

Infrared Receiver Module

0-04-04-26 Preliminary

Super strong immunity against noise Module No.: PIC-2031SB

1. Features:

- Miniature size
- Built-in exclusive IC
- Wide half angle & long reception distance
- Good noise-proof capability
- High immunity against ambient light
- High protection ability to EMI
- Back Metal Cover
- Side view

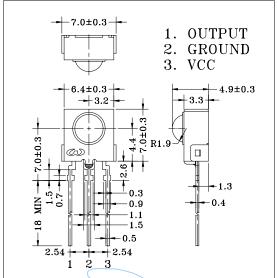
Parameter

Hole type without mesh

2. Applications

- AV instruments (Audio, TV, VCR, CD player)
- Home appliances (Air-conditioner, Fan, Light.)
- Remote control for wireless devices

Dimensions



3. Absolute Maximum Ratings

tings		(Ta	=25°C)	\
Symbol	Ratings		Unit	
Vcc /	6.0		V	١,
Topr	-10 ~ +60		°C /	/

Supply Voltage	Vcc /	6.0	/ V
Operating Temperature	Topr	-10 ~ +60	°C /
Storage Temperature	Tstg	-20 ~ +75	°C
Soldering Temperature *1	Tsol	240	°C
*1 A1 '.' CO C .1 1	6.1	-1	

^{*1} At the position of 2mm from the bottom of the package within 5 seconds.

4. Electro-optical Characteristics

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Parameter	Symbol	Conditions	Min.	Тур.	Max.	Unit
Supply voltage	Vcc		4.5		5.5	V
Current Consumption	Icc	Input Signal $= 0$	0.7	1.0	1.5	mA
Reception Distance	d	Standard Signal	7	15		m
Half Angle	Δθ			±45		deg
B.P.F. Center Frequency	Fo			37.9		kHz
Peak Wavelength	λр			940		nm
Signal Output	So		Active Low			
High Level Output Voltage	Voh		Vcc-0.5			V
Low Level Output Voltage	Vol			0.2	0.4	V
High Level Pulse Width	Twh	Daniel Waxa = 600.13	500	600	700	μs
Low Level Pulse Width	Twl	Burst Wave = $600 \mu s$	500	600	700	μs

5. Reliability Test Items

I	~-	=25'	\circ
(1	a-	-23	°C)

2.110110001110		(14 =0 0)
Test Items	Test Conditions	Ratings
High Temperature Storage	Ta=60°C, Vcc=5.0V	t=240hr.
Low Temperature Storage	Ta=-10°C, Vcc=5.0V	t=240hr.
High Temperature High Humid Storage	Ta=60°C, 90%RH, Vcc=5.0V	t=240hr.
Temperature Cycling	-20°C (30min) ~ +75°C (30min)	20 cycles
Soldering Heat	240±5°C	5 sec.



Infrared Receiver Module

Module No.: PIC-2031SB Relative Reception Distance vs

Transmitter Carrier Frequency
(%)
100
80
60
d
40
20

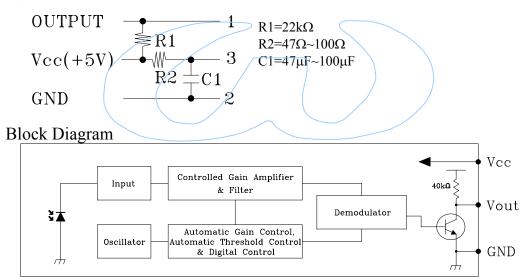
40 fo 50 60 70 80 (kHz)

0 10 20 30

Relative Sensitivity (%)

In case of noisy power supply, please serially insert 100Ω resistor and about $47\mu F$ electrolytic capacitor in Vcc line and ground as follows:-

100



Standard Inspection

Among electrical characteristics, total quantity will be inspected as below:-

- Distance between emitter and detector
- Current consumption
- H level output voltage
- L level output voltage

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Testing Method

Distance between emitter and detector specifies maximum distance that output waveform satisfies the standard (FIG-3) under the conditions below against the standard transmitter.

- a. Measuring place
 Indoor without extreme reflection of light.
- b. Ambient light source
 Detecting surface illumination is
 200±5Lux under ordinary white
 fluorescence lamp of no high
 frequency lightning.
- c. Standard transmitter

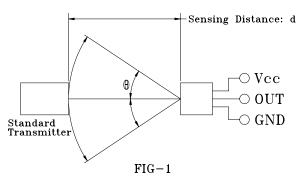
 Transmitter wave indicated in

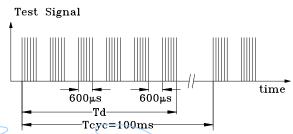
 FIG-2 of standard transmitter is

 arranged to satisfy Vo≥50mVp-p

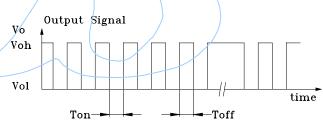
 under the measuring circuit

 specified in FIG-3





Tcyc-Td>25ms is recommended for optimal function



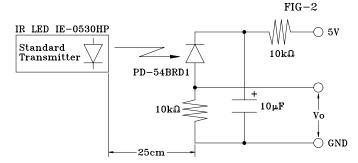


FIG-3 Power Output Measurement Circuit

Precautions for Use

- a. Store and use where there is no force causing transformation or change in quality.
- b. Store and use where there is no corrosive gas or sea (salt) breeze.
- c. Store and use where there is no extreme humidity.
- d. Solder the lead pin within the condition of ratings. After soldering, do not add exterior force.
- e. Do not wash this device. Wipe the stains of diode side with a soft cloth. You can use the solvent, ethyl alcohol, or methyl alcohol only.
- f. To prevent static electricity damage to the pre-amp, make sure that the human body, the soldering iron are connected to ground before using.