EVERCOLORS

Technical Data Sheet
Opto Interrupter

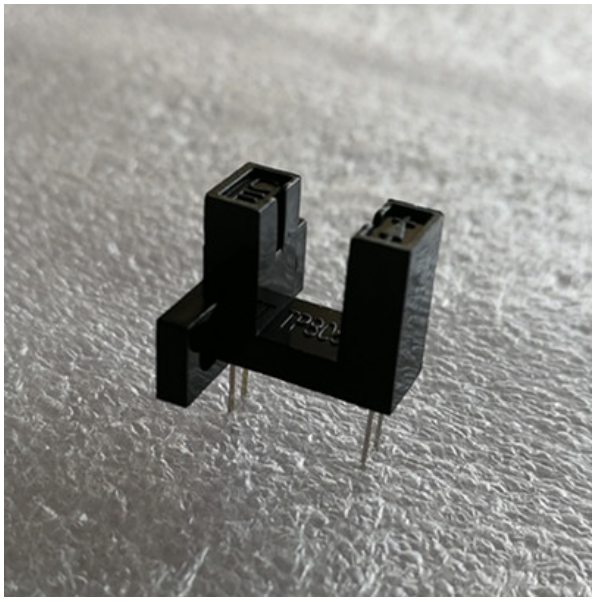
TP808

Features

- Fast response time
- High analytic
- High sensitivity
- Pb free
- This product itself will remain within RoHS compliant version

Descriptions

The **TP808** consist of an infrared emitting diode and an NPN silicon phototransistor, encased side-by-side on converging optical axis in a black Thermoplastic housing the phototransistor receives radiation from the IR only .This is the normal situation. But when an object is in between, phototransistor could not receive the radiation.



Applications

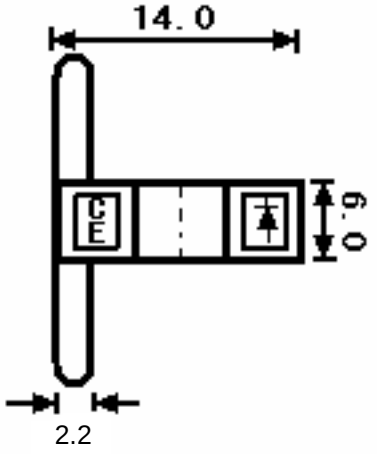
- Mouse Copier
- Switch Scanner
- Floppy disk driver
- Non-contact Switching
- For Direct Board

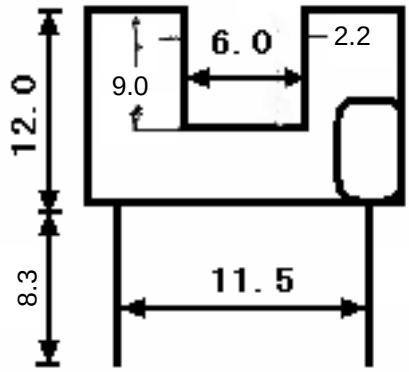
Device Selection Guide

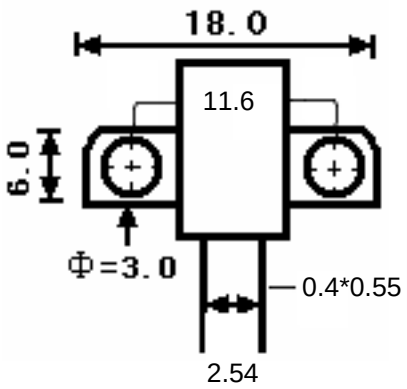
Device No.	Chip Material	LENS COLOR
IR928-6C	GaAlAs	Water Clear
PT928-6C	Silicon	Water Clear

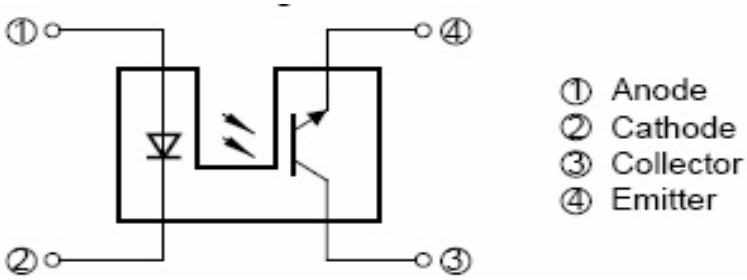
TEL:020-84851596

Package Dimensions









Notes:

1.All dimensions are in millimeters

2.Tolerances unless dimensions ±0.2mm

3.Lead spacing is measured where the lead emerge from the package

EVERCOLORS

TP808

Absolute Maximum Ratings (Ta=25℃)

Parameter		Symbol	Ratings	Unit
Input	Power Dissipation at(or below) 25℃ Free Air Temperature	Pd	75	mW
	Reverse Voltage	V_R	5	V
	Forward Current	I_F	50	mA
	Peak Forward Current (*1) Pulse width ≦100 μs, Duty cycle=1%	I_{FP}	1	A
Output	Collector Power Dissipation	P_C	75	mW
	Collector Current	I_C	20	mA
	Collector-Emitter Voltage	B V_{CEO}	30	V
	Emitter-Collector Voltage	B V_{ECO}	5	V
Operating Temperature		Topr	-25~+85	℃
Storage Temperature		Tstg	-40~+85	℃
Lead Soldering Temperature (*2) (1/16 inch form body for 5 seconds)		Tsol	260	℃

(＊1) tw=100 μsec., T=10 msec. (＊2) t=5 Sec

Electro-Optical Characteristics (Ta=25℃)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Input	Forward Voltage	V_F	---	1.2	1.5	V	I_F=20mA
	Reverse Current	I_R	---	---	10	μA	V_R=5V
	Peak Wavelength	λ_P	---	940	---	nm	I_F=20mA
	View Angle	2θ1/2	---	60	---	Deg	I_F=20mA
Output	Dark Current	I_{CEO}	---	---	100	nA	V_{CE}=20V,Ee=0mW/cm^2
	C-E Saturation Voltage	V_{CE}(sat)	---	---	0.4	V	I_C=2mA Ee=1mW/cm^2
Transfer Characteristics	Collect Current	I_C(ON)	0.9	---	15	mA	V_{CE}=5V I_F=20mA
	Rise time	t_r	---	15	---	μsec	V_{CE}=5V I_C=1mA R_L=1KΩ
	Fall time	t_f	---	15	---	μsec	

EVERCOLORS

TP808

Typical Electrical/Optical/Characteristics Curves for IR

Fig. 1 Forward Current vs. Ambient Temperature

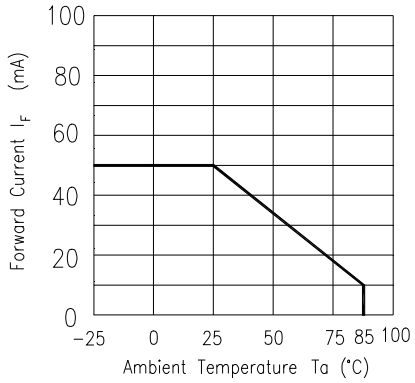


Fig. 2 Spectral Distribution

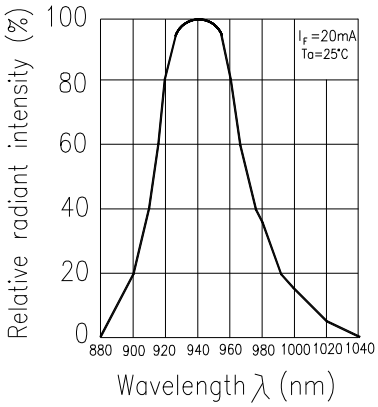


Fig. 3 Peak Emission Wavelength vs. Ambient Temperature

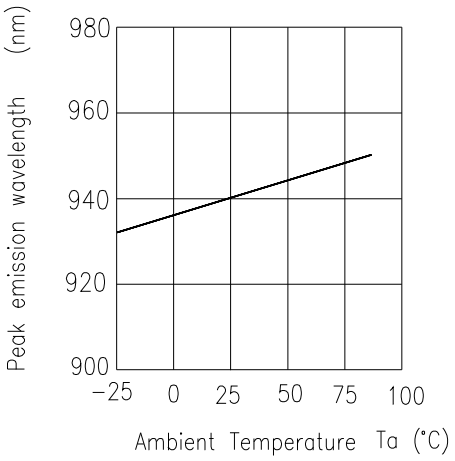


Fig. 4 Forward Current vs. Forward Voltage

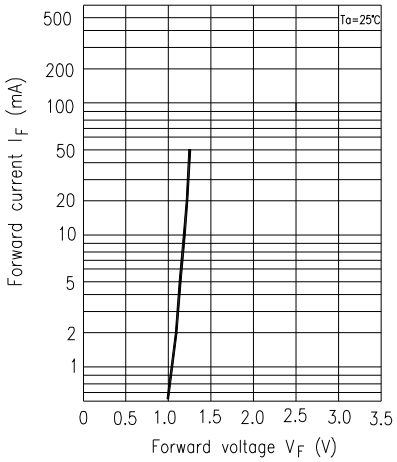


Fig. 5 Forward Voltage vs. Ambient Temperature

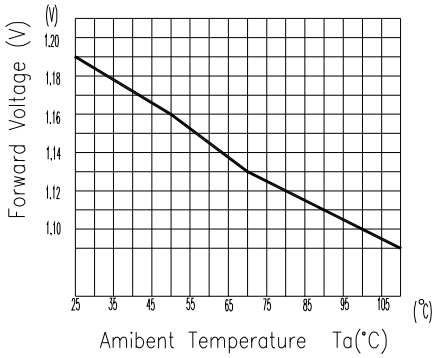
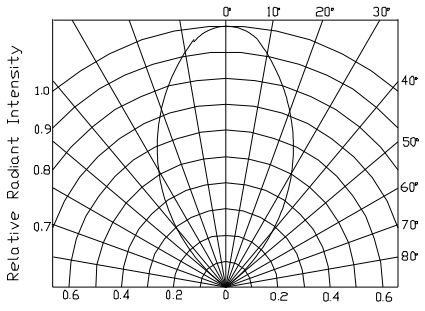


Fig. 6 Relative Radiant Intensity vs. Angular Displacement



EVERCOLORS

TP808

Typical Electrical/Optical/Characteristics Curves for PT

Fig.1 Collector Power Dissipation vs. Ambient Temperature

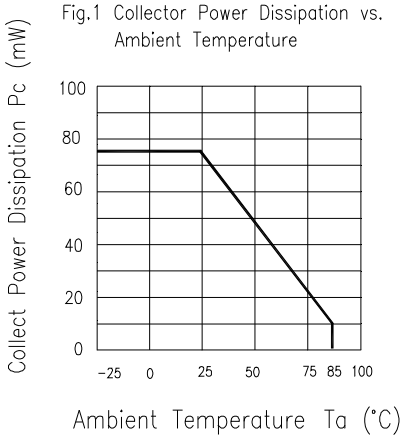


Fig.2 Collector Dark Current vs. Ambient Temperature

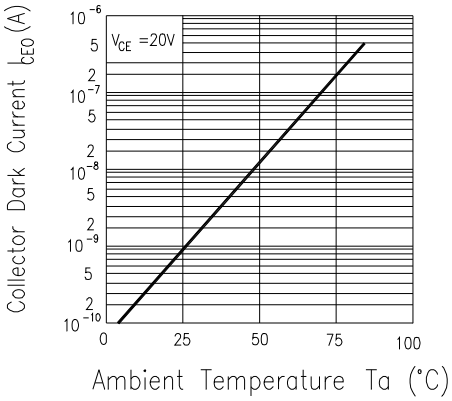


Fig. 3 Relative Collector Current vs. Ambient Temperature

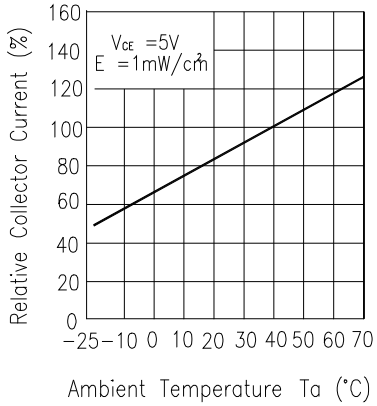


Fig.4 Collector Current vs. Irradiance

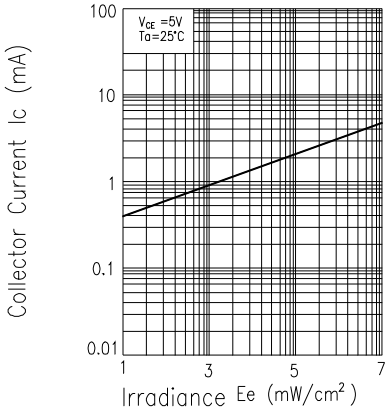


Fig.5 Spectral Sensitivity

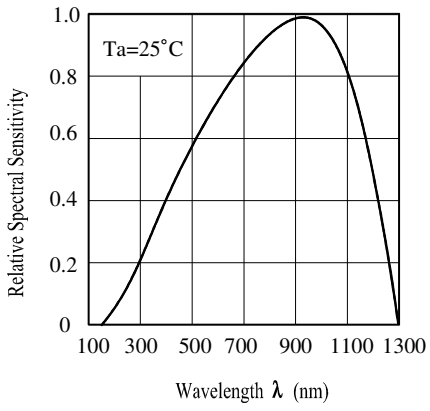
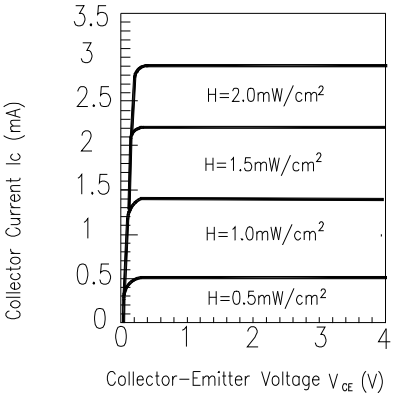


Fig.6 Collector Current vs. Collector-Emitter Voltage



Typical Electrical/Optical/Characteristics Curves for ITR

Fig.1 Relative Collector Current vs. Shield Distance(1)

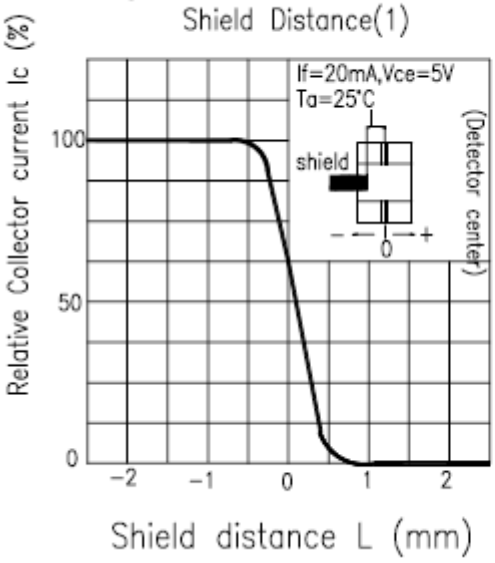
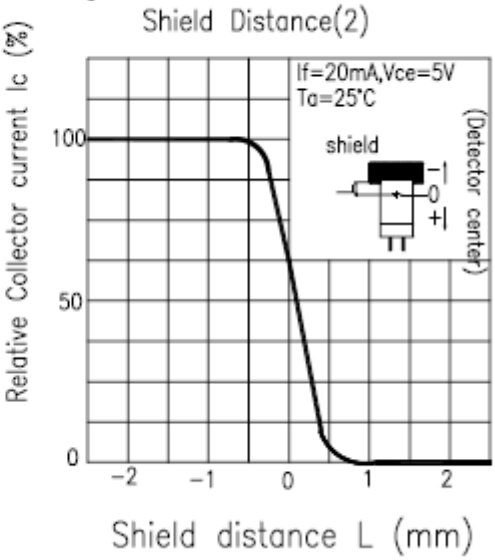


Fig.2 Relative Collector Current vs. Shield Distance(2)



Reliability Test Item And Condition

The reliability of products shall be satisfied with items listed below.
Confidence level：90%
LTPD：10%

NO.	Item	Test Condition	Test Hours/ Cycle	Sample Size	Failure Judgement Criteria	Ac/ Re
1	**Solder Heat**	TEMP : 260℃ ± 5 ℃	10sec	22 pcs	$I_R \geqq U \times 2$ $Ee \leqq L \times 0.8$ $V_F \geqq U \times 1.2$ U :Upper specification limit L :Lower specification limit	0/1
2	**Temperature Cycle**	H : +100℃ 15 mins ↕ 5 min L : -40℃ 15 min	300 cycle	22 pcs		0/1
3	**Thermal Shock**	H : +100℃ 5 min ↕ 10 sec L : -10℃ 5 min	300 cycle	22 pcs		0/1
4	**High Temperature Storage**	TEMP. : +100℃	1000 hrs	22 pcs		0/1
5	**Low Temperature Storage**	TEMP. : -40℃	1000 hrs	22 pcs		0/1
6	**DC Operating Life**	V_{CE}=5V I_F=20mA	1000 hrs	22 pcs		0/1
7	**High Temperature / High Humidity**	85℃ / 85% R.H.	1000 hrs	22 pcs		0/1

EVERCOLORS

TP808

Packing Quantity Specification

1. 150PCS/1bag,6bag/1Box

Label Form Specification

CPN: Customer's Production Number
P/N : Production Number
QTY: Packing Quantity
CAT: Ranks
HUE: Peak Wavelength
REF: Reference
LOT No: Lot Number

Notes:

1. Above specification may be changed without notice. EVERCOLORS will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERCOLORS 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.
3. These specification sheets include materials protec ted under copyright o EVERCOLORS corporation. Please don't reproduce or cause anyone to reproduce them without EVERCOLORS's consent.