



## ST150(ZD)

### Transmissive Optical Sensor with Transistor Output

#### Descriptions

The ST150(ZD) is a photointerrupter high-performance standard type, combines high-output GaAlAs IRED with high sensitive phototransistor.

#### Features

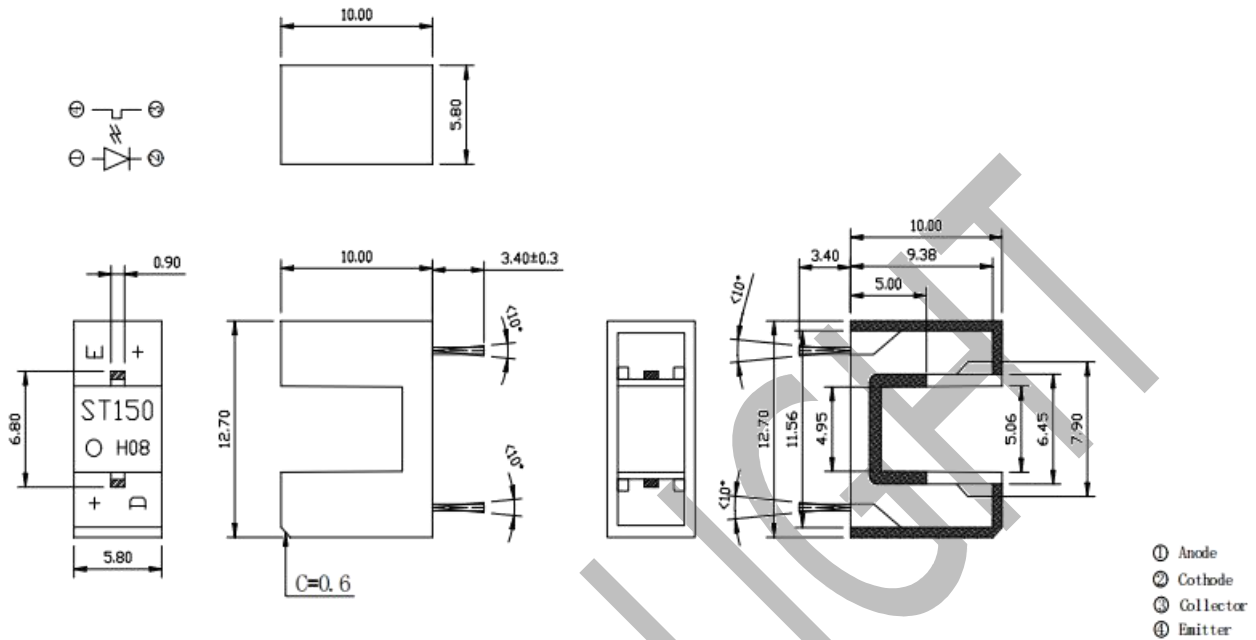
- Wide gap 5mm
- Slit 1.0mm
- PWB mounting type package
- Pb free
- This product itself will

#### Applications

- Printers
- FAX
- Copiers
- Scanners
- Amusement machines



## Package Dimension



### Notes:

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



## Absolute Maximum Ratings

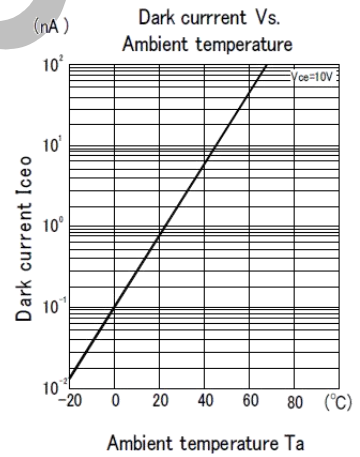
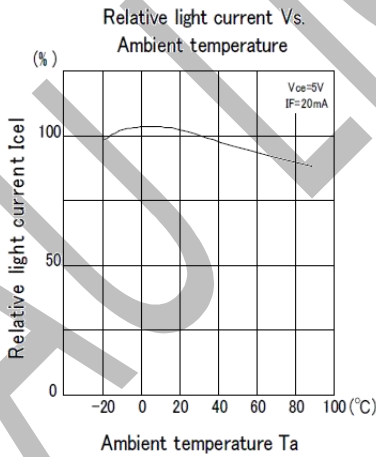
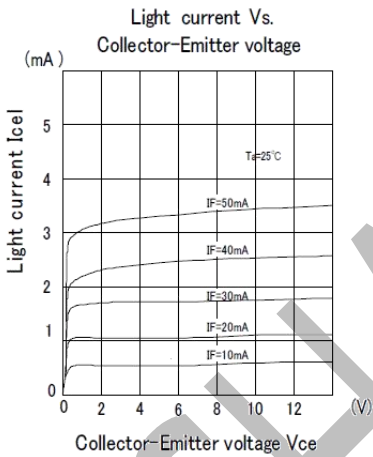
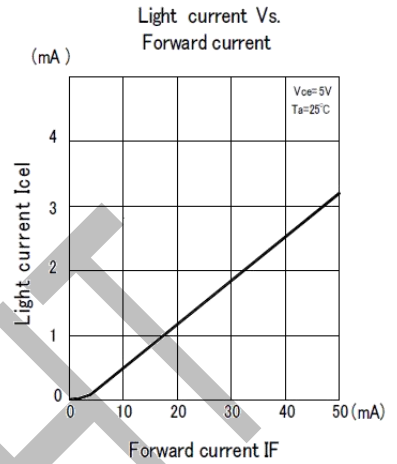
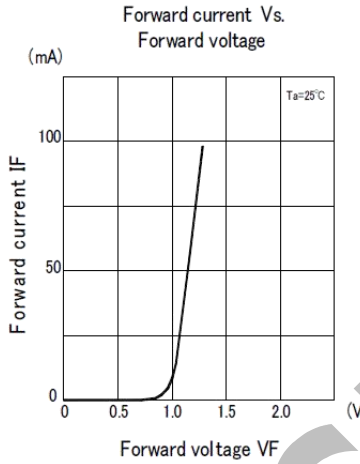
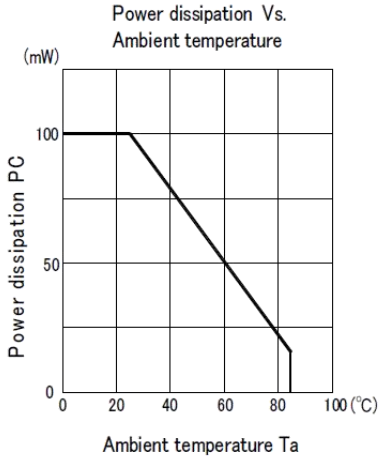
Parameter (Ta=25°C)		Symbo	Ratings	Unit
Input (Emitter)	Power Dissipation at(or Below)25 Free Air Temperature	Pd	75	mW
	Reverse Voltage	V <sub>R</sub>	5	V
	Forward Current	I <sub>F</sub>	50	mA
	Peak Forward Current(Pulse width≤100μs, Duty cycle=1%)	I <sub>FP</sub>	1	A
Output (Detector)	Collector Power Dissipation	P <sub>C</sub>	75	mW
	Collector Current	I <sub>C</sub>	20	mA
	Collector-Emitter Voltage	V <sub>CEO</sub>	30	V
	Emitter-Collector Voltage	V <sub>ECO</sub>	5	V
Operating Temperature		T <sub>OPR</sub>	-25~+85	°C
Storage Temperature		T <sub>STG</sub>	-40~+100	°C
Lead Soldering Temperature (2mm from body for 5 seconds)		T <sub>SOL</sub>	260	°C

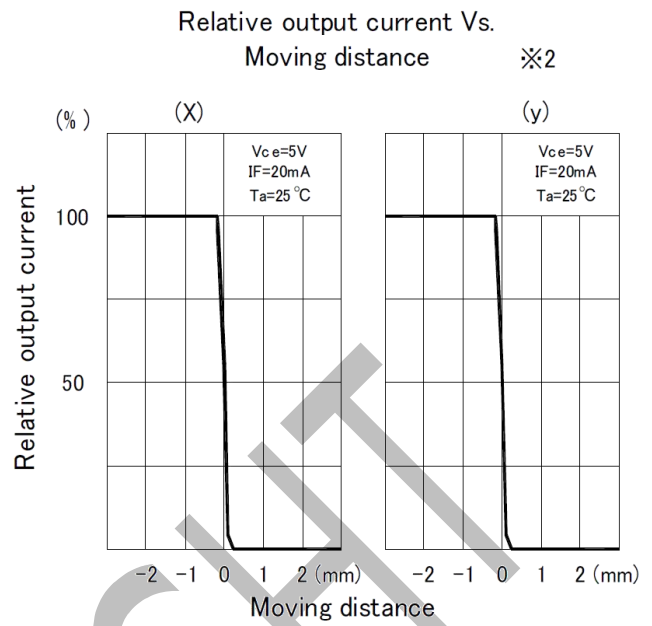
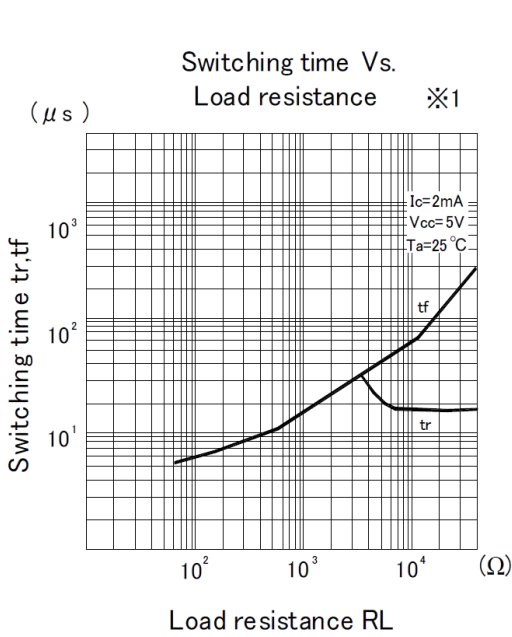
## Electro-Optical Characteristics

Parameter (Ta=25°C)		Symbo	Min.	Typ.	Max.	Unit	Conditions
Input (Emitter)	Forward Voltage	V <sub>F</sub>	--	1.2	1.6	V	I <sub>F</sub> =20mA
	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
Output (Detector)	Dark Current	I <sub>CEO</sub>	--	--	100	nA	V <sub>CE</sub> =20V, E <sub>e</sub> =0mW/cm <sup>2</sup>
	C-E Saturation Voltage	V <sub>CE(sat)</sub>	--	--	0.4	V	I <sub>C</sub> =2mA, E <sub>e</sub> =1mW/cm <sup>2</sup>
Transfer Characteristics	Collect Current	I <sub>C(ON)</sub>	0.5	--	--	mA	V <sub>CE</sub> =5V, I <sub>F</sub> =20mA
	Rise time	t <sub>r</sub>	--	15	--	μS	V <sub>CE</sub> =5V, I <sub>C</sub> =1mA, R <sub>L</sub> =1KΩ
	Fall time	t <sub>f</sub>	--	15	--	μS	V <sub>CE</sub> =5V, I <sub>C</sub> =1mA, R <sub>L</sub> =1KΩ

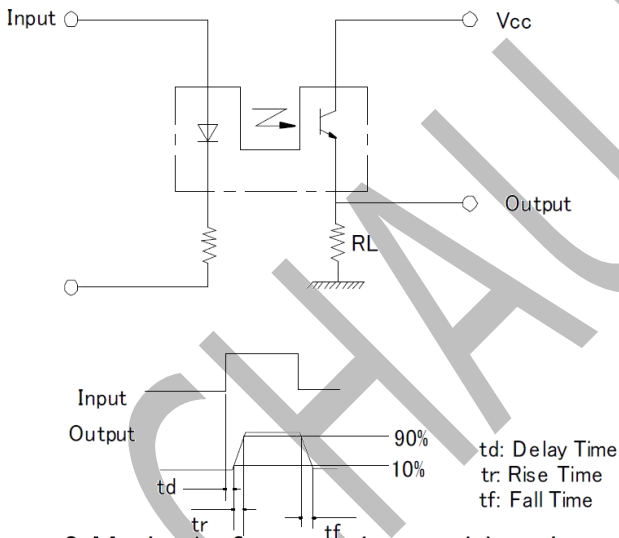


## Typical Electrical/Optical/Characteristics Curves

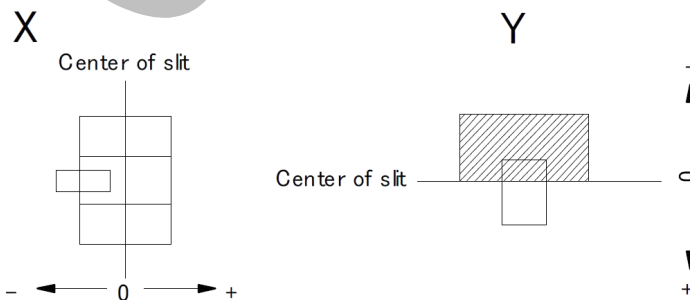




\*1 Switching time measurement circuit



\*2 Method of measuring position detection characteristic





## Packing Quantity Specification

- 1.150PCS//1Bag
- 2.4Bag/1box
- 2. 10bos/1Carton

## Notes

1. Above specification may be changed without notice. CHAU LIGHT will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instruction for using outlined in these specification sheets. CHAU LIGHT assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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