

LG-ITR8402

DATA SHEET

SPEC.NO.: SZ19060410
DATE: 2019/06/04
REV. A/0

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-ITR8402 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.

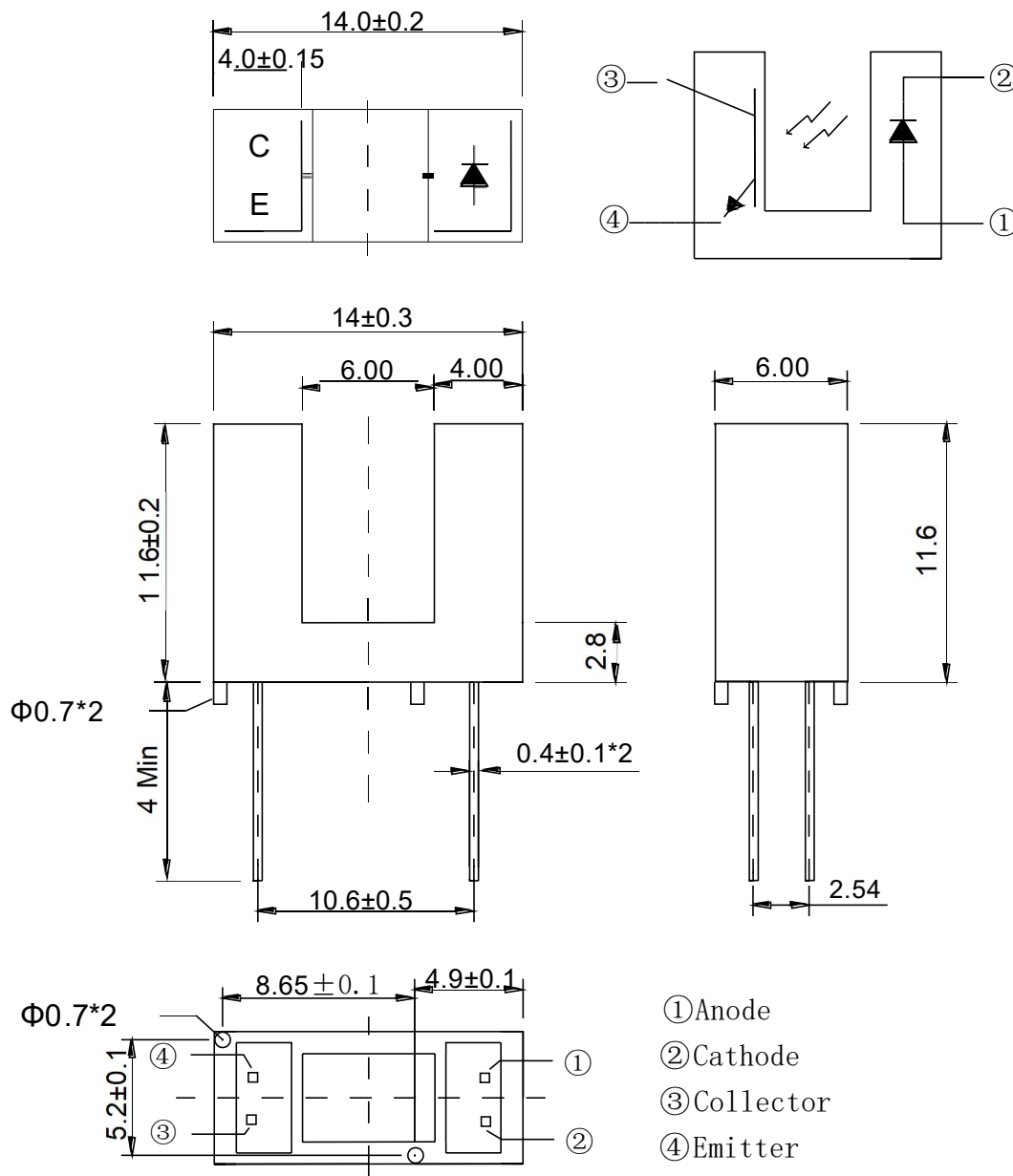
Applications

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

Device Selection Guide

Device No.	Chip Material	LENS COLOR
IR	GaAlAs	Water Clear
PT	Silicon	Water Clear

Package Dimensions



Notes:

1. All dimensions are in millimeters.
2. Tolerance is $\pm 0.20\text{mm}$ unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.

Absolute Maximum Ratings (Ta=25℃)

Parameter		Symbol Ratings	Unit	
Input	Power Dissipation at(or below) 25℃ Free Air Temperature	Pd	75	mW
	Reverse Voltage	VR	5	V
	Forward Current	IF	50	mA
	Peak Forward Current (*1) Pulse width ≤ 100μs, Duty cycle=1%	IFP	1	A
Output	Collector Power Dissipation	PC	100	mW
	Collector Current	IC	50	mA
	Collector-Emitter Voltage	B VCEO	30	V
	Emitter-Collector Voltage	B VECO	5	V
Operating Temperature		Topr	-20~+65	℃
Storage Temperature		Tstg	-30~+70	℃
Lead Soldering Temperature (*2)		Tsol	260	℃

(* 1) $t_w=100 \mu\text{sec.}$, $T=10 \text{ msec.}$ (* 2) $t=5 \text{ Sec}$

Electro-Optical Characteristics (Ta=25℃)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Input	Forward Voltage	VF	---	1.2	1.5	V	IF=20mA
	Reverse Current	IR	---	---	10	μA	VR=5V
	Peak Wavelength	λP	---	940	---	nm	IF=20mA
Output	Dark C urrent	ICEO	---	---	100	nA	VCE=20V, Ee=0mW / cm2
	C-E Saturation Voltage	VCE(sat)	---	---	0.4	V	IC=2mA ,Ee=1mW/cm2
Transfer Characteristics	Collect Current	IC(ON)	0.5	---	---	mA	VCE=5V IF=20mA
	Rise time	tr	---	15	---	μsec	VCE=5V IC=1mA RL=1K
	Fall time	tf	---	15	---	μsec	

Typical Electrical/Optical/Characteristics Curves for IR

Fig.1 Forward Current vs. Ambient Temperature

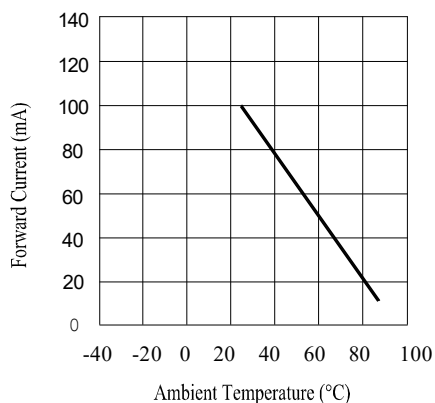


Fig.2 Spectral Distribution

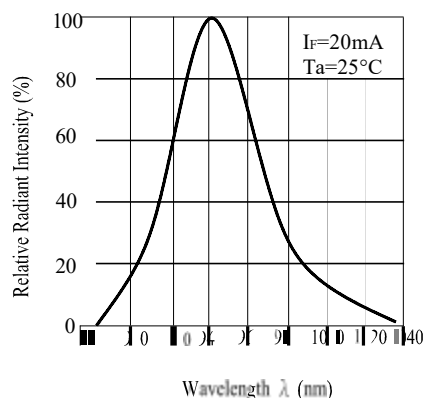


Fig.3 Relative Intensity vs. Forward Current

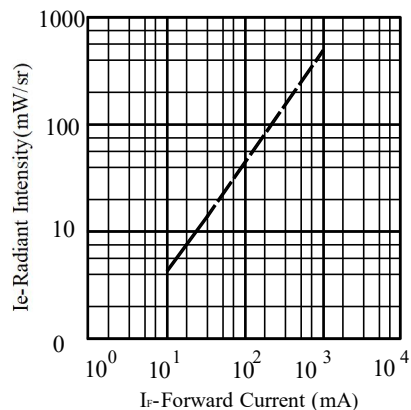


Fig.4 Relative Radiant Intensity vs. Angular Displacement

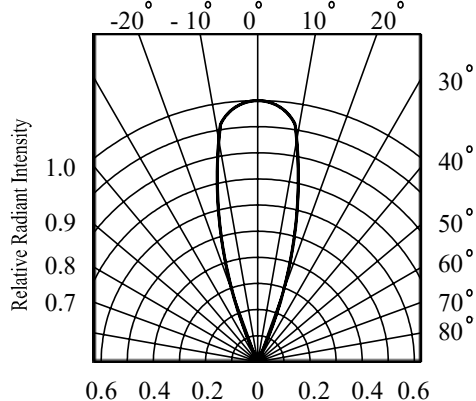


Fig.5 Relative Intensity vs. Ambient Temperature(°C)

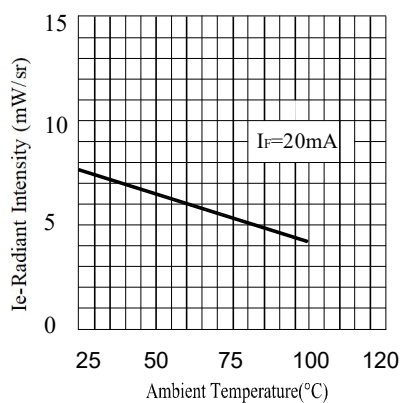
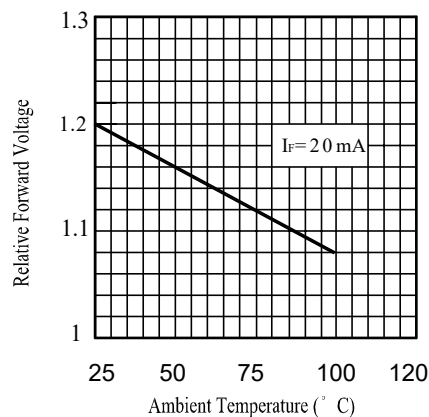


Fig.6 Forward Current vs. Ambient Temperature(°C)



Typical Electrical/Optical/ Characteristics Curves for PT

Fig. 1 Collector Power Dissipation vs. Ambient Temperature

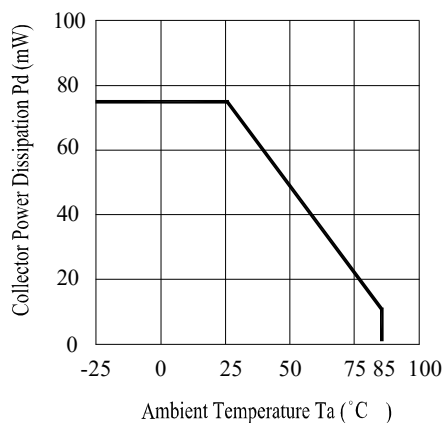


Fig. 2 Spectral Sensitivity

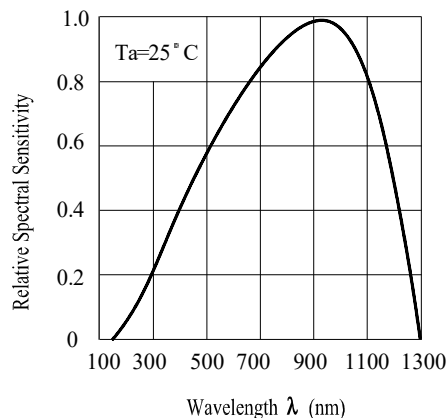


Fig. 3 Relative Collector Current vs. Ambient Temperature

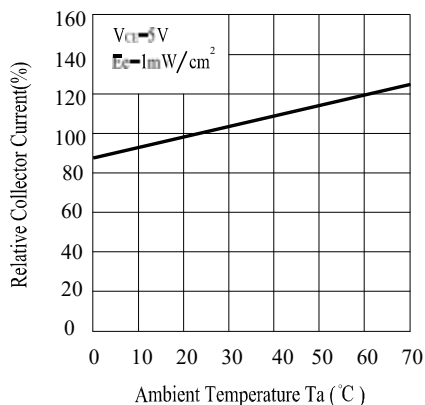


Fig. 4 Collector Current vs. Irradiance

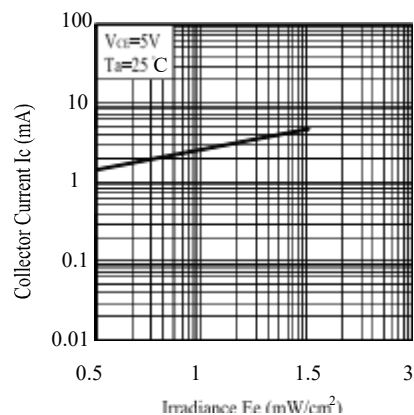


Fig. 5 Collector Dark Current vs. Ambient Temperature

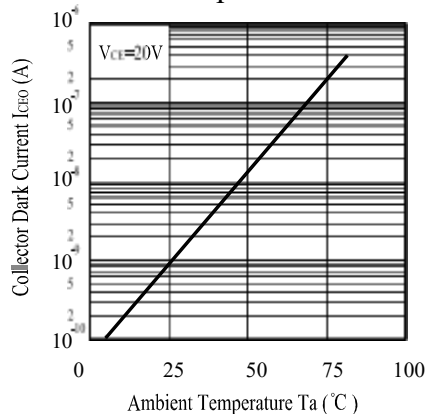


Fig. 6 Collector Current vs. Collector-Emitter Voltage

