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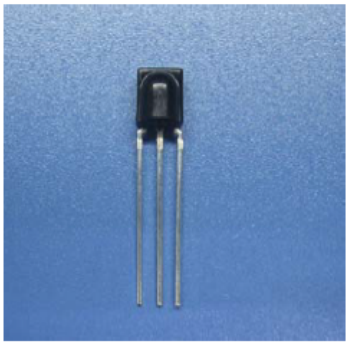
YT-CCYE81IL

IR Receiver Modules for Remote Control Systems



Features

- Within the shielding,high protection ability against EMI
- Wide voltage operating: 2.7V~5.5V
- Wide half angle & long reception distance
- Automatic supply voltage adaptation
- Enhanced immunity against all kind of disturbance light
- TTL and CMOS compatibility
- Automatic sensitivity adaptation(AGC) and automatic Strong signal adaptation (ATC)
- Automatic bias control for sunlight

Applications

- AV equipment (TV, DVD Player, VCR, Audio, CD player, STB, etc)
- Home appliances (Camera, Computer Air Conditioner, Fan, light, etc)
- Infrared remote control Toys.

Center frequency

- **37.9 KHz**

Electro-optical Characteristics

(Ta=25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Supply Voltage	Vcc		2.7		5.5	V
Supply Current	Icc	No Input Signal	0.1	0.25	0.4	mA
Reception Distance	d	200±50Lux | Vcc=3.0V	12	20		m
Half Angle (Horizontal)	Δθh			±45		deg
Half Angle (Vertical)	Δθv			±45		deg
B.P.F. Center Frequency	Fo			37.9		KHz
Peak Wavelength	λp			940		nm
Signal Output	So		--- Active Low ---			
High Level Output Voltage	Voh		VDD-0.3		VDD	V
Low Level Output Voltage	Vol				0.4	V
High Level Pulse Width	Twh	Burst Wave = 600μs	400	--	800	μs
Low Level Pulse Width	Twl	Burst Wave = 600μs	400	--	800	μs

Absolute Maximum

(Ta=25°C)

Parameter	Symbol	Ratings	Unit
Supply Voltage	Vcc	6.0	V
Operating Temperature	Topr	-25~ +80	°C
Storage Temperature	Tstg	-40 ~ +85	°C
Soldering Temperature *1	Tsol	260	°C

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

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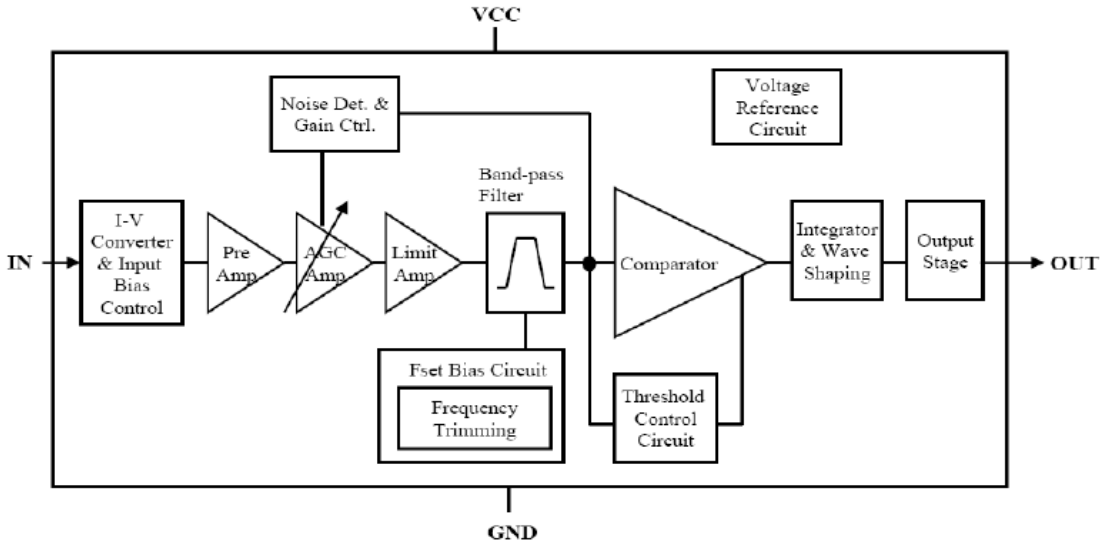
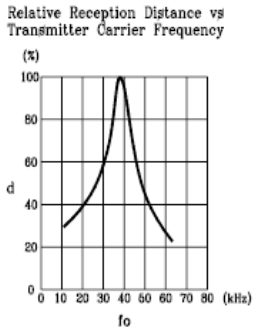
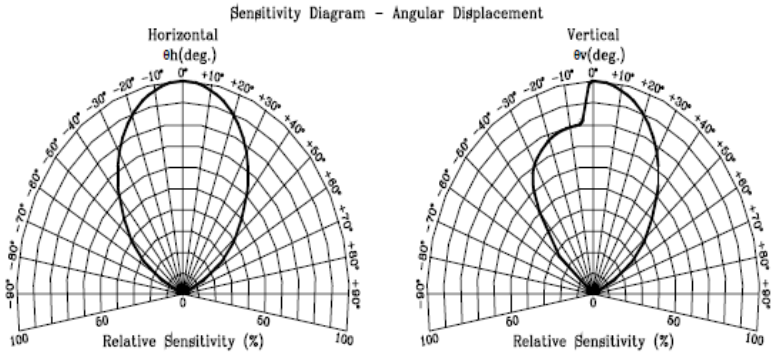
Block Diagram



Reliability Test Items

Test Items	Test Conditions	Ratings
High Temperature Storage	Ta=+85°C, Vcc=3.0V	t=240hr.
Low Temperature Storage	Ta=-40°C, Vcc=3.0V	t=240hr.
High Temperature High Humid Storage	Ta=40°C, 90%RH, Vcc=3.0V	t=240hr.
Temperature Cycling	-40°C (30min) ~ +85°C (30min)	20cycles test





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

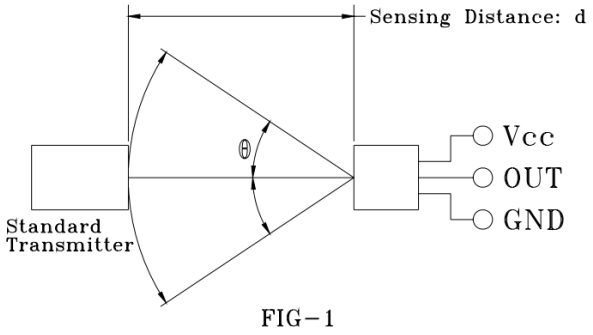
Testing Method

Distance between emitter and detector specifies maximum distance that output waveform satisfies the standar (FIG-1) under the conditions below against the standard transmitter.

a. Measuring place
   Indoor without extreme reflection of light.

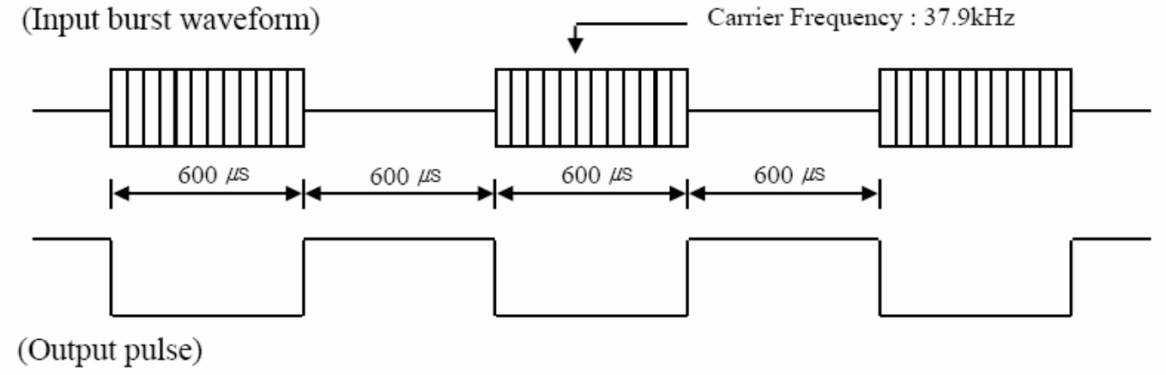
b. Ambient light source
   Detecting surface illumination is 200±50Lux under ordinary white fluorescence lamp of no high frequency lightning.

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



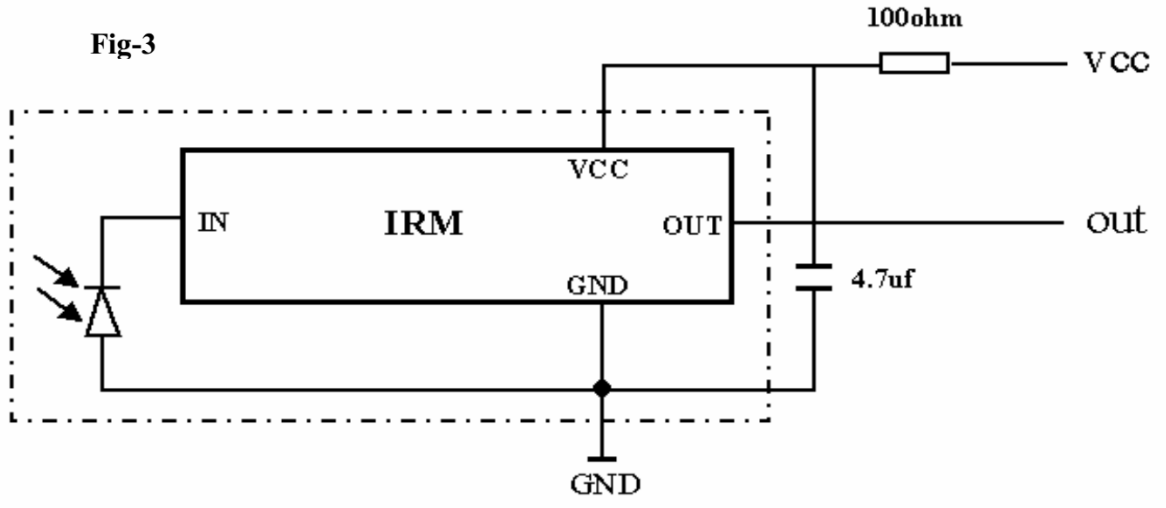
FIG－1

Fig-2



Application Guide

Fig-3



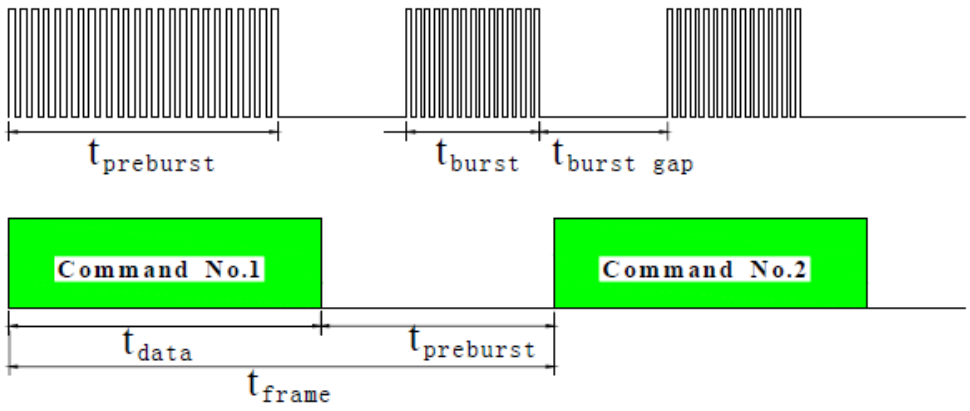
Application Guide

1. Acceptable code list

IR Code	Acceptable
NEC	O
RC5 Philips	O
RC6 Philips	X
RCA Thomson	X
Toshiba	O
Sharp	O
Sony 12Bit	O
Sony 15Bit	X
Sony 20Bit	X
Matsushita	O
Mitsubisti	X
Zenith	O
JVC	X
Continuous code	X
High Data code	X

2. Suitable data format

Minimum Burst Lengh t_{burst} (number of pulses per burst)	12 pulses
Minimum Burst Gap time $t_{burst-gap}$ (number of pulses per burst) betwee two burst	16 pulses
Minimum data pause time	25ms



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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, don't 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.

Package Dimensions