

Technical Data Sheet

Opto Interrupter

ITR1120

■ Features

- Fast response time
- High analytic
- Cut-off visible wavelength $\lambda_p=940\text{nm}$
- High sensitivity



■ Descriptions

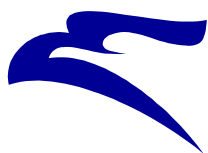
- The ITR1120 consist of an infrared emitting diode and an silicon phototransistor, encased side-by-side on converging optical axis in a black thermoplastic housing,
- The phototransistor receives radiation from the IR LED only .This is the normal situation.
- But when an object is in between phototransistor could not receives the radiation.
- For additional component information , please refer to IR908 and PT908

■ Applications

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

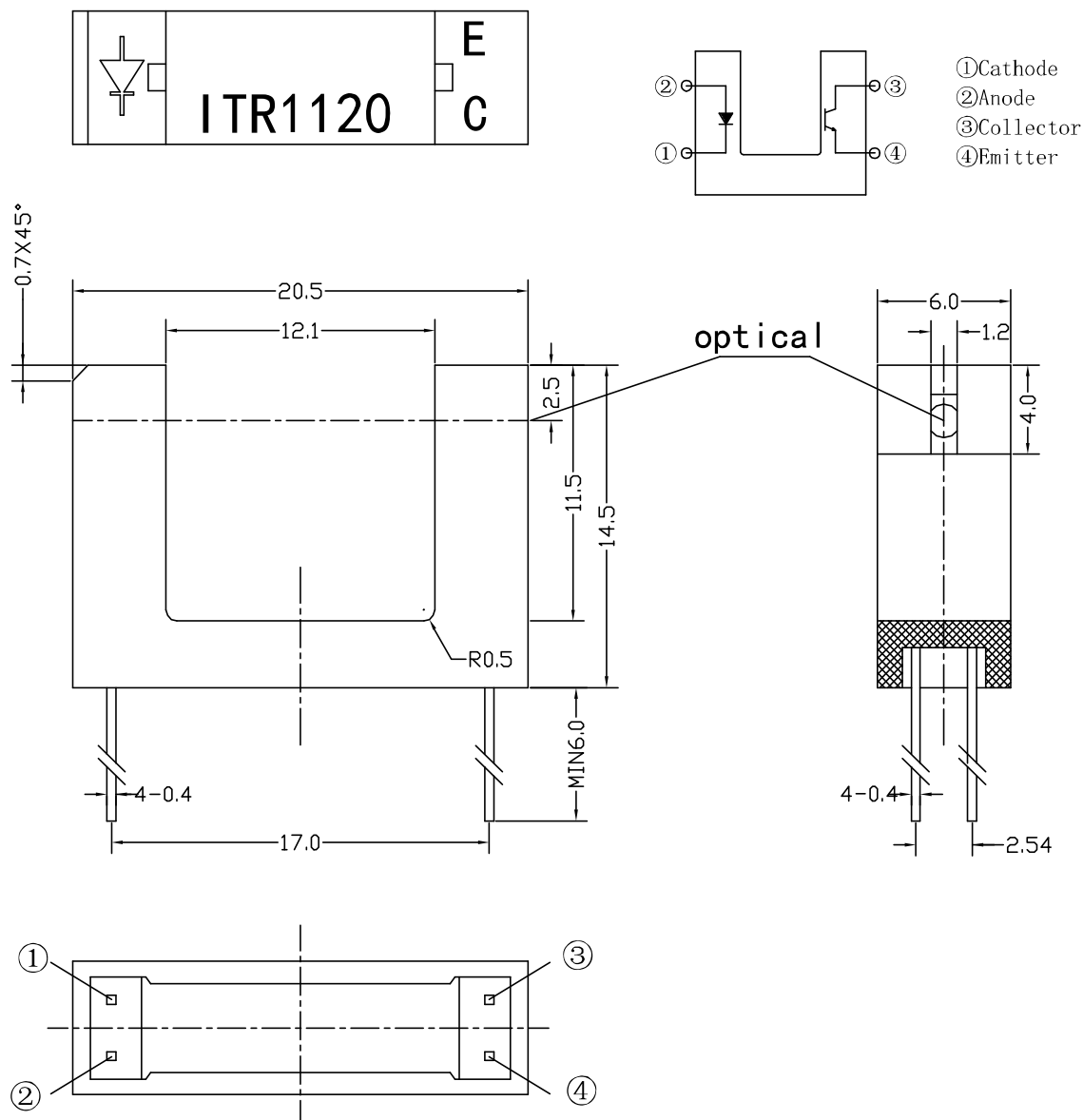
■ Device Selection Guide

Device No.	Chip Material	LENS COLOR
IR908	GaAlAs	Water Clear
PT908	Silicon	Water Clear



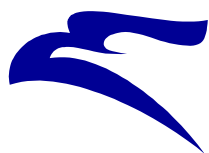
ITR1120

Package Dimensions



Notes:

1. All dimensions are in millimeters.
2. Tolerances unless dimensions ± 0.2 mm.
3. Lead spacing is measured where the lead emerge from the package.



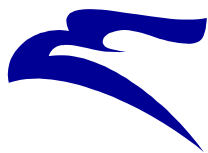
■ Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Ratings	Unit
Input	Power Dissipation at(or below) 25°C Free Air Temperature	P _d	75	mW
	Reverse Voltage	V _R	5	V
	Forward Current	I _F	50	mA
Output	Collector Power Dissipation	P _c	75	mW
	Collector Current	I _c	30	mA
	Collector-Emitter Voltage	B V _{CEO}	30	V
	Emitter-Collector Voltage	B V _{ECO}	5	V
Operating Temperature		T _{opr}	-25~+85	°C
Storage Temperature		T _{stg}	-40~+85	°C
Lead Soldering Temperature (*1) (3mm from the package)		T _{sol}	260	°C

Note: (*1) Soldering time ≤ 5 sec.

■ 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 =20mA
	Reverse Current	I _R	---	---	10	μA	V _R =5V
	Peak Wavelength	λ _P	---	940	---	nm	I _F =20mA
Output	Dark C urrent	I _{CEO}	---	---	100	nA	V _{CE} =20V, E _e =0mW/cm ²
	C-E Saturation Voltage	V _{CE(sat)}	---	---	0.4	V	I _c =0.9mA, I _F =20mA
Transfer Characteristics	Collect Current	I _{c(ON)}	0.5	---	---	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	



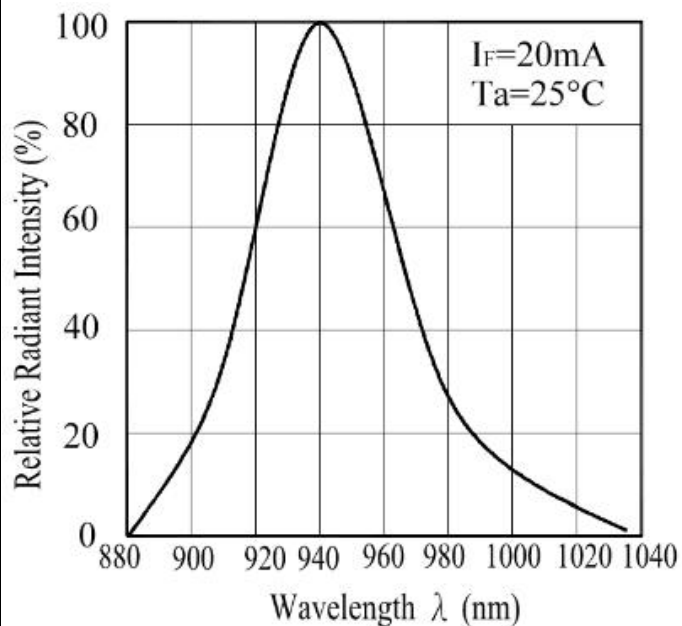
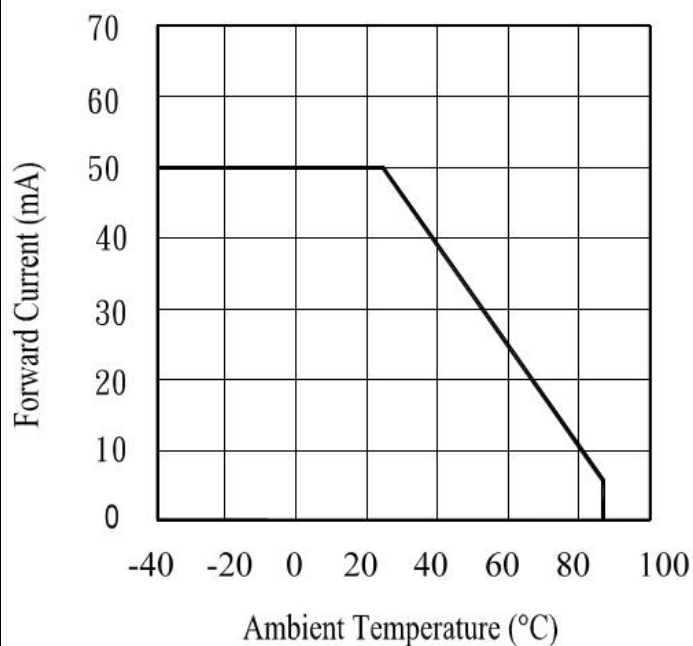
■ Typical Electrical/Optical/Characteristics Curves for IR

Fig.1 Forward Current vs.

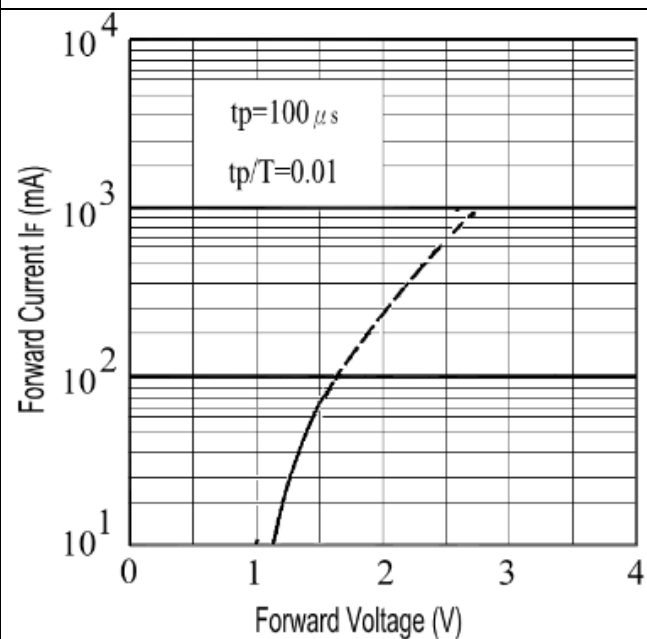
Fig.2 Spectral Distribution

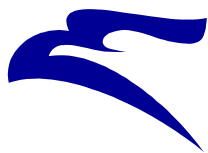
Forward Current vs. Ambient Temperature

Spectral Sensitivity



Forward Current vs. Forward Voltage





■ Typical Electrical/Optical/Characteristics Curves for PT

Fig.1 Collector Power Dissipation vs.

