

# **LG-ITR2C-504023**

## **DATA SHEET**

SPEC.NO.: SZ18080410  
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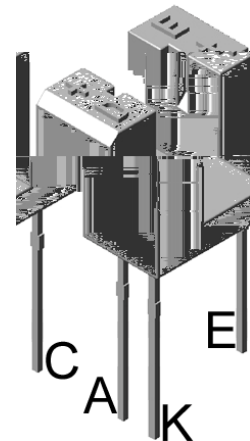
Approved By:

Checked By:

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## ■ Features

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



## ■ Descriptions

The LG-ITR2C-504023 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



### Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Ratings	Unit
Input	Power Dissipation at(or below) 25°C Free Air Temperature	Pd	75	mW
	Reverse Voltage	V <sub>R</sub>	5	V
	Forward Current	I <sub>F</sub>	50	mA
	Peak Forward Current (*1) Pulse width ≤ 100 μs, Duty cycle=1%	I <sub>FP</sub>	1	A
	Collector Power Dissipation	P <sub>C</sub>	100	mW
Output	Collector Current	I <sub>C</sub>	50	mA
	Collector-Emitter Voltage	B V <sub>CEO</sub>	30	V
	Emitter-Collector Voltage	B V <sub>ECO</sub>	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) tw=100 μsec., T=10 msec. (\*2) t=5 Sec

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

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Input	Forward Voltage	V <sub>F1</sub>	---	1.2	1.6	V	I <sub>F</sub> =20mA
		V <sub>F2</sub>	---	1.4	1.85		I <sub>F</sub> =100mA, tp=100 μs, tp/T=0.01
		V <sub>F3</sub>	---	2.6	4.0		I <sub>F</sub> =1A, tp=100 μs, tp/T=0.01
	Reverse Current	I <sub>R</sub>	---	---	10	μA	V <sub>R</sub> =5V
	Peak Wavelength	λ <sub>p</sub>	---	940	---	nm	I <sub>F</sub> =20mA
	View Angle	2θ1/2	---	60	---	Deg	I <sub>F</sub> =20mA
Output	Dark Current	I <sub>CEO</sub>	---	---	100	nA	V <sub>CE</sub> =20V, Ee=0mW/cm <sup>2</sup>
	C-E Saturation Voltage	V <sub>CE(sat)</sub>	---	---	0.4	V	I <sub>C</sub> =2mA, Ee=1mW/cm <sup>2</sup>
Transfer Characteristics	Collect Current	I <sub>C(ON)</sub>	0.7	---	---	mA	V <sub>CE</sub> =5V, I <sub>F</sub> =20mA
	Rise time	t <sub>r</sub>	---	15	---	μsec	V <sub>CE</sub> =5V
	Fall time	t <sub>f</sub>	---	15	---	μsec	I <sub>C</sub> =1mA, R <sub>L</sub> =1KΩ

