

东莞东颖光电科技有限公司

DONGGUAN DONG YING OPTOELECTRONICS TECHNOLOGY CO.,LTD.

样品承认书

SPECIFICATION FOR APPROVAL

客户名 Customer	
品名 Product Name	
编号 Version number	
规格 Dimension	
材质 Texture of material	
数量 Number	
日期 Date	

制造确认 Product confirm and sign

工程部	制作部	品质部	审核	签章

检查结果

INSPECT RESULT

☐ 合格

ACCEPT

☐ 不合格

REJECT

客户确认 Customer confirm and sign

工程部	品管部	审核	确认	签章

检查结果

INSPECT RESULT

☐ 合格

ACCEPT

☐ 不合格

REJECT

说明 REMARK:

■样品 (sample)

产品名: _____

物料编号: _____

检验员: _____

日期: _____

IR Receiver Modules for Remote Control Systems

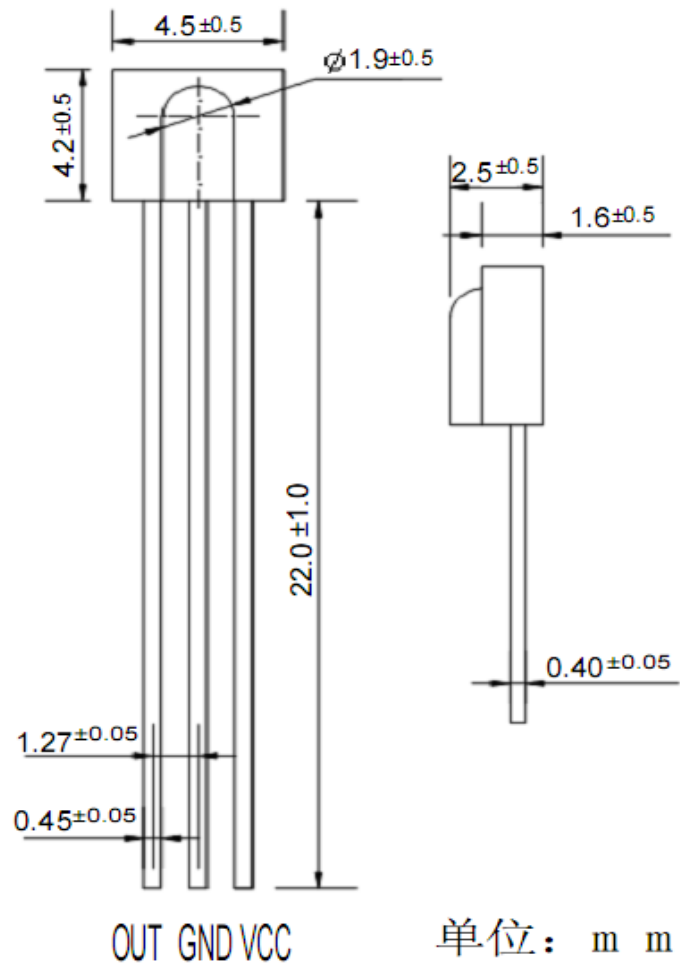
Description

The DY-1438BD-9 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.

Features

- ◆ Supply Voltage Range: 2.7V to 5.5 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

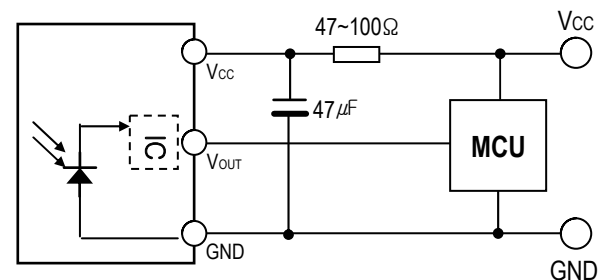
Dimensions



Applications

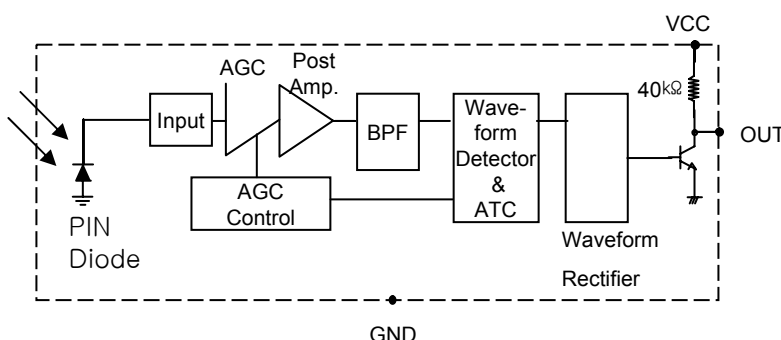
- ◆ Audio video applications
- ◆ Home appliances
- ◆ Toy applications
- ◆ Remote control equipment

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	2.7	5.0	5.5	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

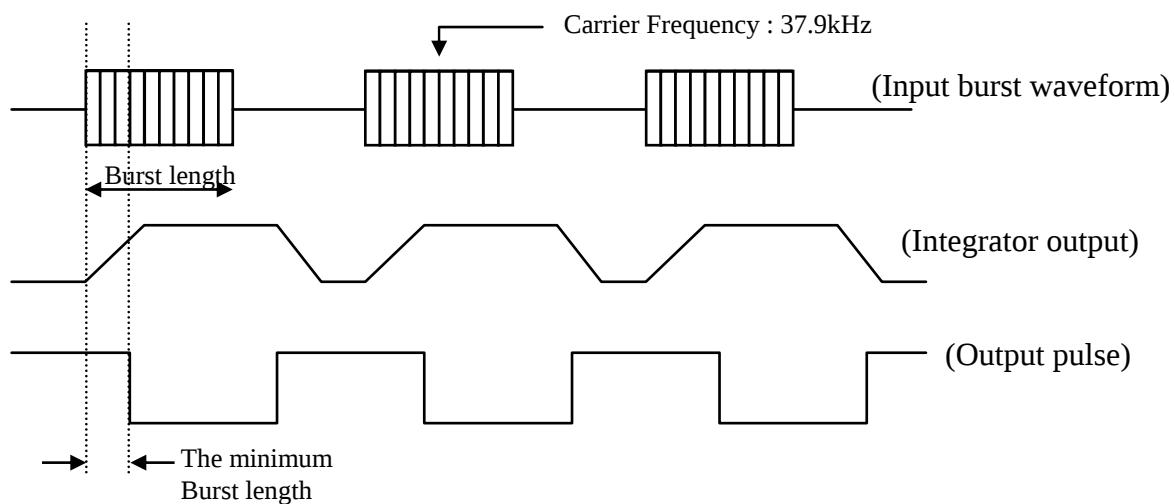
Specifications hold over the Recommended Operating Conditions, unless otherwise noted herein.

All values are at 25 and Vcc=3.0V/5.0V

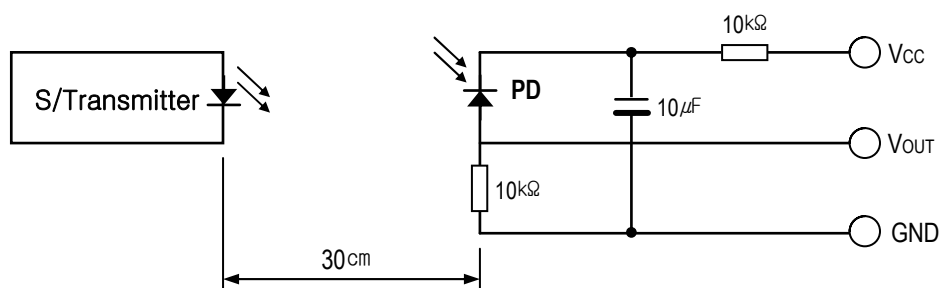
(Ta = 25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Supply Current	Icc	--	0.9	1.5	mA	Iin=0 μA, Vcc=3V
			1.0	1.5	mA	Iin=0 μA, Vcc=5V
Max. Voltage gain	Av	75	80	85	dB	fin=37.9kHz, Vin=30μVp-p
BPF Bandwidth	fBW	3.5	6.0	8.5	kHz	-3dB Bandwidth Vin=30μVp-p
Output pulse width	tpW1	500	-	800	μs	fin=37.9kHz, burst wave Vin=500 μVp-p note*1
	tpW2	500	-	800	μs	fin=37.9kHz, burst wave Vin= 50mVp-p note*1
Low level output voltage	VOL	-	0.2	0.4	V	Isink=2.0mA
High level output voltage	VOH	2.7	3.0	-	V	Vcc=3V
		4.7	5.0	-	V	Vcc=5V

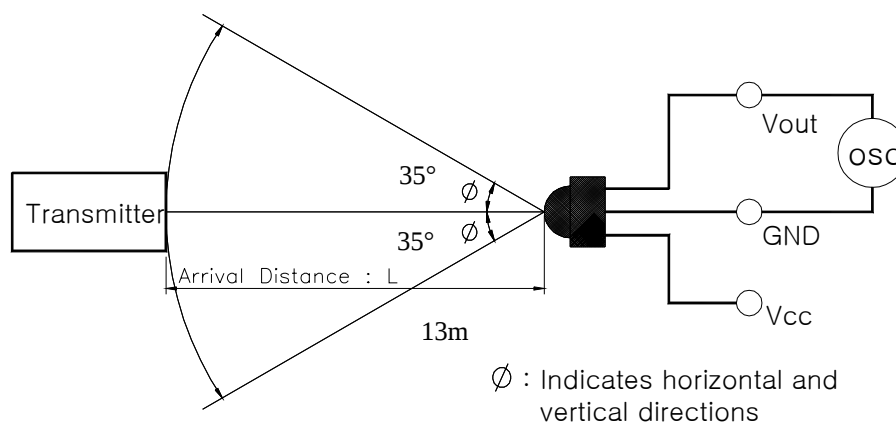
[Fig. 1] Data Signal diagram



[Fig.2] Transmitter



[Fig.3] Test condition of arrival distance

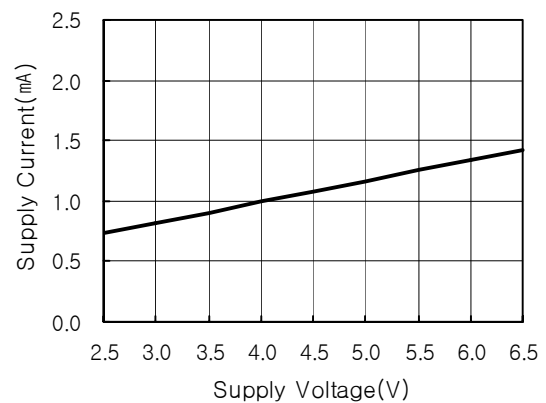


[Measurement condition for arrival distance]

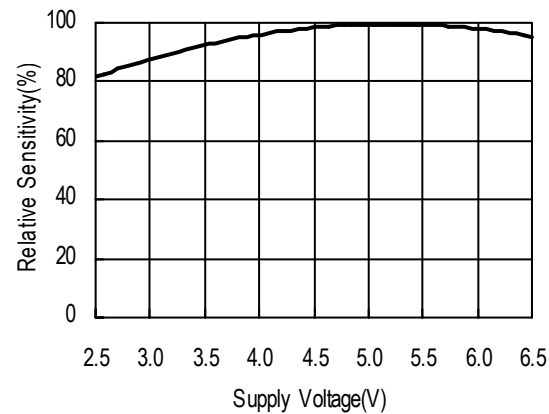
Ambient light source : Detecting surface illumination shall be irradiate $200 \pm 50\text{Lux}$ under ordinary white fluorescence lamp without high frequency lighting

Electrical/Optical Characteristics

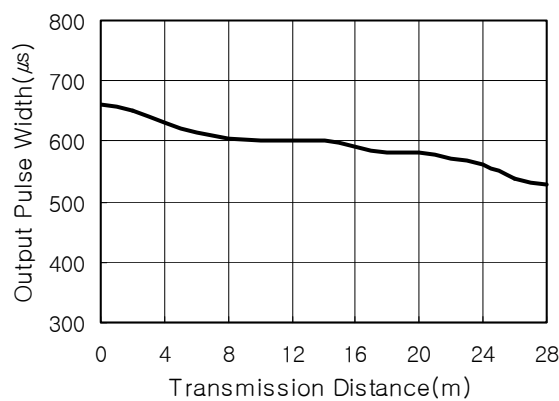
[Fig.4] Supply Current vs. Voltage



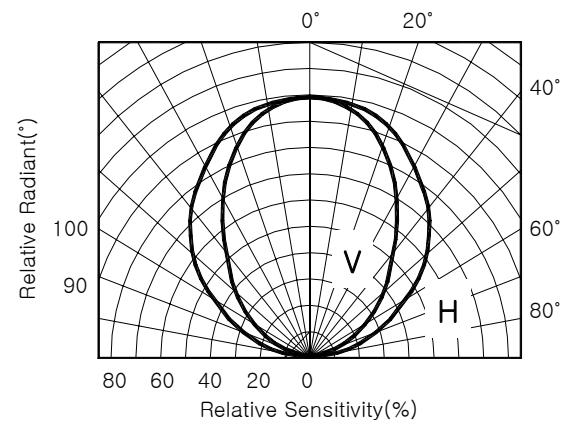
[Fig.5] Sensitivity vs. Supply Voltage



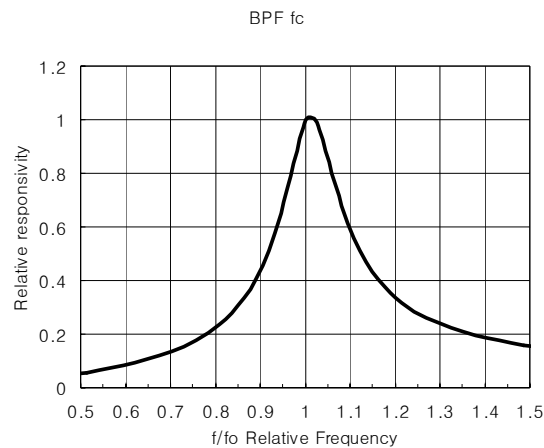
[Fig.6] Output Pulse Width vs. Distance



[Fig.7] Directivity (Horizontal)



[Fig.8] BPF Fc Curve



ESD Test Results DXJ

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