Delta \Theta$: TYP. ± 45 deg.

APPLICATIONS:

- Personal Computer
- Personal Digital Assistant
- Handy Terminal
- Amusement Equipment

OUTLINE DIMENSION

(Unit:mm)



ABSOLUTE MAXIMUM RATING

Ta=25°C

Parameter	Symbol	Rating	Unit
Reverse voltage	VR	32	V
Power dissipation	P	150	mW
Operating temperature	ToPr	-25 to +85	°C
Storage temperature	Tstg	-40 to +100	°C
Soldering temperature*	Tsol	260	°C

*Max. for 5 sec. at the position of 2.15mm from the resin edge.

PRECAUTION

In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that occur in equipment using any of SHARP's device, show in catalogs, data books, etc. Contact SHARP in order to obtain the latest version of the device specification sheets before using any SHARP's device.

Specifications are subject to change without notice.

All devices should be handled according to the precautions for use in specifications and data book.

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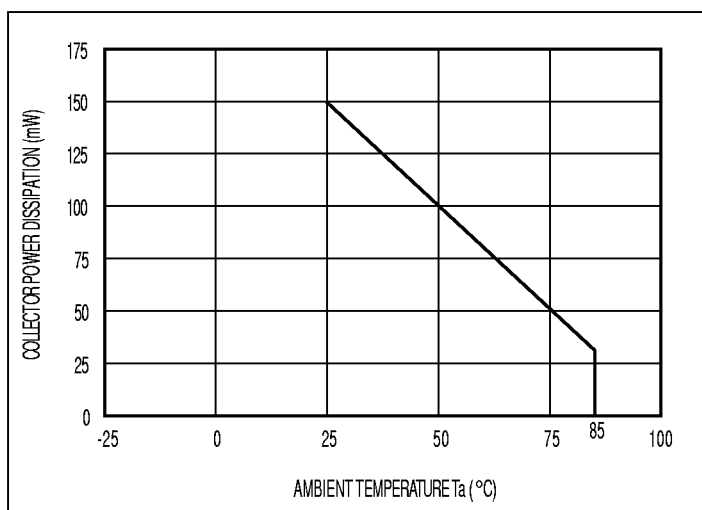
ELECTRO-OPTICAL CHARACTERISTICS

Ta=25°C

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Short circuit current	Isc	*1 Ev=100 lx	4.5	5.4	8.1	μA
Short circuit current temperature coefficient	βT	*1 Ev=100 lx	—	0.2	—	%/°C
Dark current	Id	VR=10V, Ev=0 lx	—	—	10	nA
Dark current temperature coefficient	α T	VR=10V, Ev=0 lx	—	3.5	5.0	Times 10 ⁻² /°C
Forward voltage	VF	IF=1mA	—	—	1.0	V
Terminal capacitance	Ct	VR=3V, f=1MHz	—	20	35	pF
Peak sensitivity wavelength	λ P	—	—	960	—	nm
Peak spectral sensitivity	K	λ =960nm	—	1.0	—	A/W
Response time (Rise)	tr	RL=1kΩ	—	200	—	ns
Response time (Fall)	tf	VR=10V	—	200	—	ns
Half intensity angle	ΔΘ	—	—	±45	—	deg.

*Ev: Illuminance by CIE standard light source A (tungsten lamp)

COLLECTOR POWER DISSIPATION VS AMBIENT TEMPERATURE



SPECTRAL SENSITIVITY (TYP)

Ta=25°C

