

LG-ITR1120-2.8

DATA SHEET

SPEC. NO. : SZ24081601
DATE : 2025/04/18
REV. : A/1

Approved By:

Checked By:

Prepared By:

■ Features

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

■ Description

- The LG-ITR1120-2.8 consist of an infrared emitting diode and a silicon phototransistor, encased side-by-side on converging optical axis in a black thermoplastic housing.
- The phototransistor receives radiation from the IR LED only. This is the normal situation.
- But when an object is in between, phototransistor could not receives the radiation.

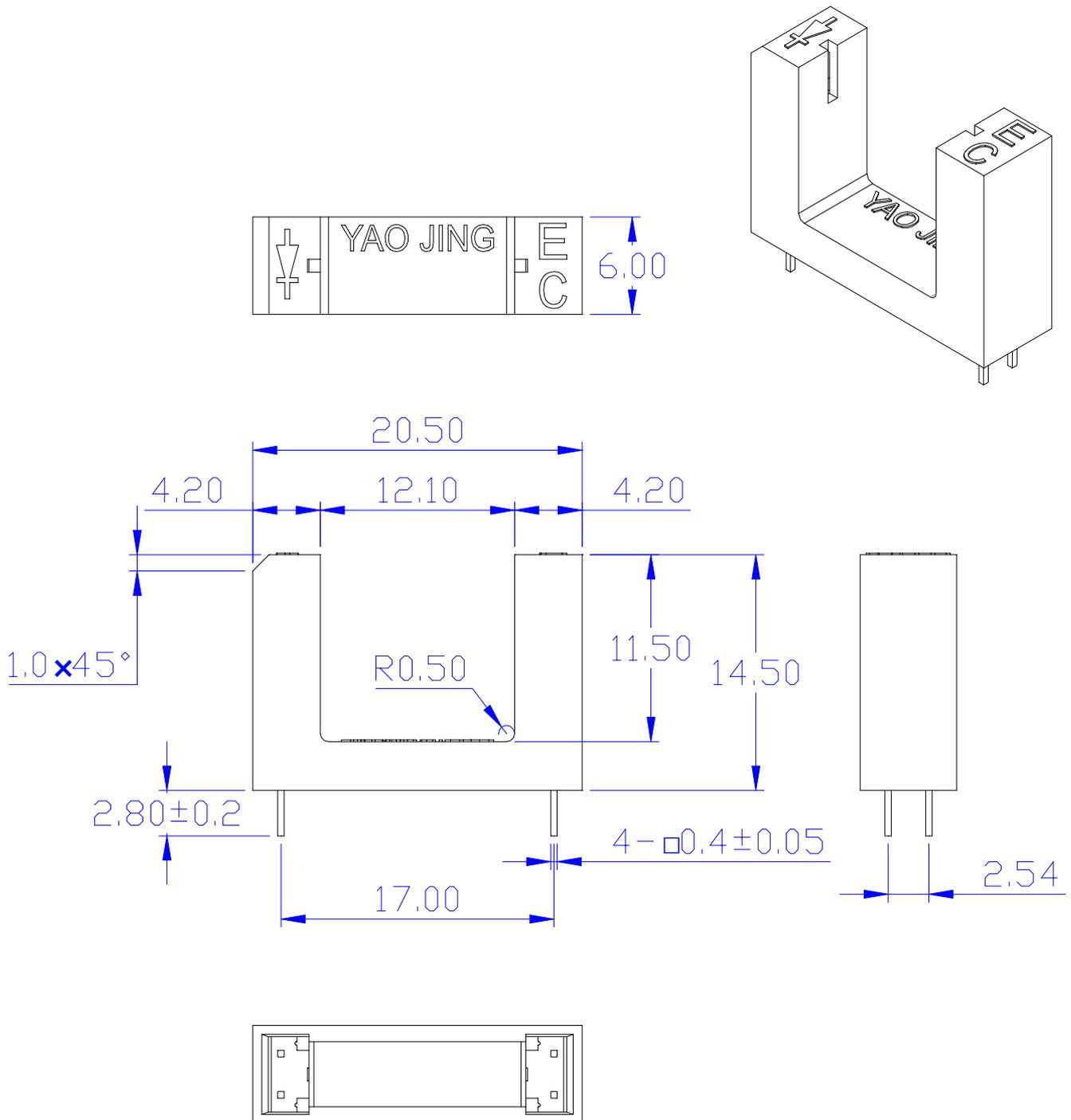
■ Applications

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

■ Device Selection Guide

Device No.	Chip Material	Lens Color
IR	GaAs	Water Clear
PT	Silicon	Water Clear

■ Package Dimensions



Notes:

1. All dimensions are in millimeters.
2. Tolerance is ±0.20mm unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.

■ Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Ratings	Unit
Input	Power Dissipation	Pd	45	mW
	Reverse Voltage	V _R	5	V
	Forward Current	I _F	30	mA
	Peak Forward Current (*1)	I _{FP}	100	mA
Output	Collector Power Dissipation	P _C	75	mW
	Collector Current	I _C	50	mA
	Collector-Emitter Voltage	BV _{CEO}	30	V
	Emitter-Collector Voltage	BV _{ECO}	5	V
Operating Temperature		Topr	-20~ +65	°C
Storage Temperature		Tstg	-30~ +70	°C
Lead Soldering Temperature (*2) (1/16 inch form body for 5 seconds)		Tsol	260	°C

(*1) Pulse width ≤ 100μs, Duty cycle ≤ 1%

(*2) Wave soldering, t = 5sec.

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

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Input	Forward Voltage	V _F	---	1.2	1.6	V	I _F =10mA
	Reverse Current	I _R	---	---	10	μA	V _R =5V
	Peak Wavelength	λ _P	---	940	---	nm	I _F =10mA
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)}	1.1	2.5	---	mA	V _{CE} =5V I _F =10mA
	Rise time	tr	---	15	---	μs	V _{CE} =5V I _C =1mA R _L =1KΩ
	Fall time	tf	---	15	---	μs	

Typical Electrical/Optical/Characteristics Curves for IR

Fig.1 Forward Current vs. Ambient Temperature

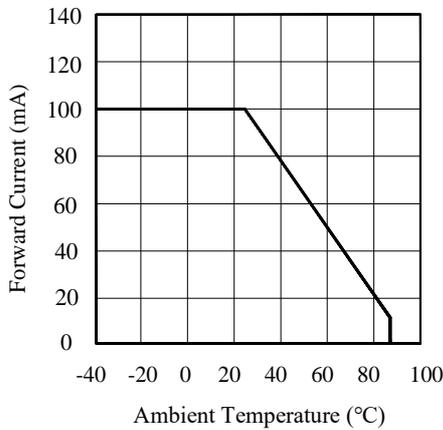


Fig.2 Spectral Distribution

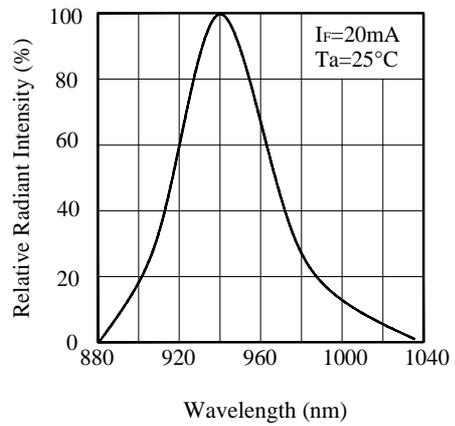


Fig.3 Radiant Intensity vs. Forward Current

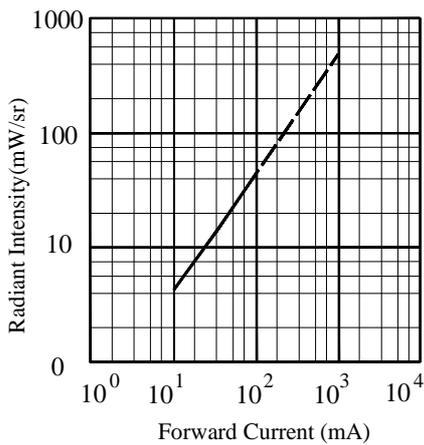


Fig.4 Relative Radiant Intensity vs. Angular Displacement

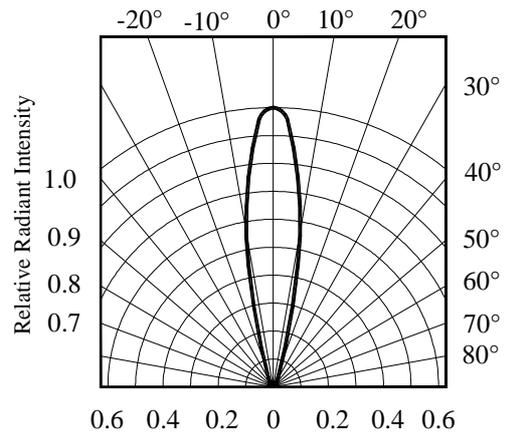


Fig.5 Radiant Intensity vs. Ambient Temperature (°C)

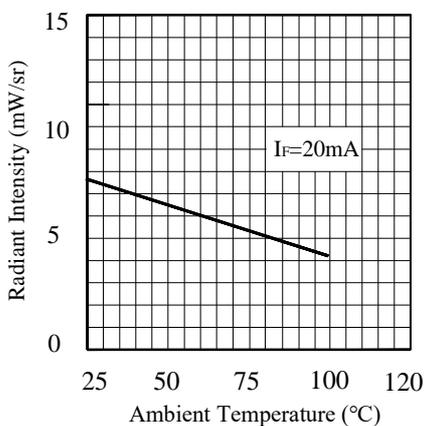
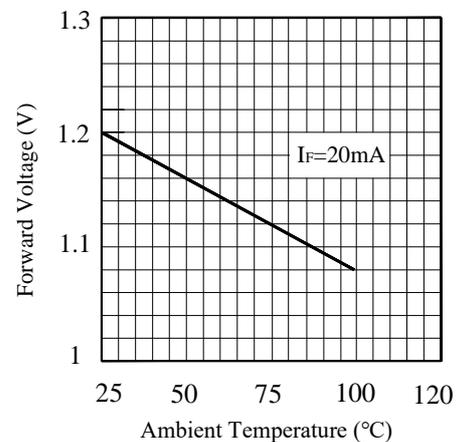


Fig.6 Forward Voltage vs. Ambient Temperature (°C)



Typical Electrical/Optical/Characteristics Curves for PT

Fig.1 Collector Power Dissipation vs. Ambient Temperature

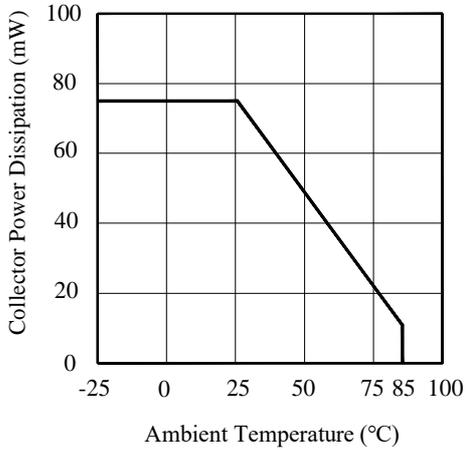


Fig.2 Spectral Sensitivity

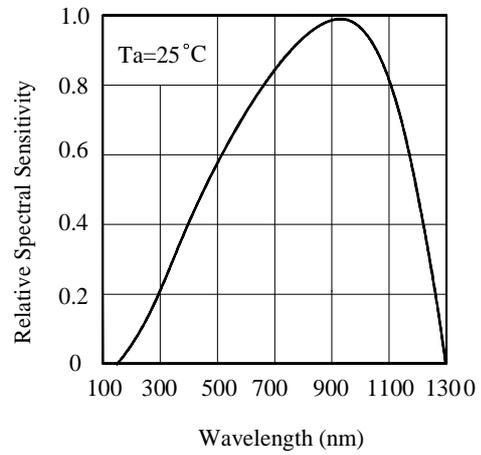


Fig.3 Relative Collector Current vs. Ambient Temperature

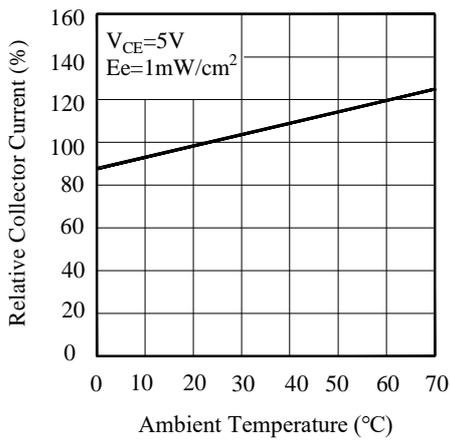


Fig.4 Collector Current vs. Irradiance

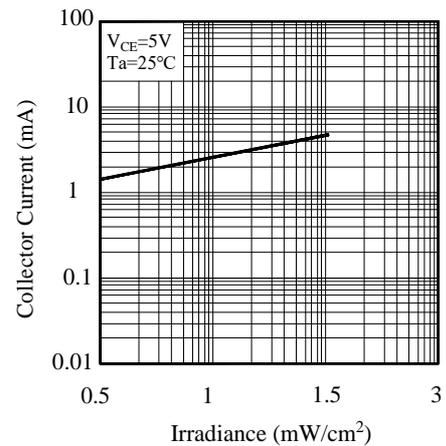


Fig.5 Collector Dark Current vs. Ambient Temperature

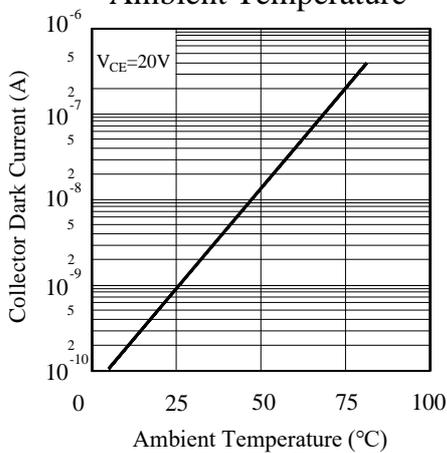
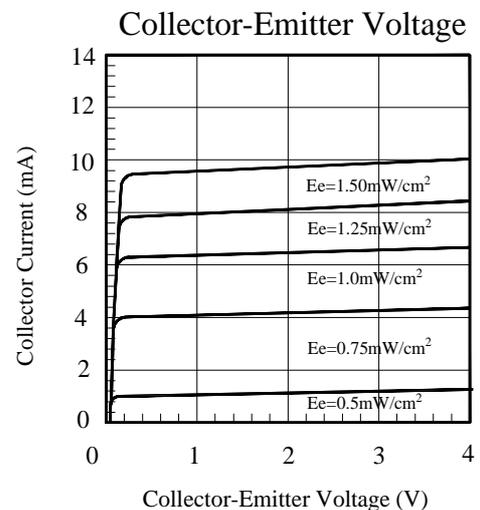
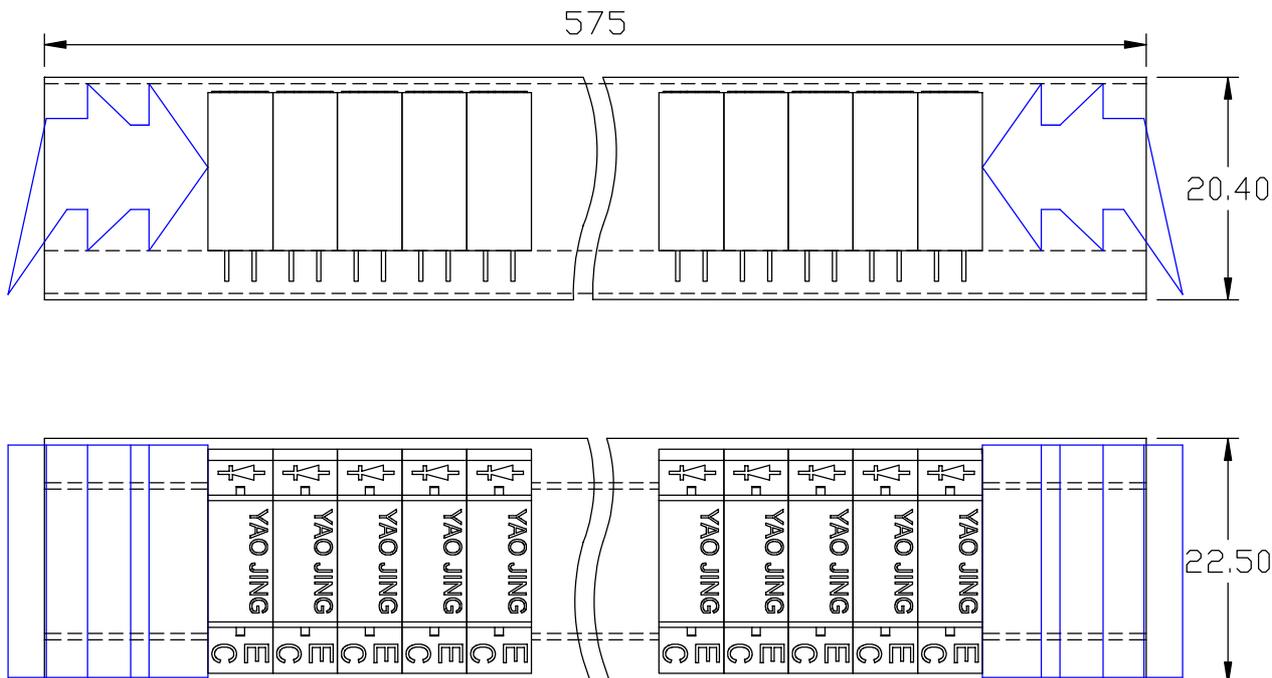


Fig.6 Collector Current vs. Collector-Emitter Voltage



Tube Packing (90PCS/per tube, Unit: mm)



Recommended Wave Soldering Profile

