



EVERLIGHT ELECTRONICS CO., LTD.

Device Number : CDRX-099-001

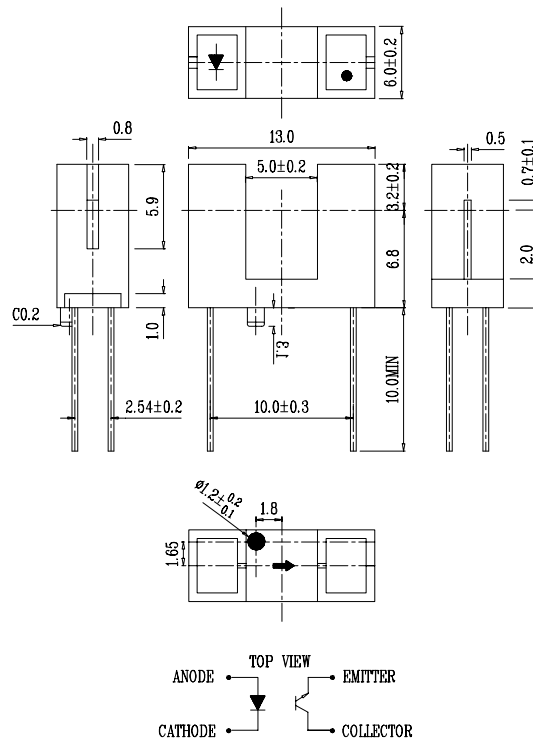
REV : 1

MODEL NO : ITR9903

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■ PACKAGE DIMENSIONS : 1.UNIT : mm

2.GENERAL TOLERANCE ± 0.3 mm.



● FEATURES :

- 1.NON-CONTACT SWITCHING.
- 2.FAST SWITCHING SPEED.

● APPLICATIONS :

- 1.COPIERS,PRINTERS,FACSIMILES.
- 2.OPTOELECTRONIC SWITCHES.

ABOVE SPECIFICATION MAY BE CHANGED WITHOUT NOTICE. SUPPLIER'S WILL RESERVE AUTHORITY ON MATERIAL CHANGE FOR ABOVE SPECIFICATION.

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<http://www.everlight.com>



■ ABSOLUSE MAXIMUN RATINGS (Ta=25℃)

	Item	Symbol	Rating	Unit
Input	Power dissipation	P_D	100	mW
	Reverse voltage	V_R	5	V
	Forward current	I_F	50	mA
	Peak forward current(*1)	I_{FP}	1	A
Output	Collector Power dissipation	P_C	100	mW
	Collector current	I_{CEO}	30	mA
	C-E voltage	V_{CEO}	30	V
	E-C voltage	V_{ECO}	5	V
Operating temperature		Topr	-20~+85	℃
Storage temperature		Tstg	-30~+100	℃
Soldering temperature(*2)		Tsol	260	℃

(*1) $t_W=100\mu\text{sec}$. $t=10\text{msec}$.

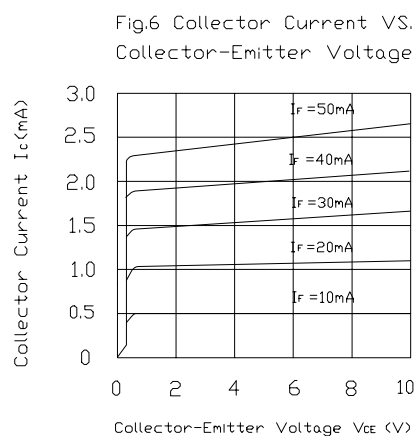
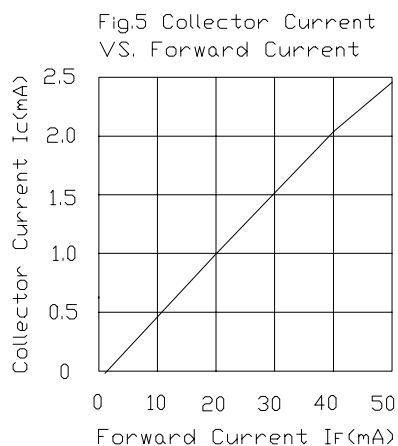
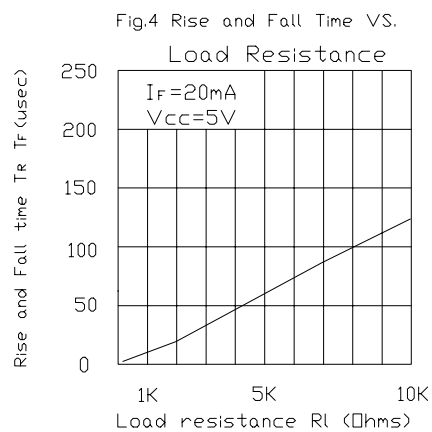
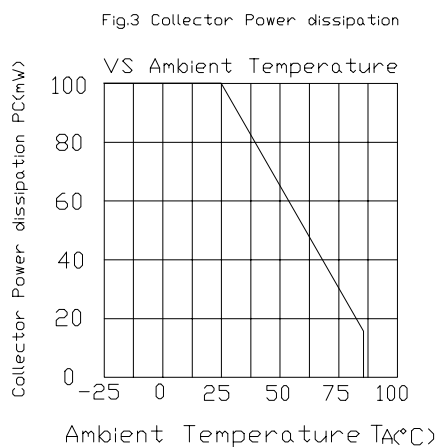
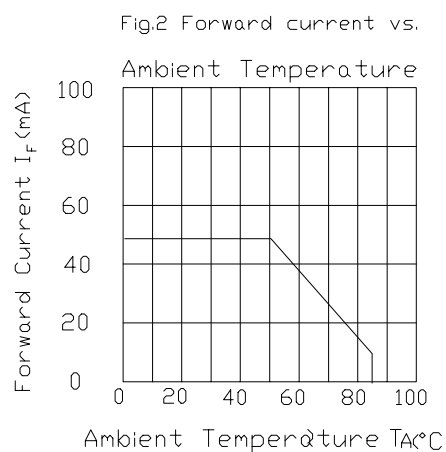
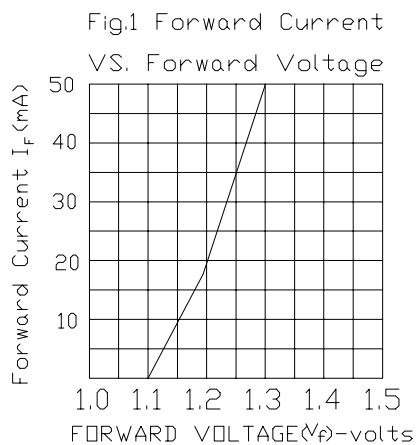
(*2) $t=5\text{sec}$

■ ELECTRICAL -OPTICAL CHARACTERISTICS(Ta=25℃)

Parameter		Symbol	Min	Typ	Max	Unit	Condition s
Input	Forward voltage	V_F	---	1.2	1.4	V	$I_F=20\text{mA}$
	Reverse current	I_R	---	---	10	μA	$V_R=5\text{V}$
	Collector-Base Capacitance						$f=1\text{MHz}$ $V_{CB}=3\text{V}$
Output	Dark current	I_{CBO}	5.4	6.4	10.0	μA	$V_{CE}=10\text{V}$
	C-E saturation Voltage	$V_{CE}(\text{sat})$		0.1	0.3	V	$I_C=0.1\text{mA}$ $I_F=20\text{mA}$
Light current		I_C	0.7		10.0	mA	$V_{CE}=5\text{V}$
Leakage current		I_{CEOD}	---	---	20	μA	$I_F=20\text{mA}$
Speeds	Rise time	T_R	---	5	18	μsec	$V_{CC}=5\text{V}$
	Fall time	T_F	---	5	18	μsec	$I_C=100\mu\text{A}$ $RL=100\Omega$



TYPICAL ELECTRICAL/OPTICAL CHARACTERISTICS CURVES





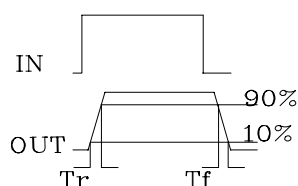
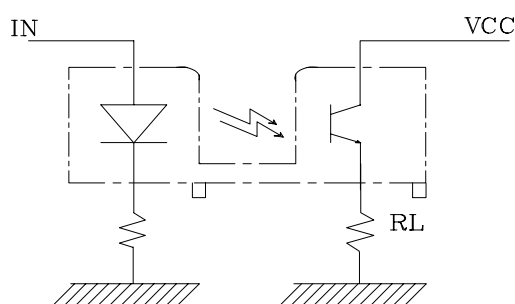
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CIRCUIT FOR MEASURING RESPONSE TIME



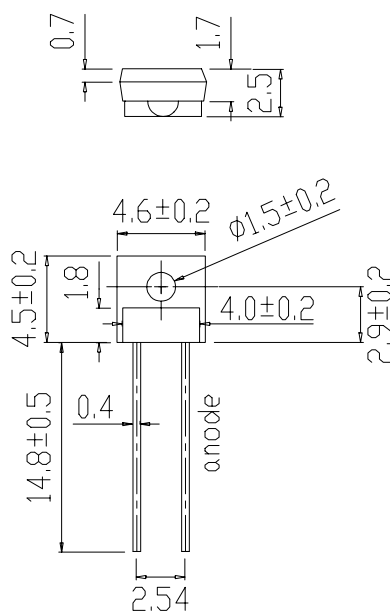
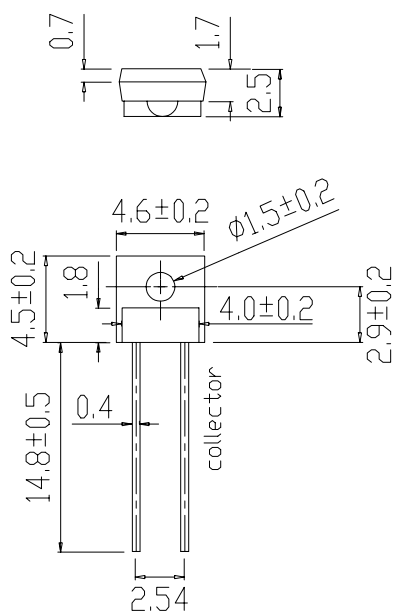
SPECIFICATIONS FOR THE TRANSPARENT PHOTOINTERRUPTER

1.PRODUCT NUMBER:

2.DIMENSIONS:

3.USED ELEMENT

	PRODUCT NAME	MAT	PRODUCT NO.	COHERENT
INPUT IR	INFRA RED EMITTING DIODE	GaAs	IR-928	NON-COHERENT,IN-O
OUTPUT DETECTOR	PHOTO TRANSISTOR	Si	PT-928	UT PREO,0.8KHZ





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INSPECTED ITEMS AND STANDARDS

ITEM	CLASS	JUDGEMENT FACOR	AQL
WIRE BREAKAGE	CRITICAL	NO FAULTS	0.065%
SHORT			
LIGHT CURRENT(IN)	MAJOR	SATISFES THE 3TH ITEM IN THE ELECTRO-	0.25%
LEAK CURRENT(Ioon)		OPTICAL CHARACTERISTCS	
EXTERIOR(CRACK, CHIP, DIRTETC)	MINOR	THOSE THAT EFFECT THE 3TH ITEM OF THE ELEC TRO-OPTICAL CHARACTERISTICS ARE NOT GOOD	0.65%

Reliability Test Item and Condition

NO.	ITEM	TEST CONDITION	TEST HOURS/CYCLE	SAMPLE SIZE	AC/RE
1	Solder Heat	TEMP:260°C ± 5°C	5SEC	76PCS	0/1
2	Temperature Cycle	85°C 25°C -55°C 25°C ↓ ↓ ↓ ↓ 30min, 5min, 30min, 5min	50CYCLE	76PCS	0/1
3	Thermal Shock	H: +100°C, 5min ↑ ↓ 10SEC L: -10°C, 5min	50CYCLE	76PCS	0/1
4	High Temperature storage	TEMP:100°C	1000HRS	76PCS	0/1
5	Low Temperature Storage	TEMP:-55°C	1000HRS	76PCS	0/1
6	DC Operating Life	If=20mA	1000HRS	76PCS	0/1
7	High Temperature High Humidity	T _A :85°C R _H :85%	1000HRS	76PCS	0/1



1. Soldering Conditions

Max temperature of 260°C with 5 sec, dwell time. At least 1.6mm clearance from body.

-The temperature of the package should not exceed the specified max storage temperature.

2. Cleaning

Soldering flux should be chosen from non-chloride, anti-corrosion and rinse free liquids

-Minimum amount odd soldering flux should be used and should only be applied to the pin portion.

-After cleaning, be ensure there is no flux residue attached onto the sensitive areas on the Infrared Led and Phototransistor as this will affect the performance of this sensor.

■ WARRANTY

Everlight's components are warranted against defects in material and work main ship for a period of one year from the fate of shipment. IF Everlight receives notice such as defects during the warranty period, components will be repaired with an option replacement, if proved to be defective in material and work main ship under proper use during the warranty period.

■ OTHERS

-current(Electricity) is used for input and output
-Synthetic resin is used for the package.
-This item should not be exposed to tays such as radioactive, Elector-Magnetic or rays with heavily charged particles.