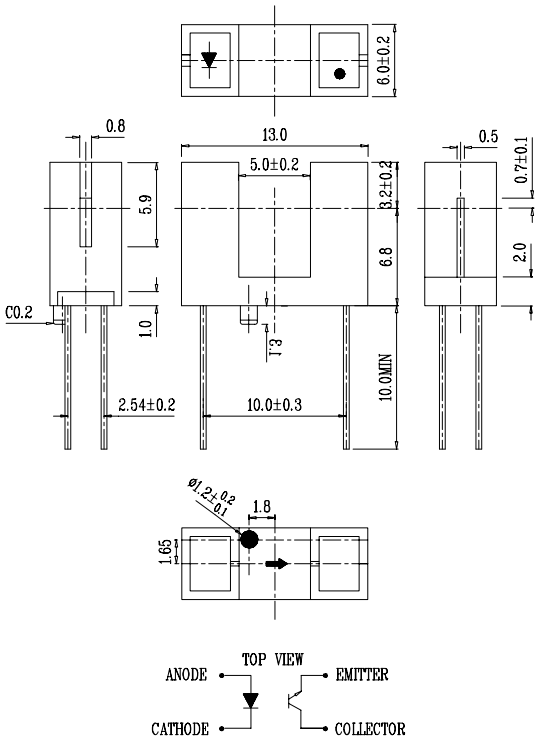
EVERLIGHT ELECTRONICS CO., LTD.

Device Number：CDRX-099-001 REV：1

MODEL NO：ITR9903 Page：1of6

■PACKAGE DIMENSIONS： 1.UNIT：mm

2.GENERAL TOLERANCE ± 0.3mm.



●FEATURES：

1.NON-CONTACT SWITCHING.

2.FAST SWITCHING SPEED.

●APPLICATIONS：

1.COPIERS,PRINTERS,FACSIMLLES.

2.OPTOELECTRONIC SWITCHES.

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

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■ 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=100usec. t=10msec. (*2)t=5sec

■ELECTRICAL -OPTICAL CHARACTERISTICS(Ta=25℃)

Parameter		Symbol	Min	Typ	Max	Unit	Conditions
Input	Forward voltage	V_F	---	1.2	1.4	V	I_F=20mA
	Reverse current	I_R	---	---	10	uA	V_R=5V
	Collector-Base Capacitance	C_{CB}	5.4	6.4	7.4	pF	f=1MHz V_{CB}=3V
Output	Dark current	I_{CEO}	---	---	100	nA	V_{CE}=10V
	C-E saturation Voltage	V_{CE} (sat)		0.1	0.3	V	I_C=0.1mA I_F=20mA
Light current		I_C	0.7		10.0	mA	V_{CE}=5V
Leakage current		I_{CEOD}	---	---	20	uA	I_F=20mA
Speeds	Rise time	T_R	---	5	18	usec	V_{CC}=5V
	Fall time	T_F	---	5	18	usec	I_C=100uA RL=100Ω

■TYPICAL ELECTRICAL/OPTICAL CHARACTERISTICS CURVES

Fig.1 Forward Current VS. Forward Voltage

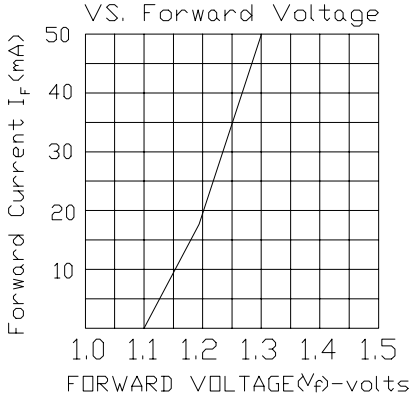


Fig.2 Forward current vs. Ambient Temperature

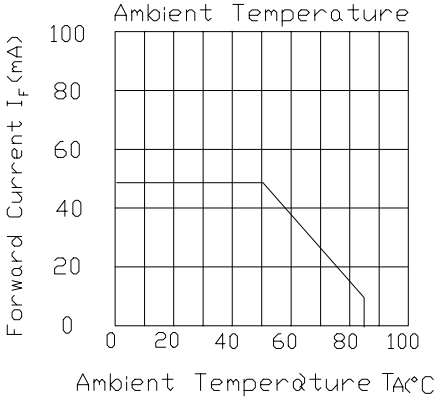


Fig.3 Collector Power dissipation VS Ambient Temperature

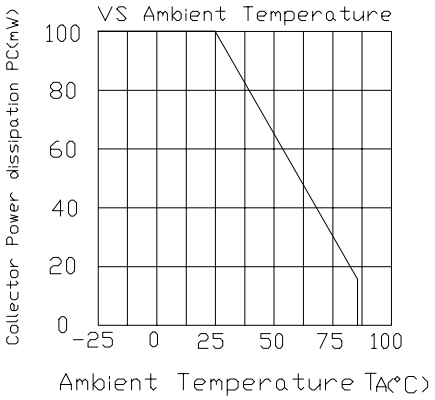


Fig.4 Rise and Fall Time VS. Load Resistance

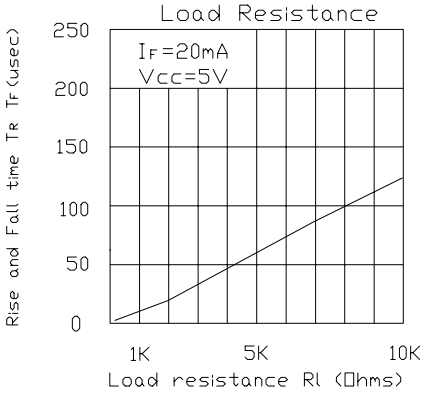


Fig.5 Collector Current VS. Forward Current

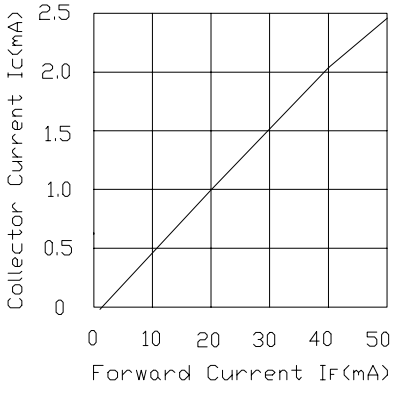
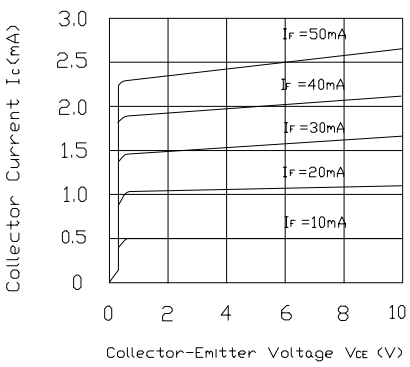
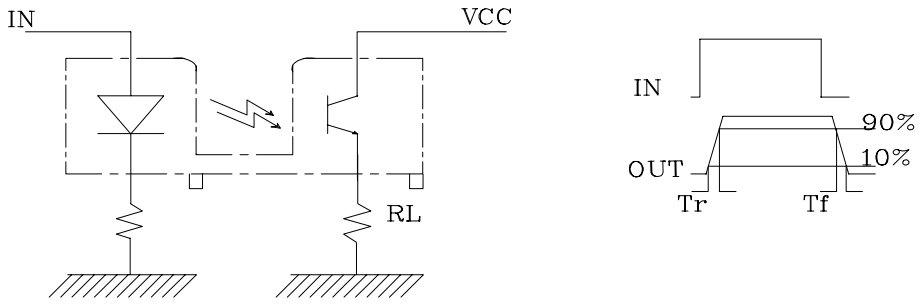


Fig.6 Collector Current VS. Collector-Emitter Voltage



■CIRCUIT FOR MEASURING RESPONSE TIME



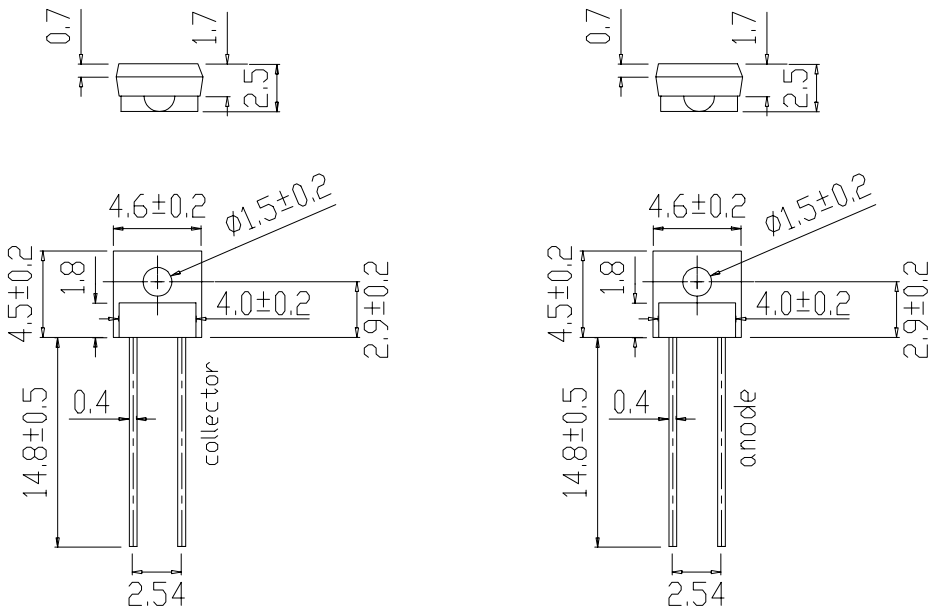
■SPECIFICATIONS FOR THE TRANSPARENT PHOTOINTERRUPTER

1.PRODUCT NUMBER:

2.DIMENSIONS:

3.USED ELEMENT

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



■INSPECTED ITEMS AND STANDARDS

ITEM	CLASS	JUDGEMENT FACOR	AQL
WIRE BREAKAGE SHORT	CRITICAL	NO FAULTS	0.065%
LIGHT CURRENT(IN) LEAK CURRENT(Ioon)	MAJOR	SATISFES THE 3TH ITEM IN THE ELECTRO-OPTICAL CHARACTERISTCS	0.25%
EXTERIOR(CRACK, CHIP, DIRTETC)	MINOR	THOSE THAT EFFECT THE 3TH ITEM OF THE ELECTRO-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℃± 5℃	5SEC	76PCS	0/1
2	Temperature Cycle	85℃ 25℃ -55℃ 25℃ ↓ ↓ ↓ ↓ 30min, 5min, 30min,5min	50CYCLE	76PCS	0/1
3	Thermal Shock	H:+100℃, 5min ↕ 10SEC L:-10℃, 5min	50CYCLE	76PCS	0/1
4	High Temperature storage	TEMP:100℃	1000HRS	76PCS	0/1
5	Low Temperature Storage	TEMP:-55℃	1000HRS	76PCS	0/1
6	DC Operating Life	If=20mA	1000HRS	76PCS	0/1
7	High Temperature High Humidity	T_A:85℃ R_H:85%	1000HRS	76PCS	0/1

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1.Soldering Conditions

Max temperature of 260℃ 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

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-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.