DOGYiR®

GD Dongyi Optoelectronics Co.Ltd.

SPECIFICATION FOR APPROVAL

Customer	
Product Name	
Version number	
Dimension	
Texture of material	
Number	
Date	

Product confirm and sign

Engineering Department	Prepared Department	Quality Department	Checked	Signature

INSPECT RESULT ☐ **ACCEPT** ☐ **REJECT**

Customer confirm and sign

Engineering Department	Quality Department	Checked	Approved	Signature

INSPECT RESULT ☐ **ACCEPT** ☐ **REJECT**

REMARK:

■ sample

Product Name : _____ **Product Name :** _____

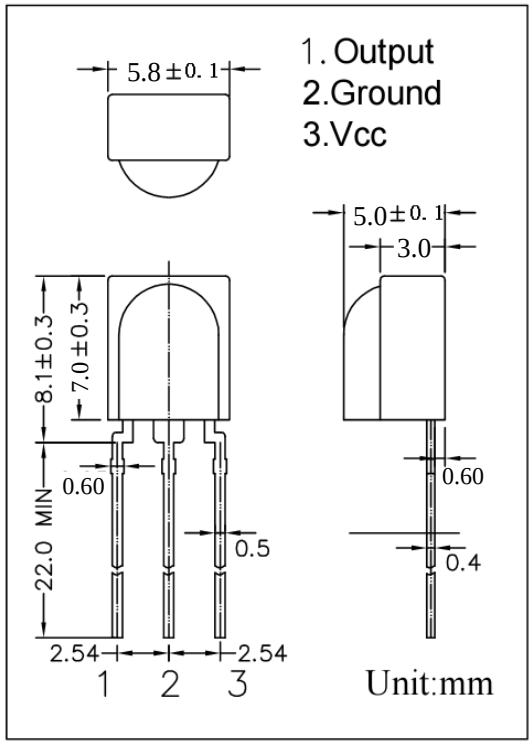
Quality : _____ **Date :** _____

IR Receiver Modules for Remote Control Systems

Description

The IR Receiver is remote control receiver modules.
Pin diode and receiver IC are assembled on one module.
Small-sized, light-weight, and low current consumption.
modules have been achieved by using resin mold.
The demodulated output signal can directly be decoded by a microprocessor. The main benefit is the reliable function even in disturbed ambient and the protection against uncontrolled output pulses.

Dimensions



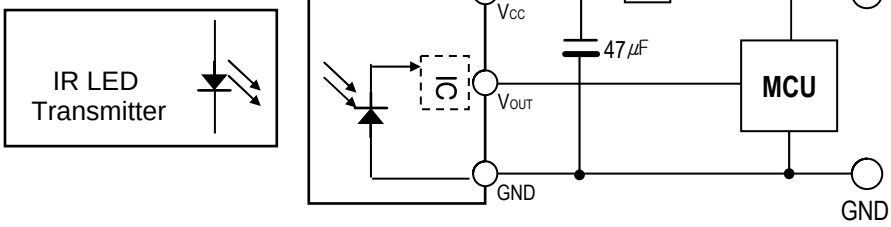
Features

- ◆Supply Voltage Range: 2.5V to 6.0 V
- ◆TTL and CMOS compatibility
- ◆Photo detector and preamplifier in one package.
- ◆Internal filter for PCM frequency
- ◆Output active low
- ◆Enhanced Immunity against all kinds of disturbance light
- ◆No occurrence of disturbance pulses at output pin with in nominal conditions.
- ◆Short settling time after power On.
- ◆Meet RoHS

Applications

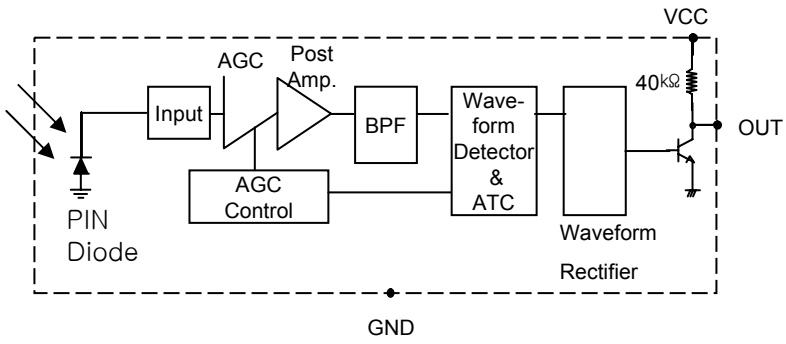
- ◆Audio video applications
- ◆Home appliances
- ◆Toy applications
- ◆Remote control equipment

Application Circuit



R-C filter recommended to suppress power supply disturbances.
R-C filter should be connected closely between Vcc pin and GND pin.

Block Diagram



Recommended Operating Conditions

(Ta = 25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Operating Voltage	Vcc	2.5	5.0	6.0	V	
Input Frequency	fin		37.9		kHz	
Operating Temperature	Top	-20	25	80	℃	

Absolute Maximum Ratings

(Ta = 25℃)

Parameter	Symbol	Min.	Max.	Unit	Conditions
Supply Voltage	Vcc	0	6.0	V	
Output Voltage	Vout	0	6.0	V	
Output Current	Iout	0	2.5	mA	
Storage Temperature	Tst	-20	80	℃	
Soldering Temperature	Tsd	260℃±5℃		℃	Max 5 sec

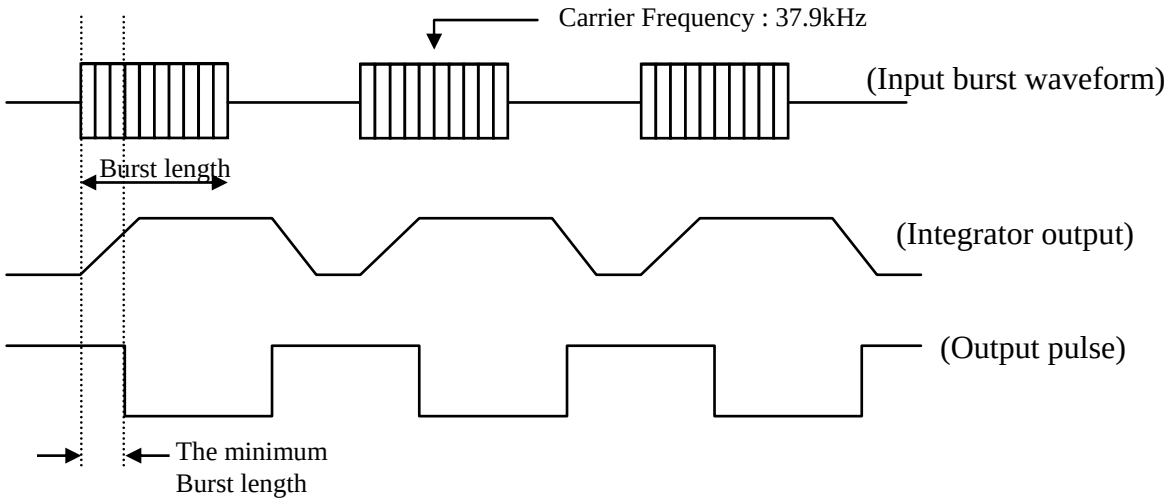
Electro-optical Characteristics

Specifications hold over the Recommended Operating Conditions, unless otherwise noted herein.
All values are at **25℃** and **Vcc=3.0V/5.0V**

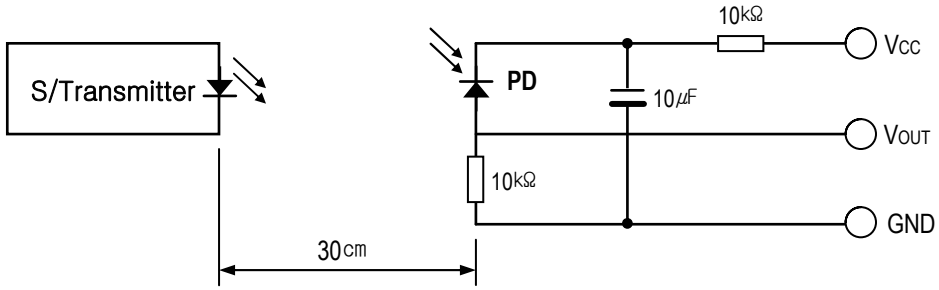
(Ta = 25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Supply Current	Icc	--	0.2	0.35	mA	Iin=0 μA, Vcc=3V
			0.3	0.65	mA	Iin=0 μA, Vcc=5V
Max. Voltage gain	Av	75	80	85	dB	fin=37.9kHz, Vin=30μVp-p
BPF Bandwidth	f_{BW}	3.5	6.0	8.5	kHz	-3dB Bandwidth Vin=30μVp-p
Output pulse width	t_{PW1}	500	-	800	μs	fin=37.9kHz, burst wave Vin=500 μVp-p note*1
	t_{PW2}	500	-	800	μs	fin=37.9kHz, burst wave Vin= 50mVp-p note*1
Low level output voltage	V_{OL}	-	0.2	0.4	V	Isink=2.0mA
High level output voltage	V_{OH}	2.7	3.0	-	V	Vcc=3V
		4.7	5.0	-	V	Vcc=5V

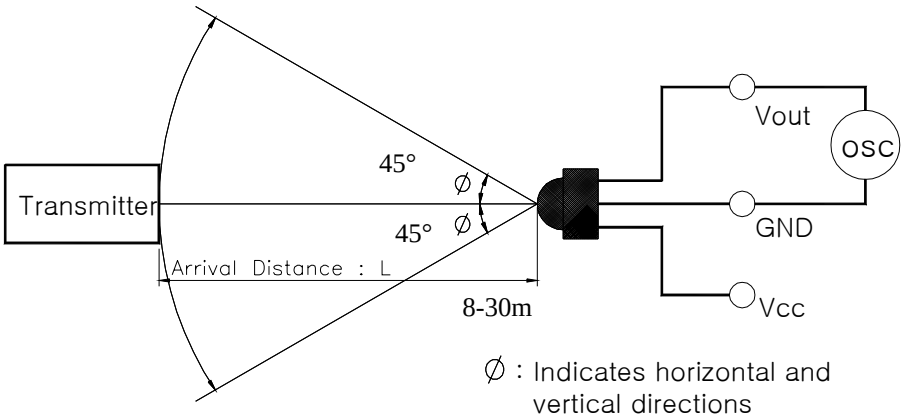
[Fig. 1] Data Signal diagram



[Fig.2] Transmitter



[Fig.3] Test condition of arrival distance

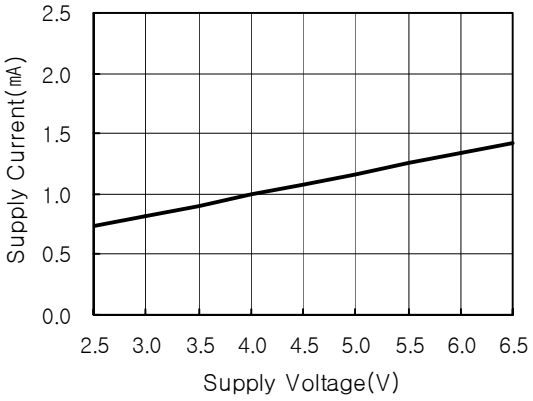


[Measurement condition for arrival distance]

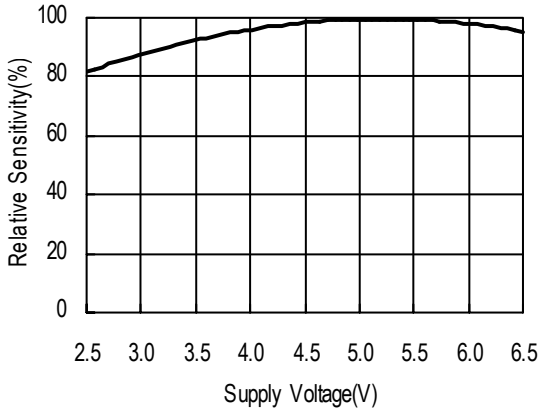
Ambient light source : Detecting surface illumination shall be irradiate 200±50Lux under ordinary white fluorescence lamp without high frequency lighting

Electrical/Optical Characteristics

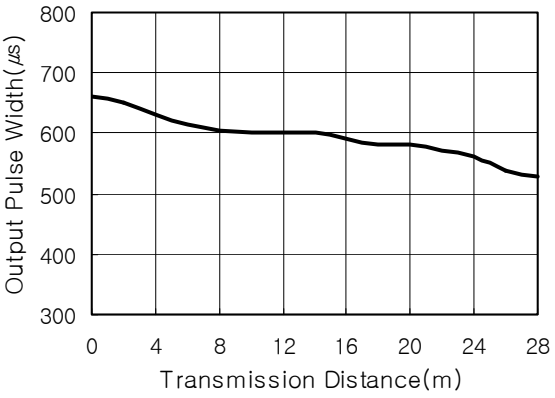
[Fig.4] Supply Current vs. Voltage



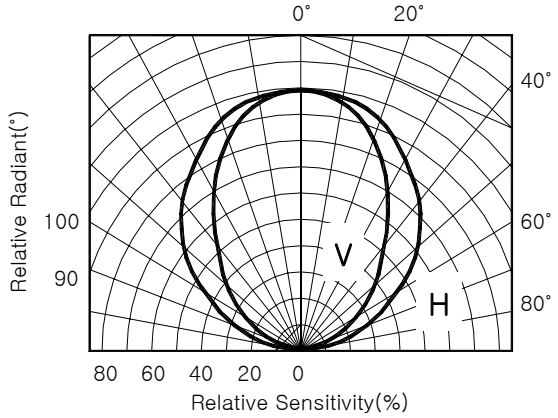
[Fig.5] Sensitivity vs. Supply Voltage



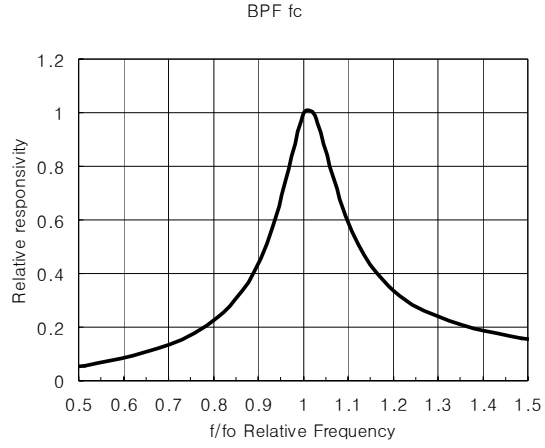
[Fig.6] Output Pulse Width vs. Distance



[Fig.7] Directivity (Horizontal)



[Fig.8] BPF Fc Curve



ESD Test Results

Parameter	Conditions	Specification	Results
Machine Model	C=200pF, R=0Ω	Min ±200V	>±200V
Human Body Model	C=100pF, R=1.5kΩ	Min ±2000V	>±2000V
Charged Device Model	R=100MΩ, 1Ω	Min ±800V	>±800V