WAITRONY 慧創就

Infrared Receiver Module

5-06-11-24

Module No.: PIC-1018SMB

High immunity against noise

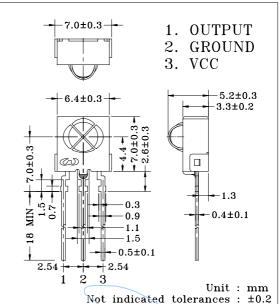
1. Features:

- ➤ 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
- > Mesh
- ➤ Wide voltage operating: 2.4V ~ 6.5V

2. Applications

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

Dimensions



(Tc-25°C)

3. Absolute Maximum Ratings

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Parameter		Symbol /	Ratings	Unit
Supply Voltage		Vcc	7.0	V
Operating Temperature		Topr	-10 ~ +60	°C/
Storage Temperature		Tstg	-20 ~ +75	$^{\circ}$ C
Soldering Temperature 3	^k 1	Tsol	260	°C

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

4. Electro-optical Characteristics

 $(Ta=25^{\circ}C)$

Parameter	Symbol	Conditions	Min.	Тур.	Max.	Unit
Supply voltage	Vcc		2.4	3.0	6.5	V
Current Consumption	Icc	Input Signal $= 0$		0.8	1.5	mA
Reception Distance	d	200±5Lux, Vcc=3V	10	16		m
Half Angle	$\Delta\theta$			±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	Burst Wave = 600µs	500	600	700	μs
Low Level Pulse Width	Twl	buist wave = 600μs	500	600	700	μs

5. Reliability Test Items

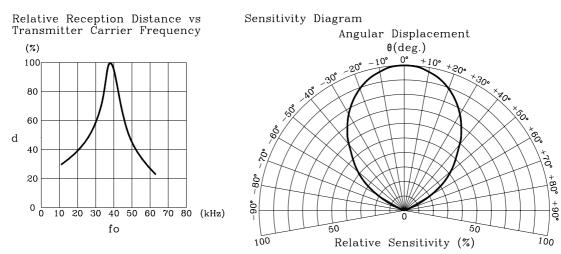
(Ta=25°C)

5. Iteliaeliity Test Iteliis		(1u-25 C)
Test Items	Test Conditions	Ratings
High Temperature Storage	Ta=60°C, Vcc=3.0V	t=240hr.
Low Temperature Storage	Ta=-10°C, Vcc=3.0V	t=240hr.
High Temperature High Humid Storage	Ta=40°C, 90%RH, Vcc=3.0V	t=240hr.
Temperature Cycling	-20°C (30min) ~ +75°C (30min)	20 cycles
Soldering Heat	260±5°C	5 sec.

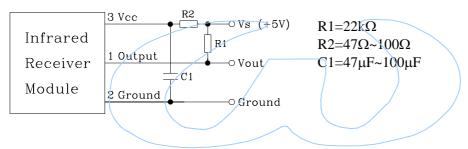
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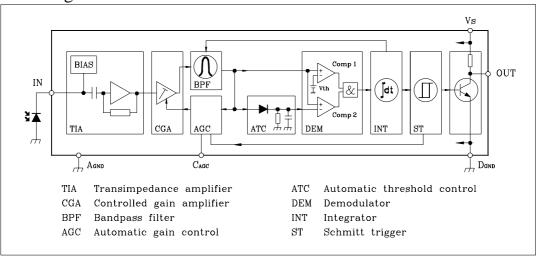
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In case of noisy power supply, please serially insert 100Ω resistor and about $47\mu F$ electrolytic capacitor in Vcc line and ground as follows:-



Block Diagram



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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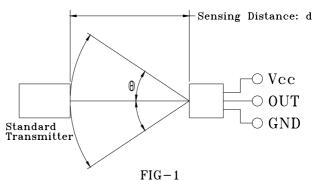
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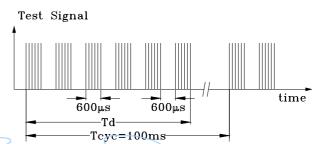
Testing Method

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

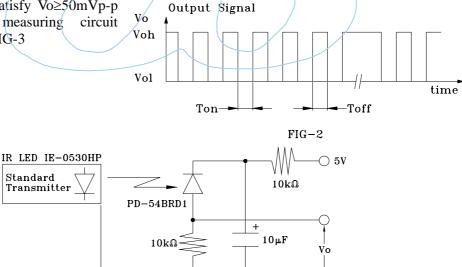


FIG-3 Power Output Measurement Circuit

Precautions for Use

a. Store and use where there is no force causing transformation or change in quality.

25cm

- 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.