



## ZOS-T1405-A02-F6(ZD)

**Optical Sensor black**

**Transistor Output**

### Descriptions

The ZOS-T1405-A02-F6(ZD) is a photorrupter high-performance standard type, combines high-output GaAIAs IRED with high sensitive phototransistor.

### Features

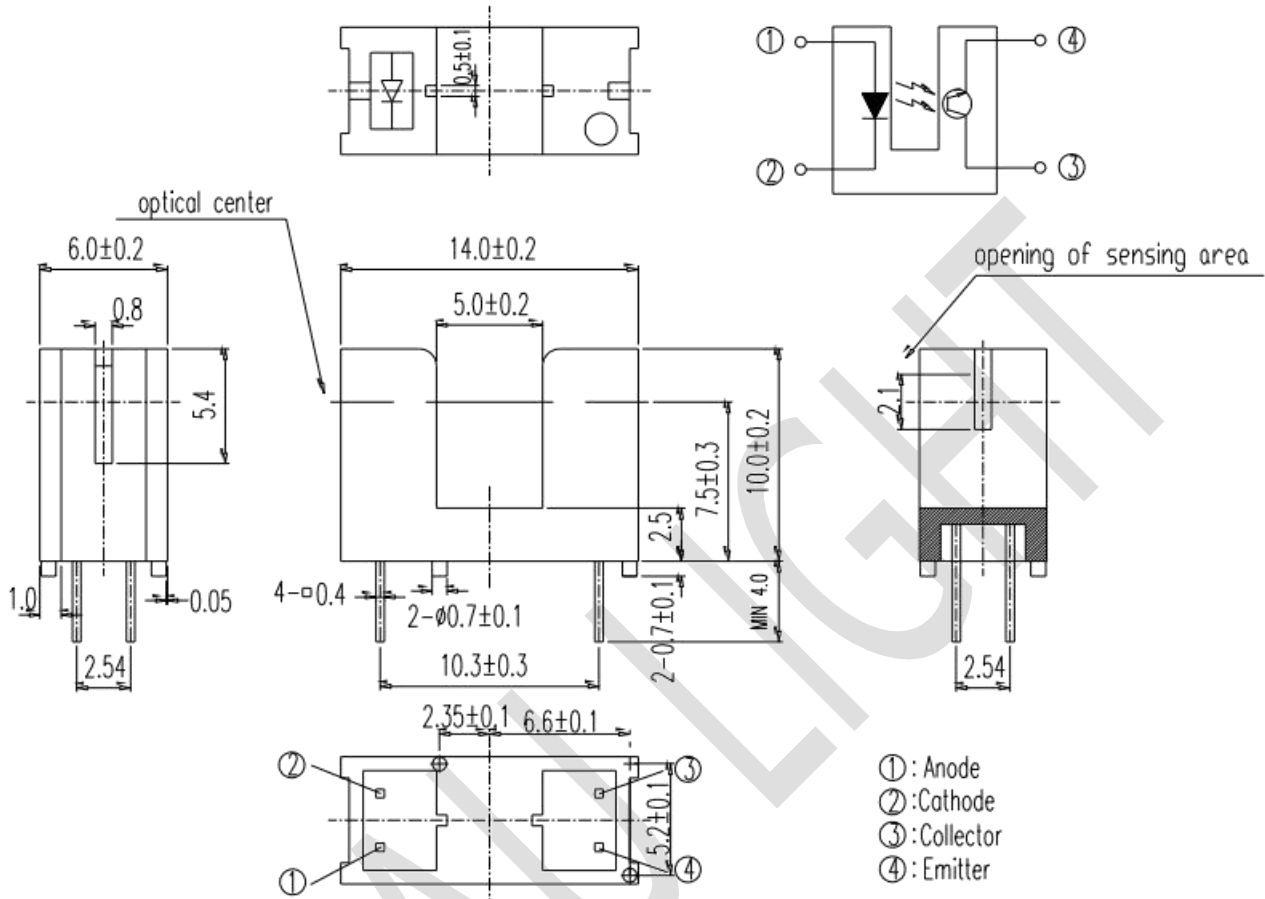
- Fast response time
- High analytic
- Cut-off visible wavelength  $\lambda_p=940\text{nm}$
- High sensitivity
- Pb free
- This product itself will remain within RoHS compliant version

### Applications

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



## 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(Ta=25°C)

Parameter (Ta=25°C)		Symbo	Ratings	Unit
Input (Emitter)	Power Dissipation at(or Below)25°C 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*1 (Pulse width≤100μs, Duty cycle=1%)	I <sub>FP</sub>	1	A
Output (Detector)	Collector Power Dissipation	Pd	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

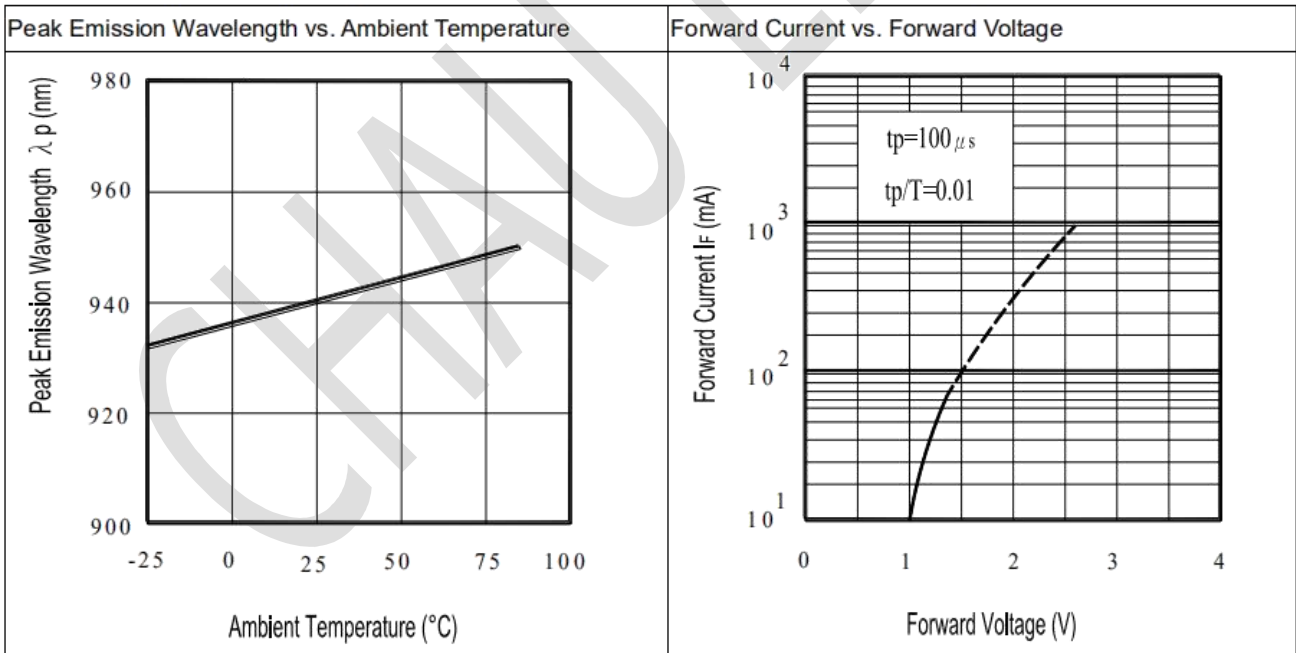
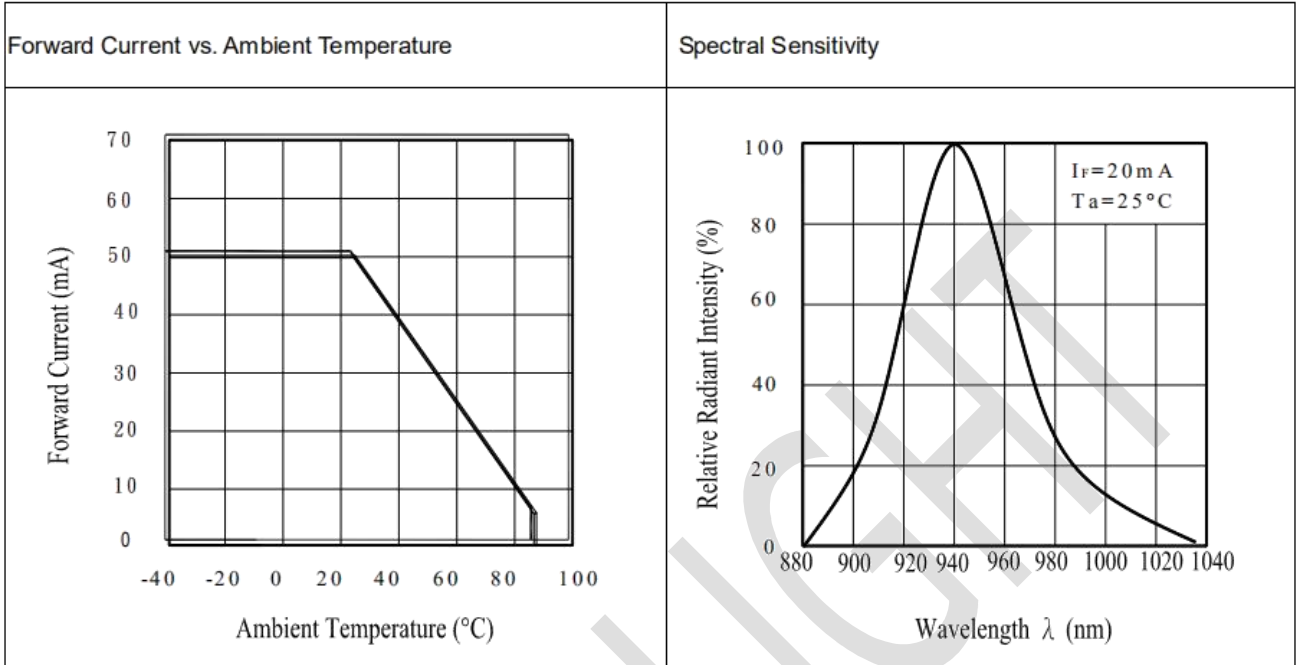
(\*1)  $t_w=100 \mu\text{sec.}$  ,  $T=10 \text{ msec.}$  (\*2)  $t=5 \text{ Sec}$

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

Parameter (Ta=25°C)		Symbo	Min.	Typ.	Max.	Unit	Conditions
Input (Emitter)	Forward Voltage	V <sub>F</sub>	--	1.2	1.5	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

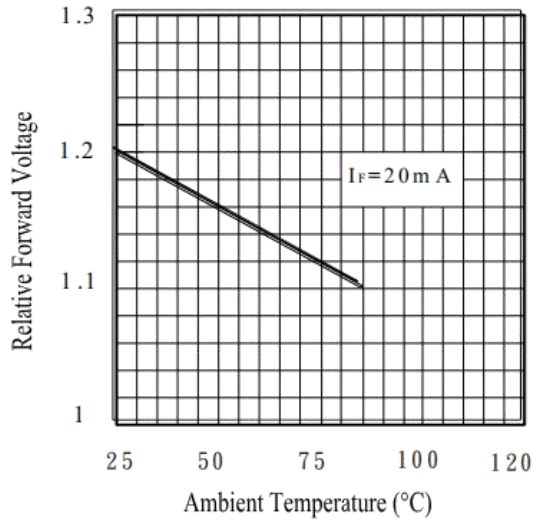


## Typical Electrical/Optical/Characteristics Curves for IR

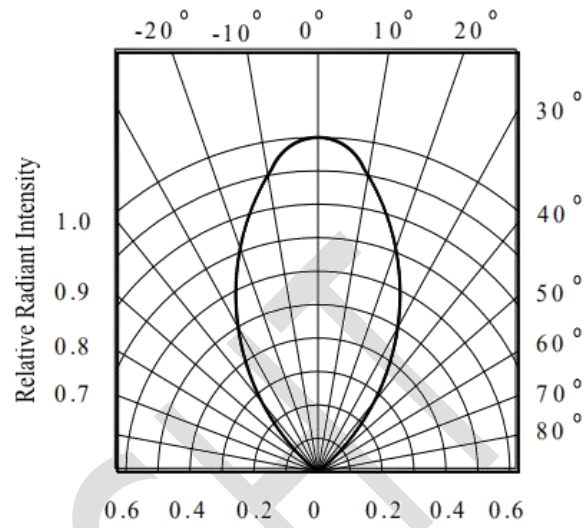




Forward Current Voltage vs. Ambient Temperature

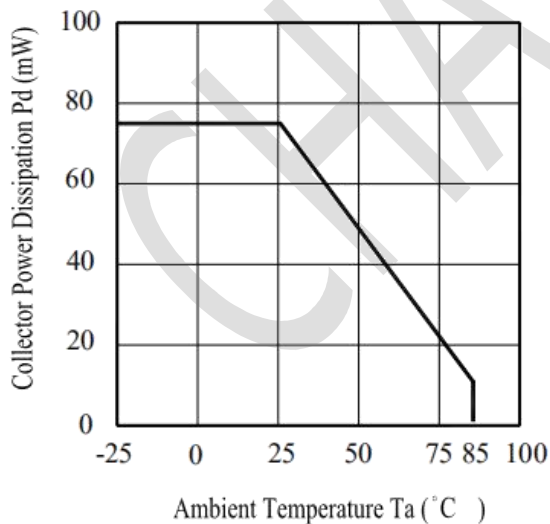


Relative Radiant Intensity vs. Angular Displacement

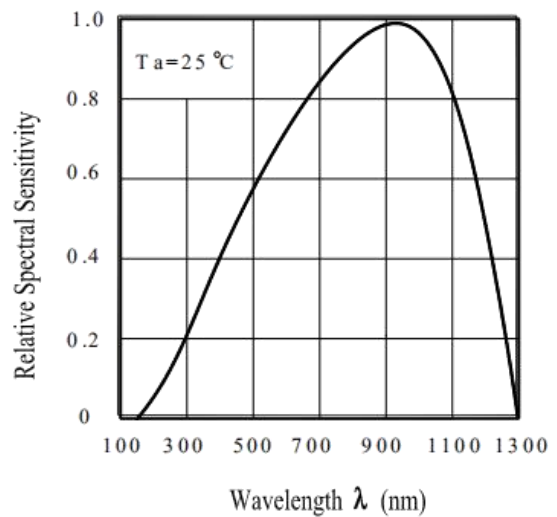


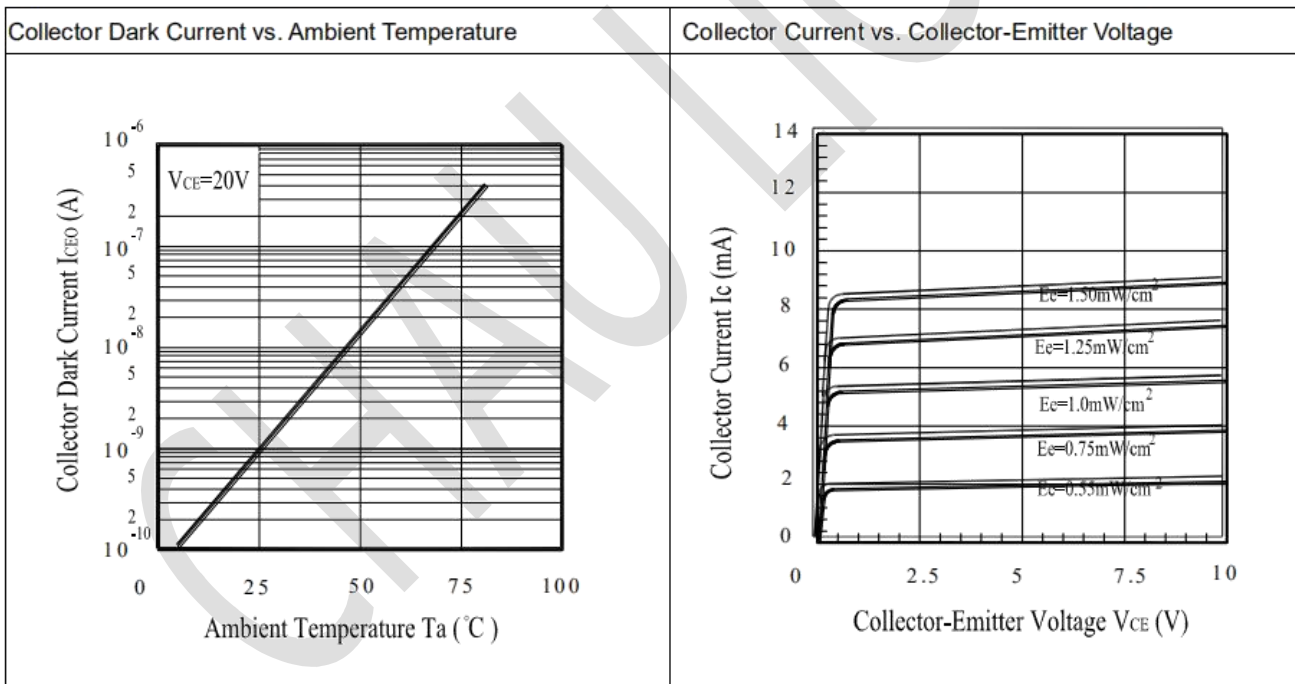
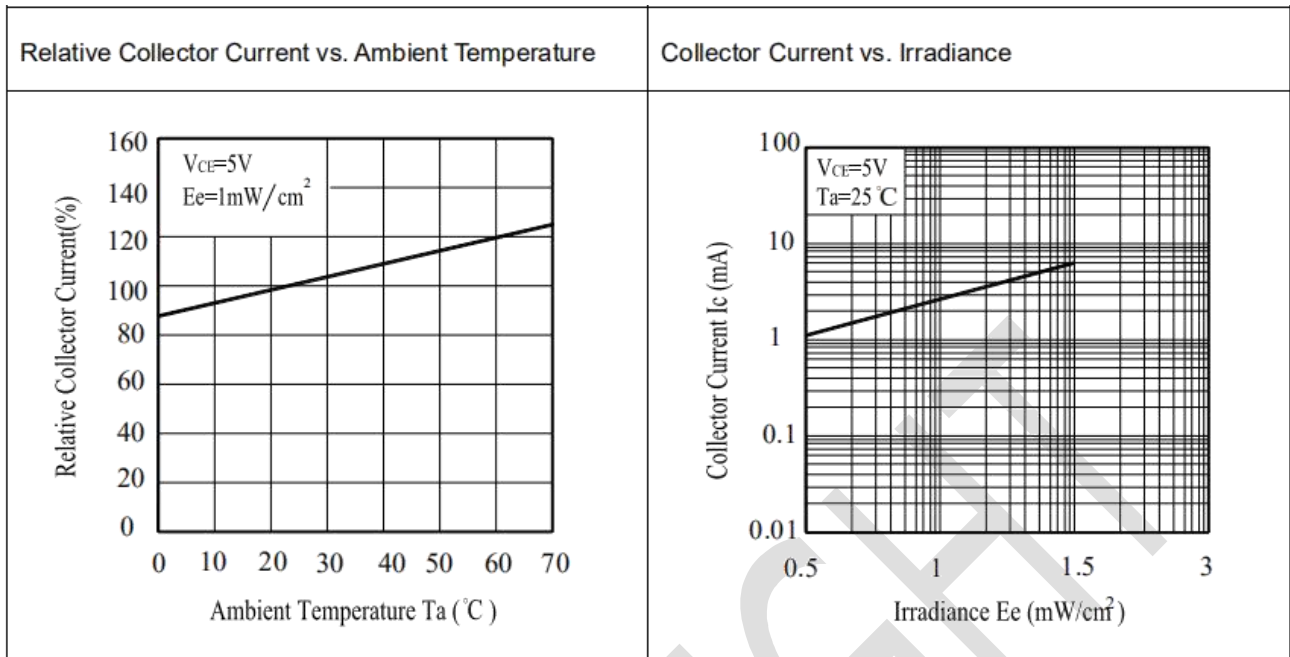
## Typical Electrical/Optical/Characteristics Curves for PT

Collector Power Dissipation vs. Ambient Temperature



Spectral Sensitivity





## Packing Quantity Specification

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