

### General Description

The OST-9L2 is high sensitivity NPN silicon photo-transistor mounted in a clear plastic package. With lensed package, this small phototransistor permits narrow angular response.



### Features

- Compact
- Narrow angular response
- Low cost
- Meet RoHS

### Applications

- Optical counters
- Optical detectors
- Camera stroboscopes

### MAXIMUM RATINGS

(Ta=25°C)

Item	Symbol	Rating	Unit
Power dissipation	Pd	100	mW
Operating temperature.	Topr	-25 ~ +75	°C
Storage temperature.	Tstg	-25 ~ +100	°C
Soldering temperature. *1	Tsol	260	°C

\* 1 For MAX. 5 seconds at the position of 5mm from the package

### ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25°C)

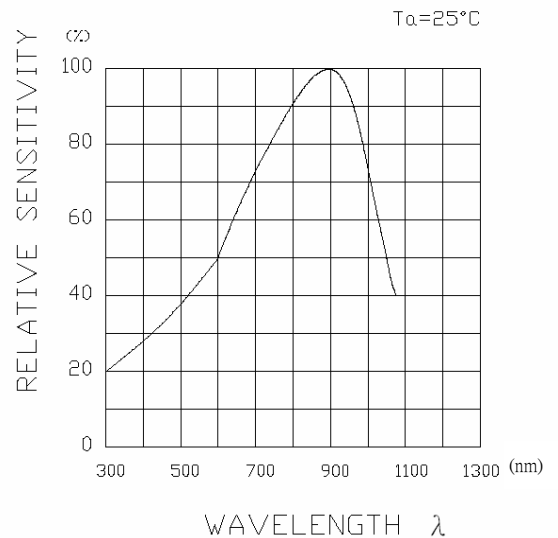
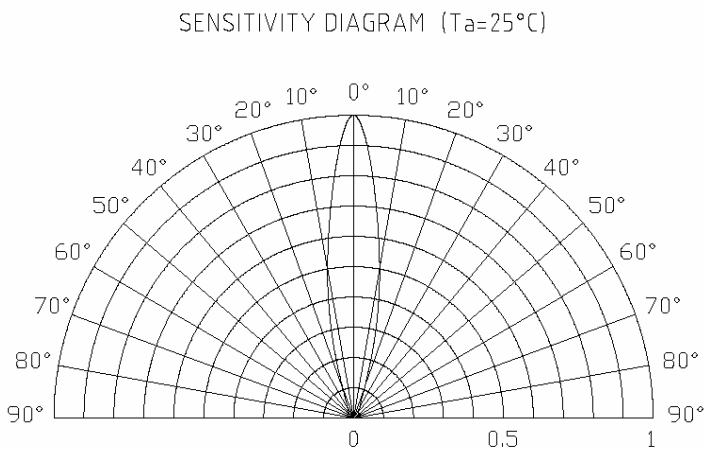
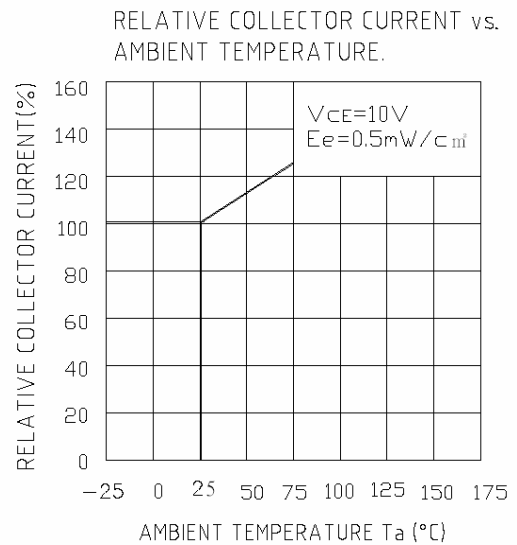
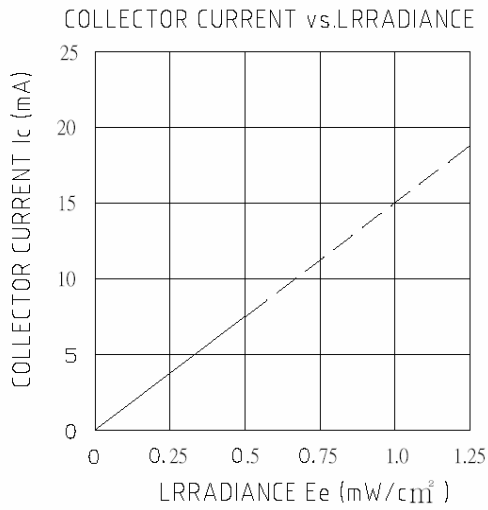
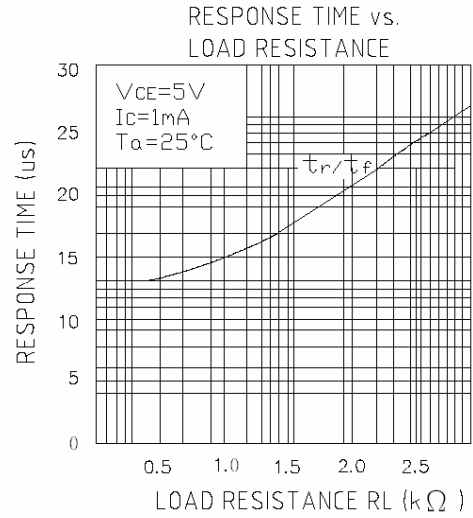
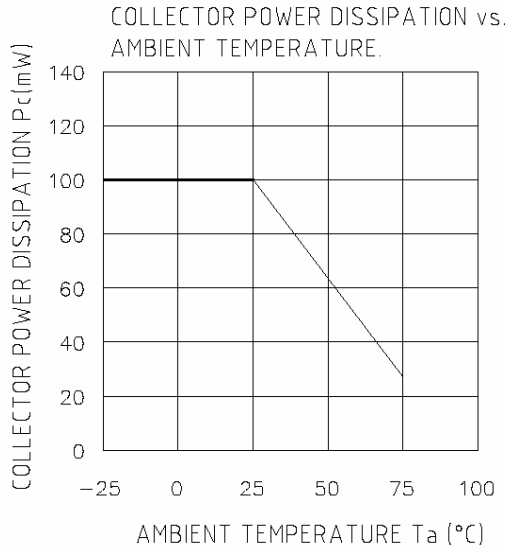
Item	Symbol	Condition	Min	Typ	Max	Unit
C-E breakdown voltage	BV <sub>CEO</sub>	I <sub>C</sub> =100uA	30		100	V
E-C breakdown voltage	BV <sub>ECO</sub>	I <sub>E</sub> =100uA	6.5			V
Collector dark current	I <sub>CEO</sub>	V <sub>CE</sub> =20V			100	nA
Light current	I <sub>L</sub>	V <sub>CE</sub> =10V, λ <sub>p</sub> =940nm E <sub>e</sub> =0.5mW/cm <sup>2</sup>	4.0	7.0		mA
C-E saturatuon voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =2mA, I <sub>B</sub> =100uA			0.2	V
Radiant sensitivity area	A			0.186		mm <sup>2</sup>
Peak sensitive wavelength	λ <sub>p</sub>			850		nm
Switching speeds	Rise time	V <sub>CC</sub> =5V, I <sub>C</sub> =1mA R <sub>L</sub> =1000Ω		15		usec
	Fall time			15		usec
Current gain	h <sub>FE</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =2mA	1600			
Half angle	Δθ			±10		deg.



**OPTO-SENSOR**

# OST-9L2

PHOTO TRANSISTOR



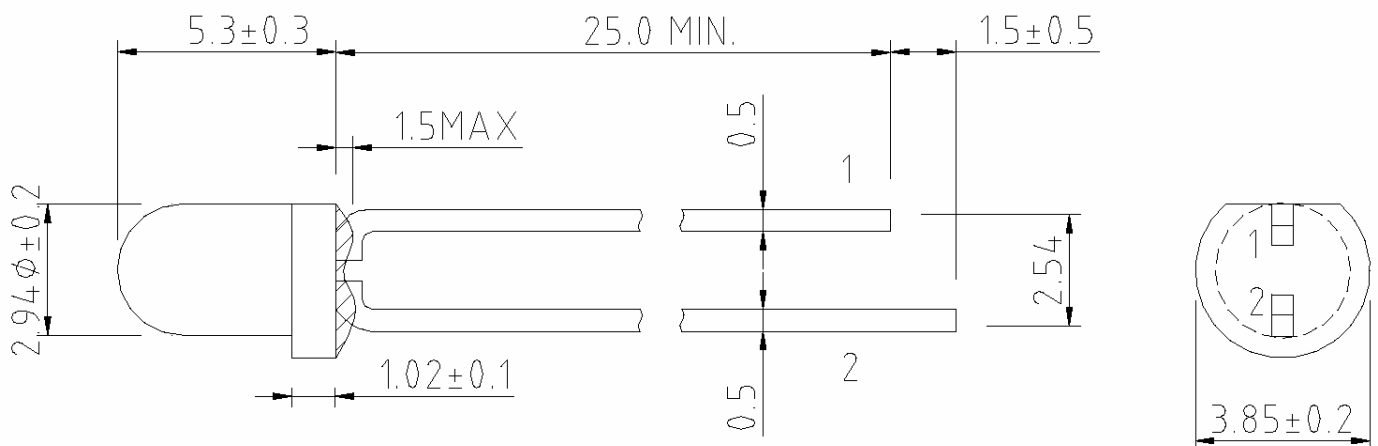
## ■ Reliability Test Items

### CONDITIONS :

The reliability of products shall be satisfied with items listed below .

NO.	Item	Condition	Time / Cycle	Number of Damaged
1	Soldering Heat Test	260°C	5 sec	0/60
2	Thermal Shock	0°C (15 sec) ~ 100°C (15 sec)	20 cycle	0/60
3	High Temp. Storage	100°C	1000 Hrs	0/60
4	Low Temp. Storage	-25°C	1000 Hrs	0/60
5	Operation Temperature Cycle TEST	-25°C ~ 75°C	100 Cycles , 200Hrs	0/60
6	High Temp. High Humidity Test	60°C , 90% RH	1000 Hrs	0/60
7	Operation Life Test	Room Temp. @TR940nm	1000 Hrs	0/60

## ■ Dimensions



**SIGN : 1. COLLECTOR**

**2. EMITTER**

**UNIT : mm**

## Lamp Condition

In the automatic mounting of LAMP LED to the L/F , any bending , expanding and pulling forces against the LAMP LED should be minimized to prevent the electrical failures or mechanical damaged .

## Reflow Soldering and Temperature Profile

The LAMP LED is designed for the reflow soldering process . Too high temperature or too large temperature gradient may cause the electrical and optical failures .

