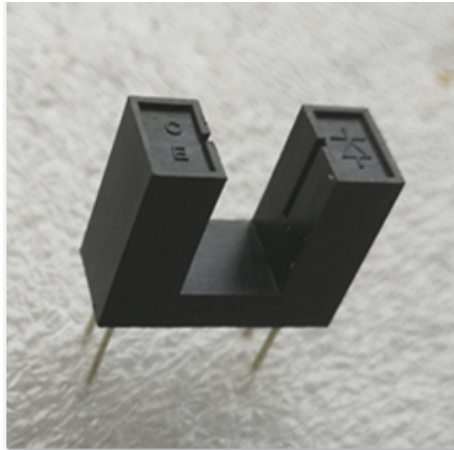


广州市新亿彩电子科技有限公司

H42B6

一、特点：

- 1 采用高发射功率红外光电二极管和高灵敏度光敏晶体管组成。
- 2 光缝宽度:0.8mm;光轴中心:2.2mm。



Description

- The H42B6 consist of an infrared emitting diode and an silicon phototransistor, encased side-by-side on converging optical axis in a black thermoplastic housing,
- The phototransistor receives radiation from the IR LED only .This is the normal situation.
- But when an object is in between , phototransistor could not receives the radiation.
- For additional component information , please refer to IR908-7C and PT908-7C

Applications

- Mouse Copier
- Switch Scanner
- Floppy disk driver
- Non-contact Switching
- For Direct Board

Device Selection Guide

Part Category	Chip Material	Lens Color
IR	GaAlAs	Water Clear
PT	Silicon	Water Clear

Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Ratings	Unit
Input	Power Dissipation at(or below) 25°C Free Air Temperature	Pd	75	mW
	Reverse Voltage	V _R	5	V
	Forward Current	I _F	50	mA
Output	Collector Power Dissipation	Pd	75	mW
	Collector Current	I _C	20	mA
	Collector-Emitter Voltage	B V _{CEO}	30	V
	Emitter-Collector Voltage	B V _{ECO}	5	V
Operating Temperature		T _{opr}	-25~+85	°C
Storage Temperature		T _{stg}	-40~+100	°C
Lead Soldering Temperature (*2) (3mm from the package)		T _{sol}	260	°C

Note: (*1) $t_w=100 \mu\text{sec.}$, $T=10 \text{ msec.}$

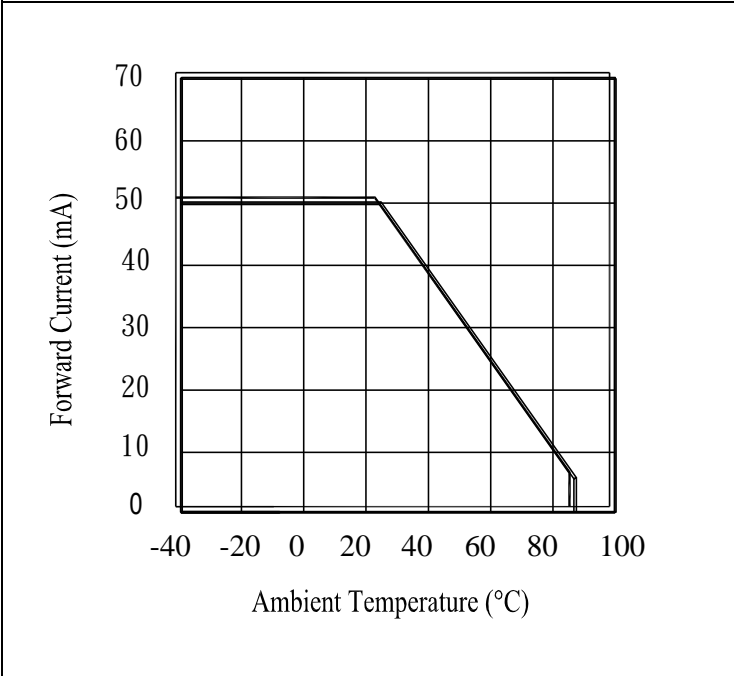
(*2) Soldering time $\leq 5 \text{ sec.}$

Electro-Optical Characteristics (Ta=25°C)

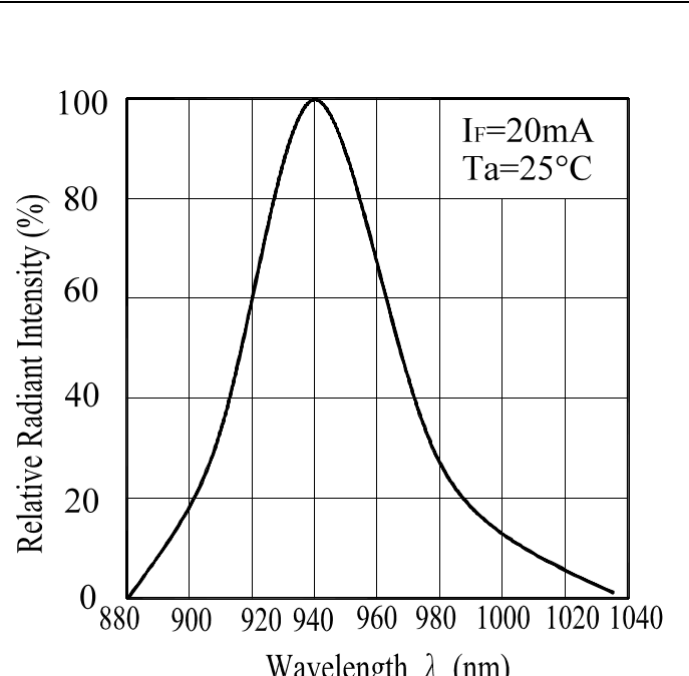
Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Input	Forward Voltage	V _F	---	1.2	1.5	V	I _F =20mA
	Reverse Current	I _R	---	---	10	μA	V _R =5V
	Peak Wavelength	λ _P	---	940	---	nm	I _F =20mA
Output	Dark Current	I _{CEO}	---	---	100	nA	V _{CE} =20V, E _e =0mW/cm ²
	C-E Saturation Voltage	V _{CE(sat)}	---	---	0.4	V	I _C =2mA , E _e =1mW/cm ²
Transfer Characteristics	Collect Current	I _{C(ON)}	0.5	---	---	mA	V _{CE} =5V I _F =20mA
	Rise time	t _r	---	15	---	μsec	V _{CE} =5V I _C =1mA R _L =1KΩ
	Fall time	t _f	---	15	---	μsec	

Typical Electrical/Optical/Characteristics Curves for IR

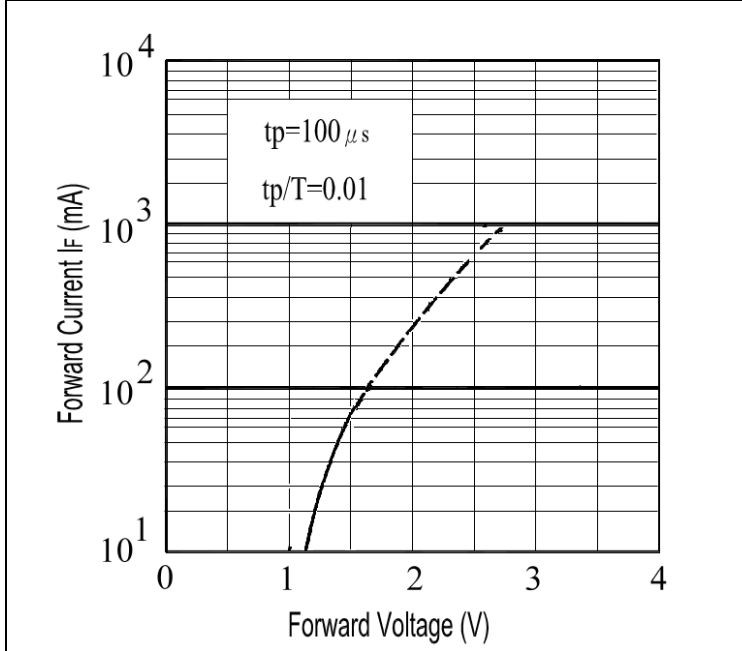
Collector Power Dissipation vs. Ambient Temperature



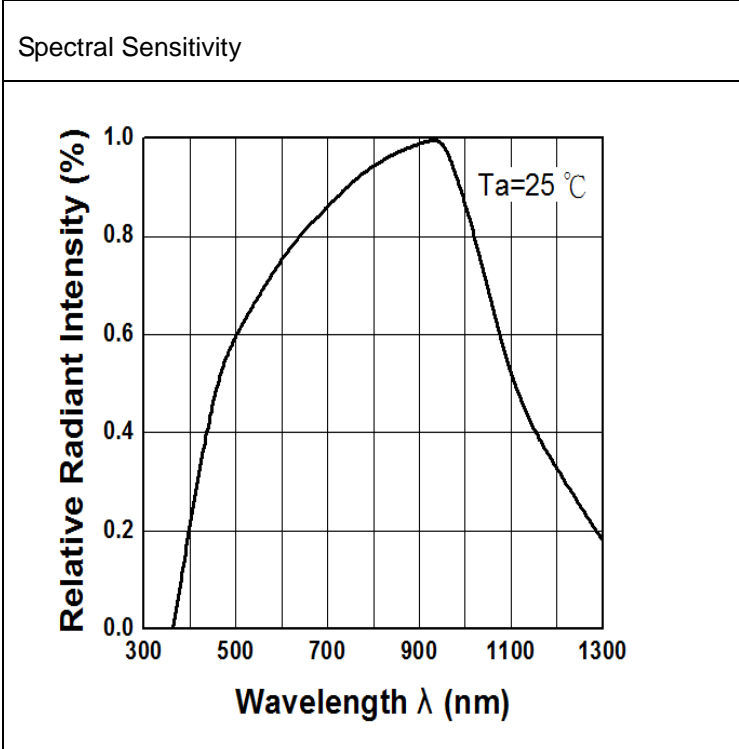
Spectral Sensitivity



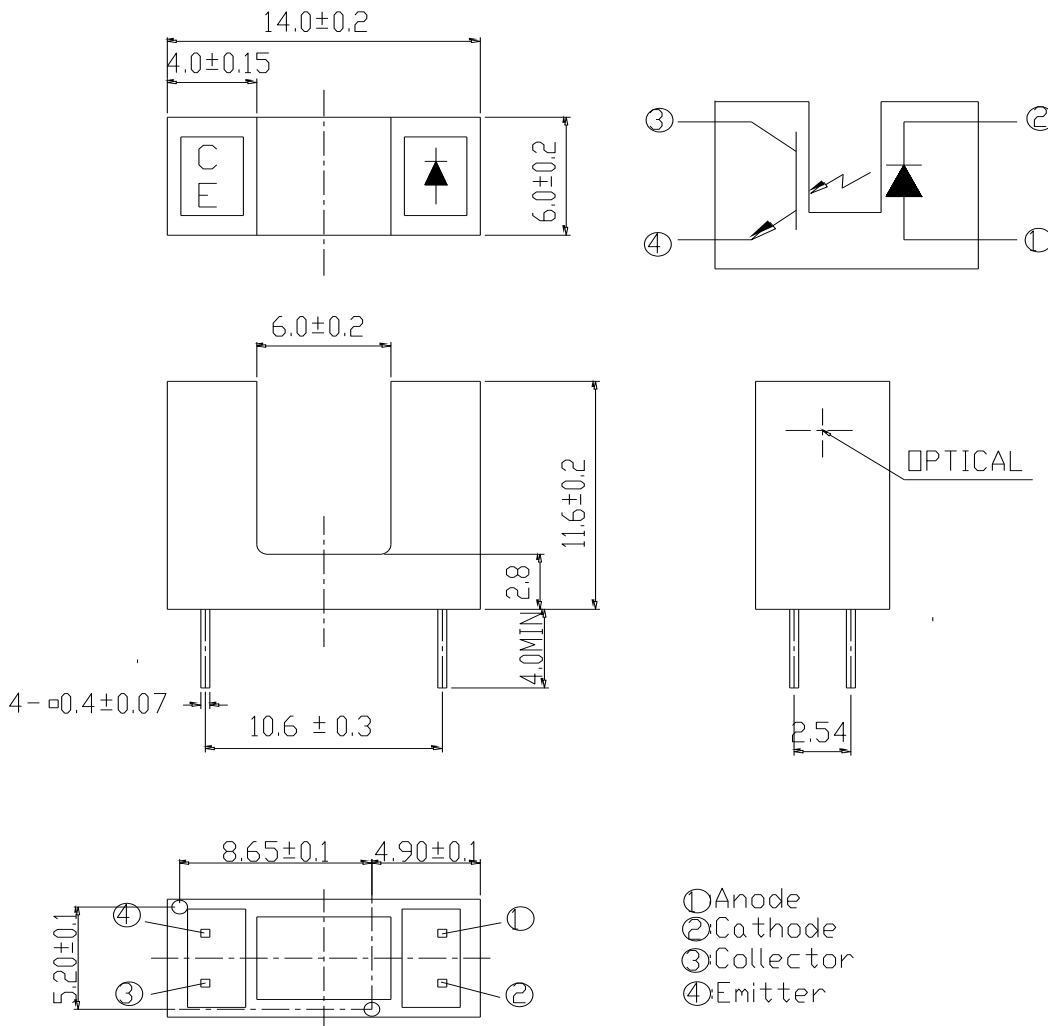
Forward Current vs. Forward Voltage



Typical Electrical/Optical/Characteristics Curves for PT



Package Dimension



Notes:

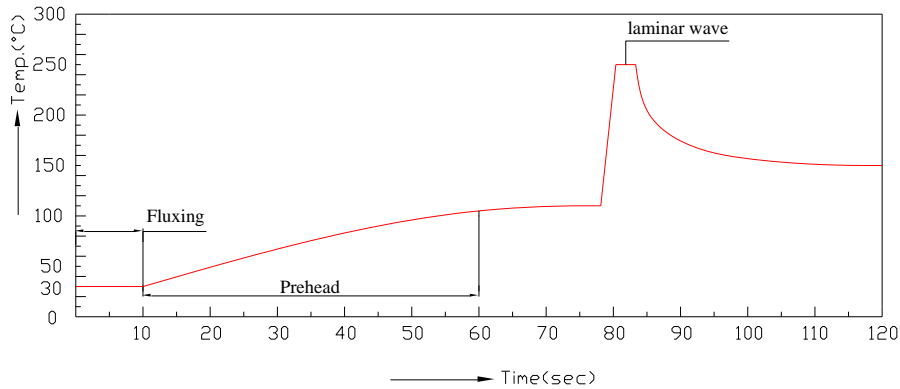
1. All dimensions are in millimeters.
2. Tolerances unless dimensions ± 0.3 mm.
3. Lead spacing is measured where the lead emerge from the package.

Soldering

- Careful attention should be paid during soldering. When soldering, leave more than 3mm from solder joint to epoxy bulb, and soldering beyond the base of the tie bar is recommended.
- Recommended soldering conditions:

Hand Soldering		DIP Soldering	
Temp. at tip of iron	300°C Max. (30W Max.)	Preheat temp.	100°C Max. (60 sec Max.)
Soldering time	3 sec Max.	Bath temp. & time	260 Max., 5 sec Max
Distance	3mm Min.(From solder joint to epoxy bulb)	Distance	3mm Min. (From solder joint to epoxy bulb)

- Recommended soldering profile



- Avoiding applying any stress to the lead frame while the Photo Interrupter are at high temperature particularly when soldering.
- Dip and hand soldering should not be done more than one time
- After soldering the Photo Interrupter, the epoxy bulb should be protected from mechanical shock or vibration until the Photo Interrupter return to room temperature.
- A rapid-rate process is not recommended for cooling the Photo Interrupter down from the peak temperature.
- Although the recommended soldering conditions are specified in the above table, dip or hand soldering at the lowest possible temperature is desirable for the Photo Interrupter.
- Wave soldering parameter must be set and maintain according to recommended temperature and dwell time in the solder wave.

Cleaning

Do not clean the Photo Interrupter by the ultrasonic.

Heat Management

- Heat management of Photo Interrupter must be taken into consideration during the design stage of Photo Interrupter application. The current should be de-rated appropriately by referring to the de-rating curve found in each product specification.
- The temperature surrounding the Photo Interrupter in the application should be controlled.