

## Technical Data Sheet

### Opto Interrupter

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#### ST966

#### ■ Features

- Fast response time
- High analytic
- Cut-off visible wavelength  $\lambda_p=940\text{nm}$
- High sensitivity
- Pb free
- The product itself will remain within RoHS compliant version.

#### ■ Descriptions

The **ST966** consist of an infrared emitting diode and an NPN silicon phototransistor, encased side-by-side on converging optical axis in a black Thermoplastic

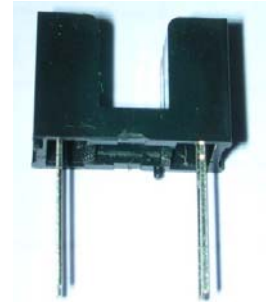
Housing The phototransistor receives radiation from the IRED only .This is the normal Situation. But when an object is in between , phototransistor could not receives the radiation. For additional component information , please refer to IR928-6C and PT928-6C

#### ■ Applications

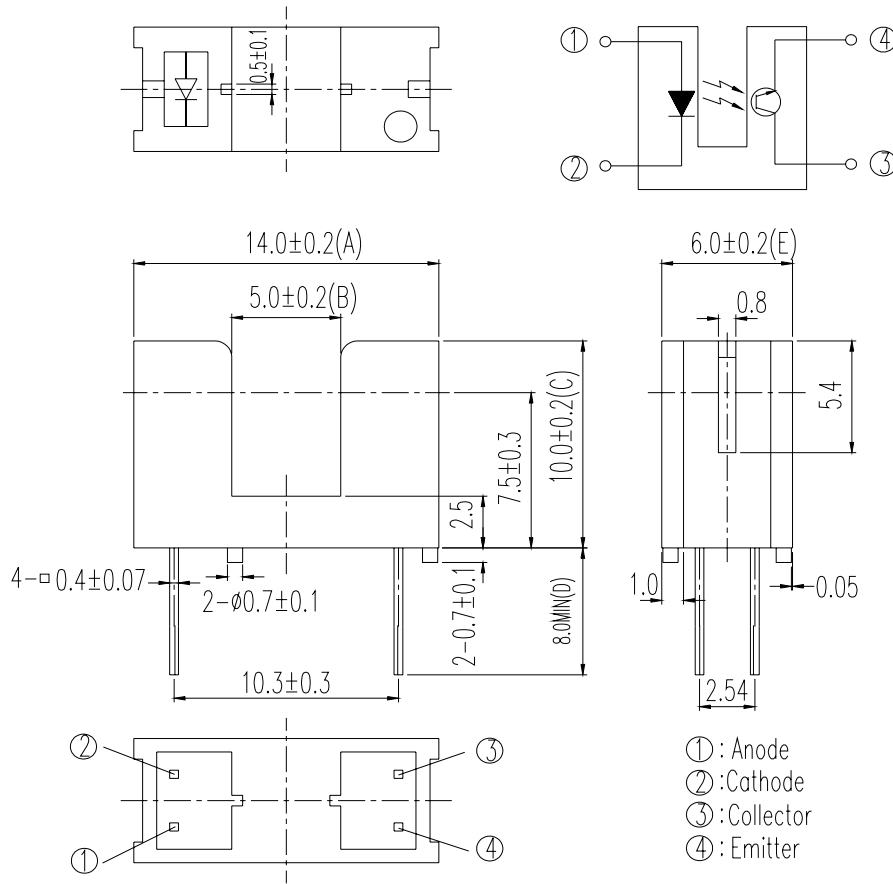
- Mouse Copier
- Switch Scanner
- Floppy disk driver
- Non-contact Switching
- For Direct Board

#### ■ Device Selection Guide

Device No.	Chip Material	LENS COLOR
IR928C	GaAlAs	Waterclear
PT928C	Silicon	Waterclear



### Package Dimensions



#### Notes:

1. All dimensions are in millimeters
2. Tolerances unless dimensions  $\pm 0.2$ mm
3. Lead spacing is measured where the lead emerge from the package



**ST966**

**Absolute Maximum Ratings (Ta=25°C)**

Parameter		Symbol	Ratings	Unit
Input	Power Dissipation at(or below) 25°C Free Air Temperature	Pd	100	mW
	Reverse Voltage	V <sub>R</sub>	5	V
	Forward Current	I <sub>F</sub>	50	mA
	Peak Forward Current (*1) Pulse width ≤ 100 μs, Duty cycle=1%	I <sub>FP</sub>	1	A
	Collector Power Dissipation	P <sub>C</sub>	75	mW
Output	Collector Current	I <sub>C</sub>	50	mA
	Collector-Emitter Voltage	B V <sub>CEO</sub>	30	V
	Emitter-Collector Voltage	B V <sub>ECO</sub>	5	V
	Operating Temperature	Topr	-25~+85	°C
Storage Temperature		Tstg	-40~+85	°C
Lead Soldering Temperature (*2) (1/16 inch form body for 5 seconds)		Tsol	260	°C

(\* 1) tw=100 μsec., T=10 msec. (\* 2) t=5 Sec

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

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Input	Forward Voltage	V <sub>F1</sub>	---	1.2	1.6	V	I <sub>F</sub> =20mA
		V <sub>F2</sub>	---	1.4	1.85		I <sub>F</sub> =100mA, tp=100 μs, tp/T=0.01
		V <sub>F3</sub>	---	2.6	4.0		I <sub>F</sub> =1A, tp=100 μs, tp/T=0.01
	Reverse Current	I <sub>R</sub>	---	---	10	μA	V <sub>R</sub> =5V
	Peak Wavelength	λ <sub>p</sub>	---	940	---	nm	I <sub>F</sub> =20mA
	View Angle	2θ1/2	---	60	---	Deg	I <sub>F</sub> =20mA
Output	Dark Current	I <sub>CEO</sub>	---	---	100	nA	V <sub>CE</sub> =20V, Ee=0mW/cm <sup>2</sup>
	C-E Saturation Voltage	V <sub>CE(sat)</sub>	---	---	0.4	V	I <sub>C</sub> =2mA, Ee=1mW/cm <sup>2</sup>
Transfer Characteristics	Collect Current	I <sub>C(ON)</sub>	0.5	---	10	mA	V <sub>CE</sub> =5V, I <sub>F</sub> =20mA
	Rise time	t <sub>r</sub>	---	15	---	μsec	V <sub>CE</sub> =5V
	Fall time	t <sub>f</sub>	---	15	---	μsec	I <sub>C</sub> =1mA, R <sub>L</sub> =1KΩ