

# **LG-ITR2C-502725**

## **DATA SHEET**

SPEC.NO.: SZ18080411  
DATE: 2018/08/04  
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



## ■ Descriptions

The LG-ITR2C-502725 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 IRED only .This is the normal Situation. But when an object is in between , phototransistor could not receives the radiation.

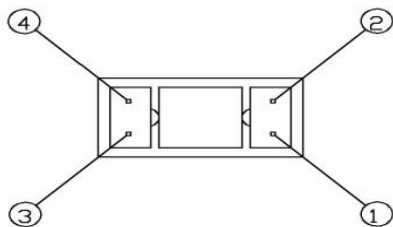
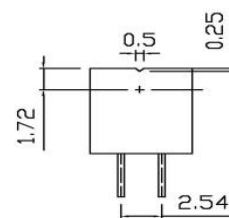
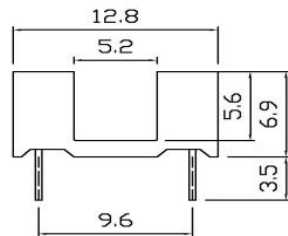
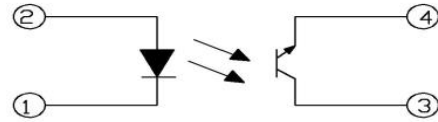
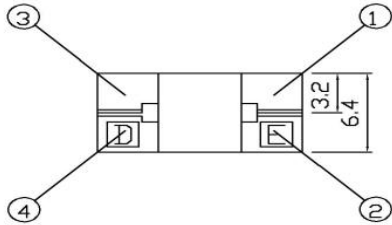
## ■ Applications

- 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



- ① : Cathode
- ② : Anode
- ③ : Collector
- ④ : Emitter

### Notes:

1. All dimensions are in millimeters.
2. Tolerances unless dimensions  $\pm 0.3\text{mm}$ .

## 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
	Peak Forward Current(*1) Pulse width $\leq 100\mu s$ , Duty cycle=1%	$I_{FP}$	1	A
Output	Collector Power Dissipation	$P_C$	75	mW
	Collector Current	$I_C$	20	mA
	Collector-Emitter Voltage	$V_{CEO}$	30	V
	Emitter-Collector Voltage	$V_{ECO}$	5	V
Operating Temperature		$T_{opr}$	-25~+85	°C
Storage Temperature		$T_{stg}$	-40~+85	°C
Lead Soldering Temperature (*2) (1/16 inch from body for 5 seconds)		$T_{sol}$	260	°C

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

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

Parameter		Symbol	Min.	Typ.	Max.	Unit	Condition
Input	Forward Voltage	$V_F$	---	1.2	1.6	V	$I_F = 20mA$
	Reverse Current	$I_R$	---	---	10	$\mu A$	$V_R = 5V$
	Peak Wavelength	$\lambda_P$	--	940	---	nm	$I_F = 20mA$
Output	Collector Dark Current	$I_{CEO}$	---	---	100	nA	$V_{CE} = 10V$ , $E_e = 0mW/cm^2$
	C-E Saturation Voltage	$V_{CE(sat)}$	---	---	0.4	V	$I_C = 0.5mA$ $E_e = 10mW/cm^2$
	Collector Current	$I_C(ON)$	1.0	13.8	---	mA	$V_{CE} = 5V$ $I_F = 20mA$
Transfer Characteristic	Rise time	$t_r$	---	15	---	$\mu sec$	$V_{CE} = 5V$
	Fall time	$t_f$	---	15	---	$\mu sec$	$I_C = 1mA$ $R_L = 1K\Omega$

## Typical Electrical/Optical/Characteristics Curves for IR

Fig.1 Forward Current vs. Ambient Temperature

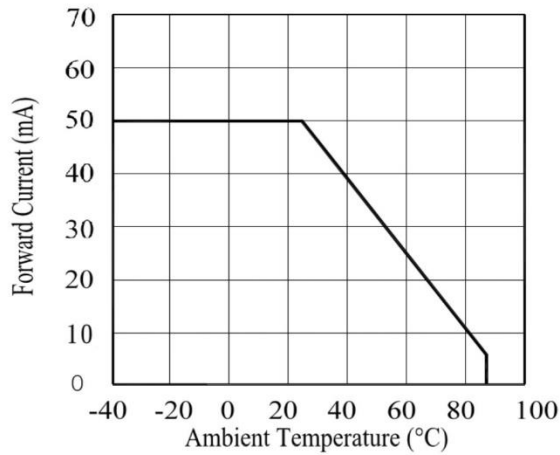


Fig.2 Spectral Distribution

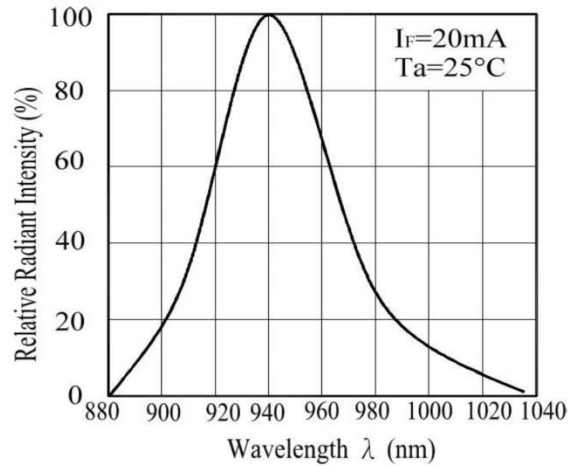


Fig.3 Forward Current vs. Forward Voltage

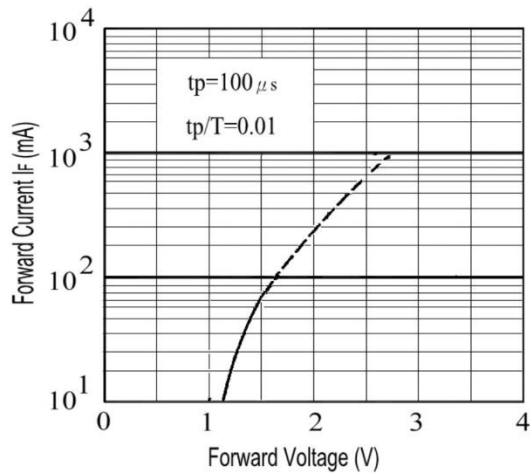
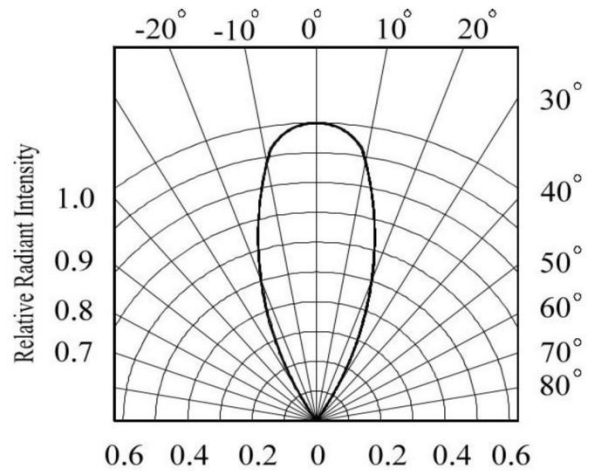


Fig. 4 Relative Radiant Intensity vs. Angular Displacement



**Typical Electrical/Optical/Characteristics Curves for PT**

Fig.1 Spectral Sensitivity

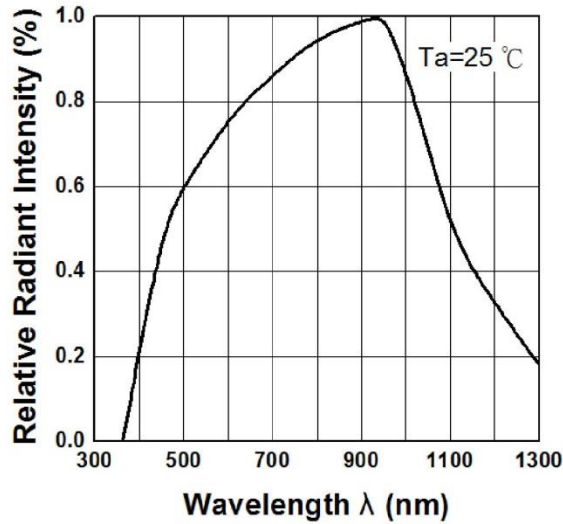


Fig.2 Collector Current vs. Irradiance

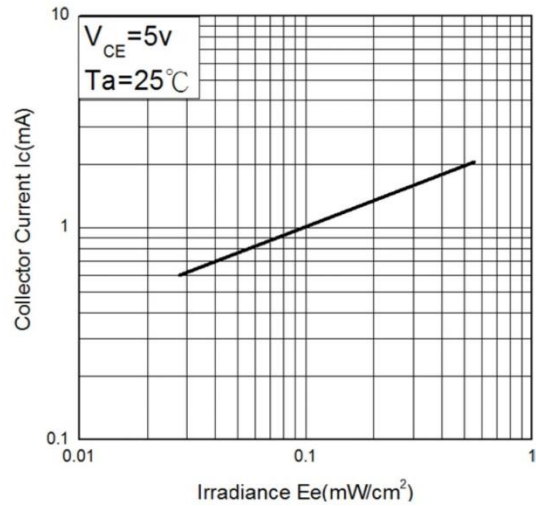


Fig.3 Collector Current vs. Collector-Emitter Voltage

