



DONGGUAN PENGYUAN OPTOELECTRONICS TECHNOLOGY CO., LTD

东莞市鹏远光电科技有限公司

TEL:0769-81208888 81732500 87711337 FAX:0769-87711335

承认书

Specification for Approval

客户名称 (Customer Name): _____

产品编号 (Product ID): **PY-0038B**

产品型号 (Product Model): _____

产品规格 (Product Specifications): **0038B IR Receiver**

送样日期 (Date): _____

样品单号: _____

客户确认 (Customer acknowledges that)			鹏远光电 (Peng Yuan Optoelectronics)		
核准	审核	确认	业务	工程	制作
Approved	Audit	Confirm	Business	Engineering	Make
			Becky Yan		

客户确认 (Customer acknowledges that): 合格 Qualified ☐ 不合格 Failure ☐

客户意见 (Customer feedback):

客户第一 质量第一 服务第一

Customer first, quality first, service first

地址: 广东省东莞市石龙镇黄州工业区

Address: Huangzhou Industrial Zone, Shilong Town, Dongguan City, Guangdong Province, China

网址: www.gdpengyuan.com



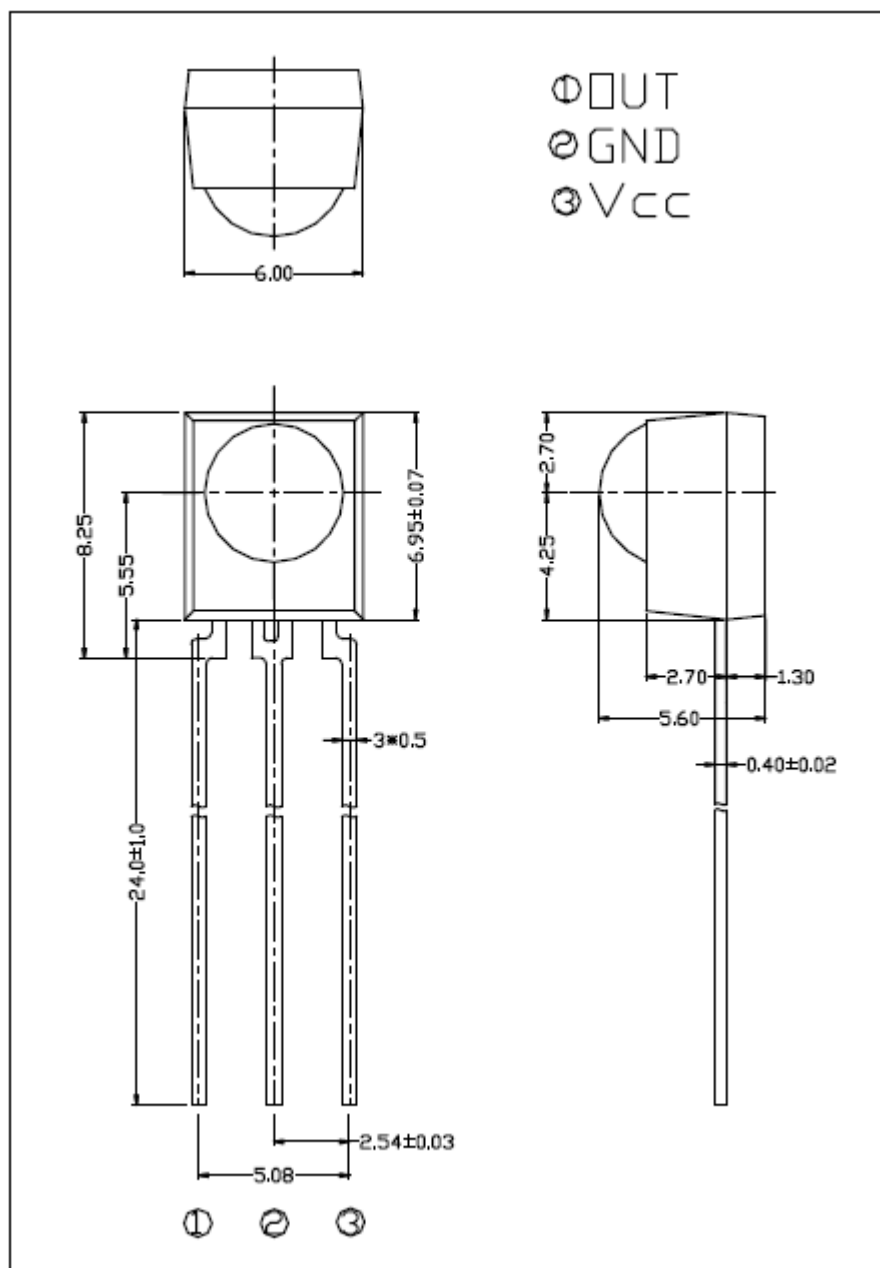
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产品型号 Product Model: **PY-0038B**

尺寸 Dimensions: 单位 Unit: 毫米 mm [英寸] [inch]



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Description

The IRM-0038B 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

Applications

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

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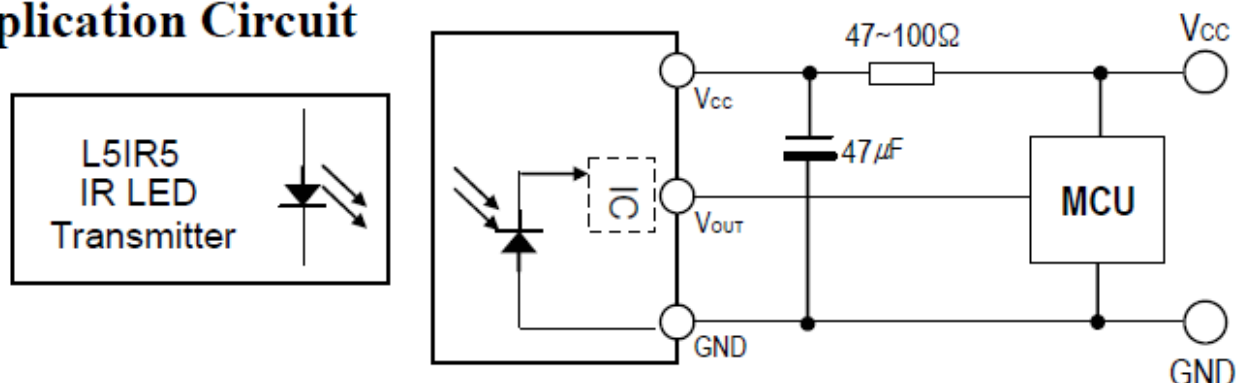


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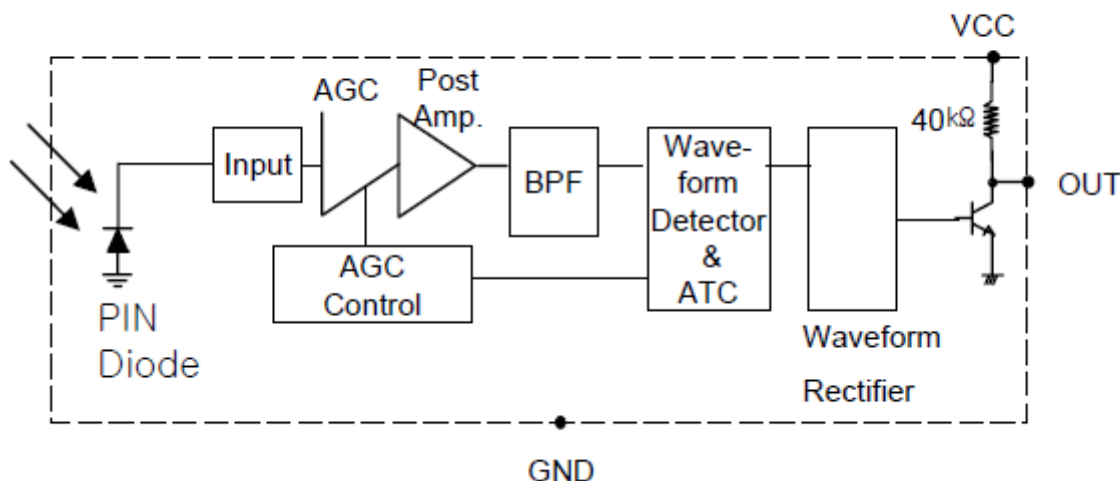
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Application Circuit



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

Block Diagram



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Recommended Operating Conditions

(Ta = 25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Operating Voltage	Vcc	2.7	5.0	5.5	V	
Input Frequency	f _{in}		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	I _{out}	0	2.5	mA	
Storage Temperature	T _{st}	-20	80	℃	
Soldering Temperature	T _{sd}	260℃±5℃		℃	Max 5 sec

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Electro-optical Characteristics

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

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

(Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Supply Current	Icc	--	0.9	1.5	mA	Iin=0 • ; Vcc=3V
			1.0	1.5	mA	Iin=0 • ; Vcc=5V
Max. Voltage gain	Av	75	80	85	dB	fin=37.9kHz, Vin=30• p-p
BPF Bandwidth	fbw	3.5	6.0	8.5	kHz	-3dB Bandwidth Vin=30• p-p
Output pulse width	tpw1	500	-	800	• •	fin=37.9kHz, burst wave Vin=500• p-p note*1
	tpw2	500	-	800	• •	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

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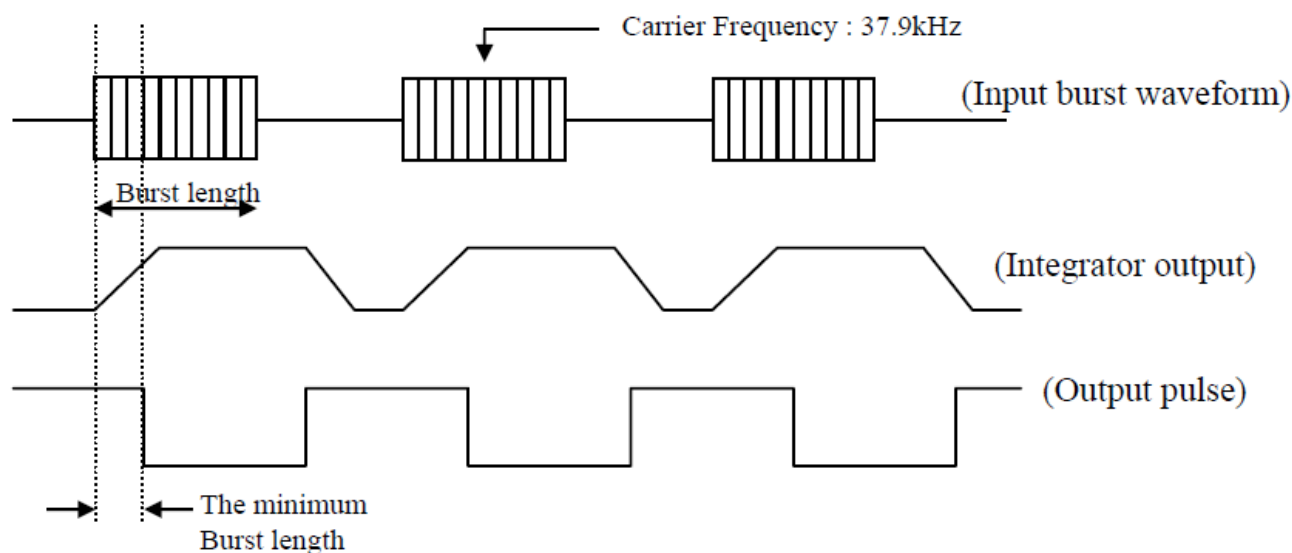


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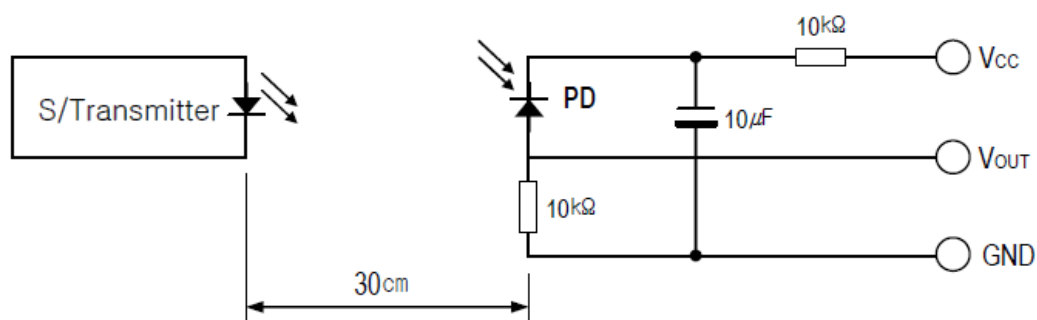
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[Fig. 1] Data Signal diagram



[Fig.2] Transmitter



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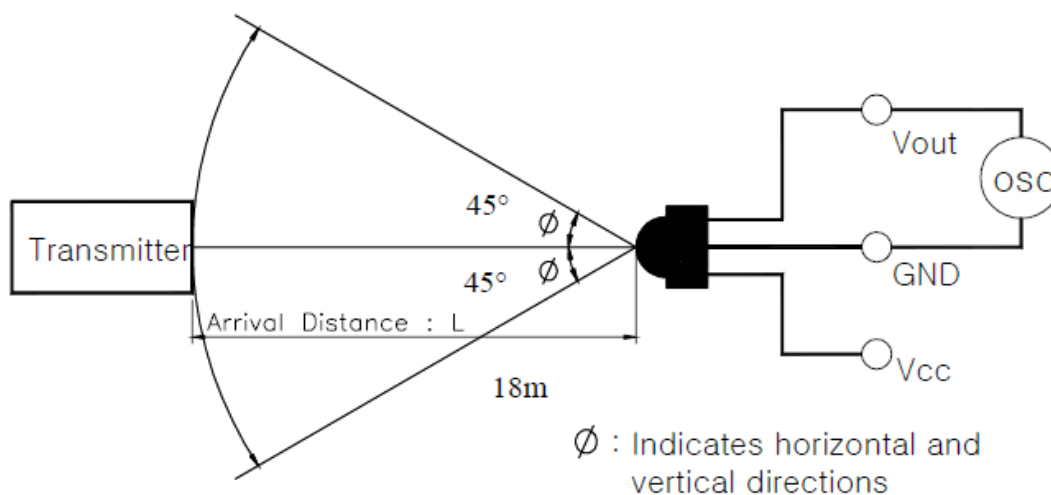


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[Fig.3] Test condition of arrival distance

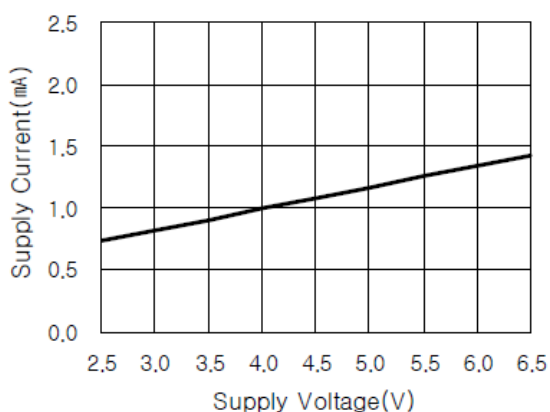


[Measurement condition for arrival distance]

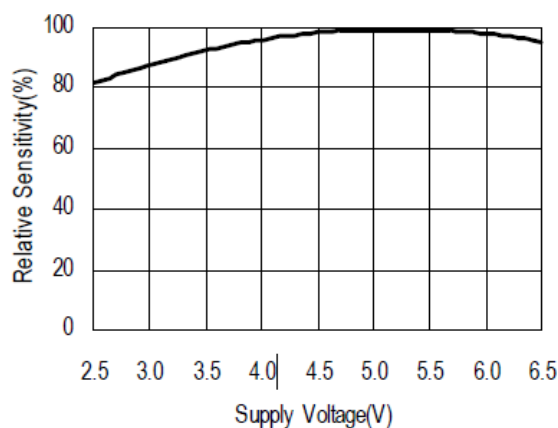
Ambient light source : Detecting surface illumination shall be irradiate $200 \pm 50 \text{ Lux}$ under ordinary white fluorescence lamp without high frequency lighting

Electrical/Optical Characteristics

[Fig.4] Supply Current vs. Voltage



[Fig.5] Sensitivity vs. Supply Voltage



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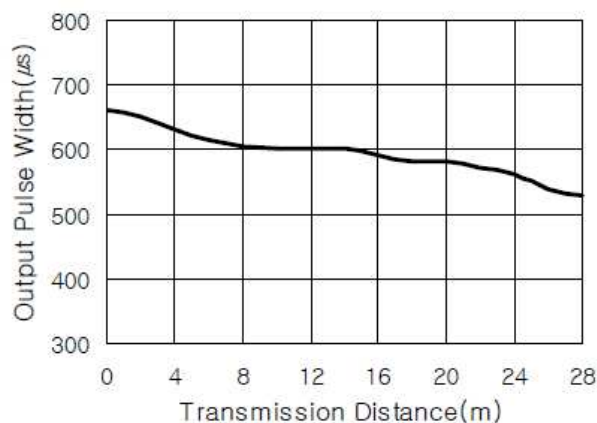


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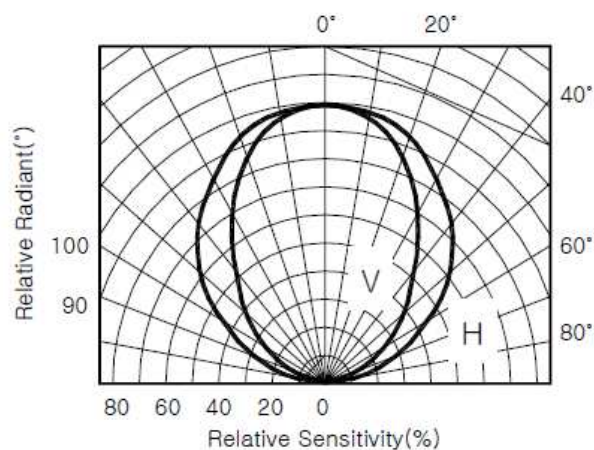
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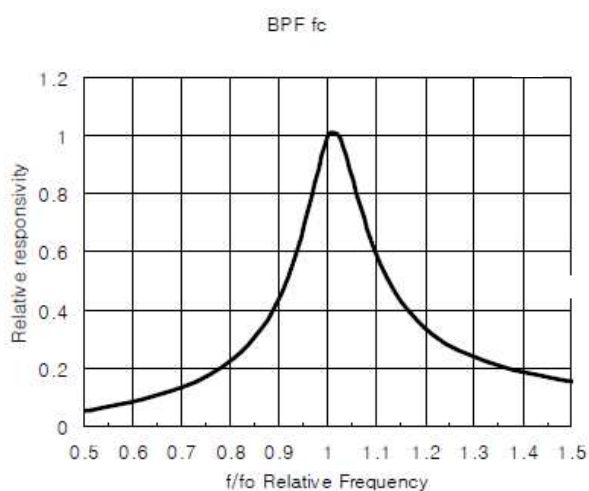
[Fig.6] Output Pulse Width vs. Distance



[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

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