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## YD-T2FN81IL

### IR Receiver Modules for Remote Control Systems

Within the Shielding ,High protection ability against

Wide voltage operating: 2.7V~5.5V ◦

Wide half angle & long reception distance



### Absolute Maximum Ratings

Parameter	Symbol	Maximum Rating	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

### Electro-Optical Characteristics (Ta = 25°C)

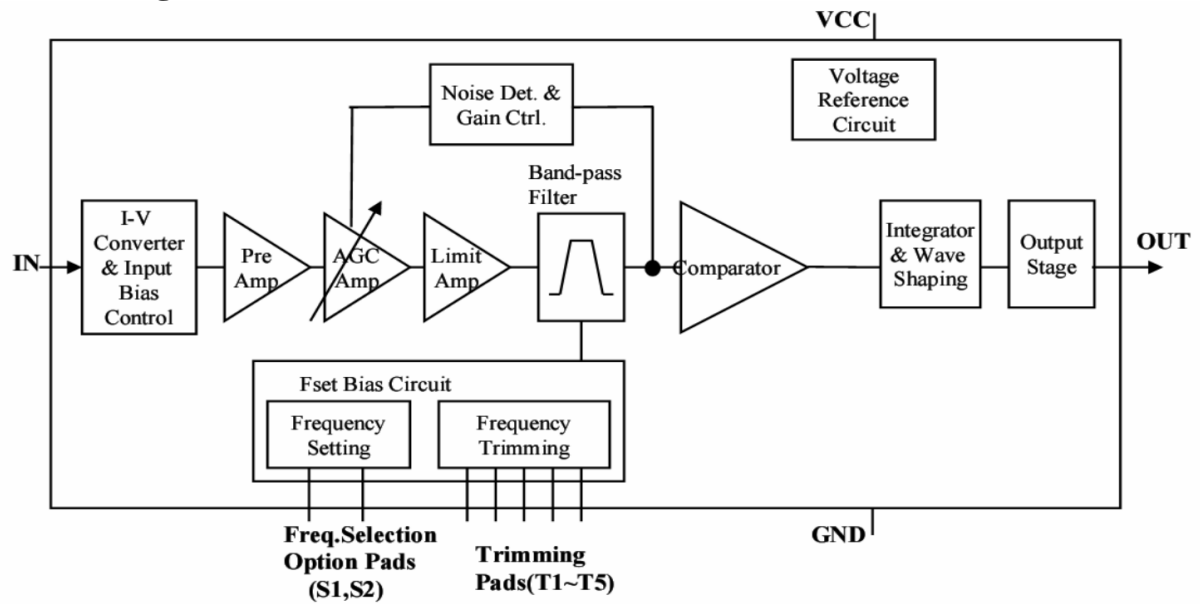
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Supply Voltage	Vcc		2.7		5.5	V
Supply Current	Icc	No Input Signal	0.5	1.0	1.5	mA
Reception Distance	d	200±50Lux Vcc=3.0V	10	20		m
Half Angle (Horizontal)	$\Delta \theta h$			±45		deg
Half Angle (Vertical)	$\Delta \theta v$			±45		deg
B.P.F. Center Frequency	Fo			37.9		KHz
Peak Wavelength	$\lambda p$			940		nm
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=600 $\mu s$	400		800	$\mu s$
Low Level Pulse Width	Twl	Burst Wave=600 $\mu s$	400		800	$\mu s$

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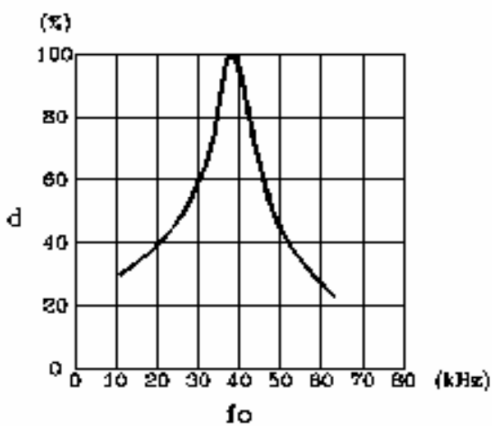
## Block Diagram



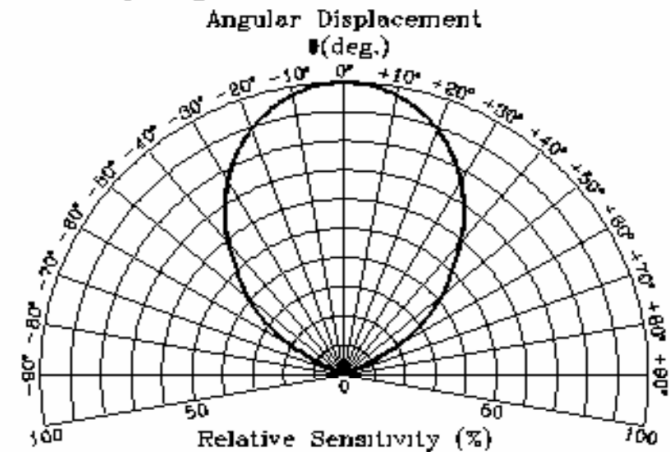
## Reliability Test Items

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

Relative Reception Distance vs Transmitter Carrier Frequency



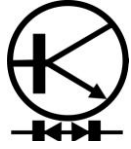
Sensitivity Diagram



## 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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## Testing Method

Distance between emitter and detector specifies maximum distance that output waveform satisfies the standard (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  $200 \pm 50$  Lux 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  $V_o \geq 50$  mVp-p under the measuring circuit specified in FIG-3

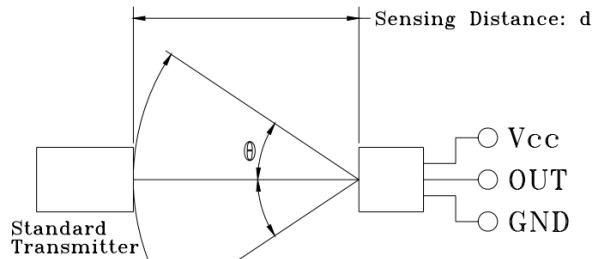
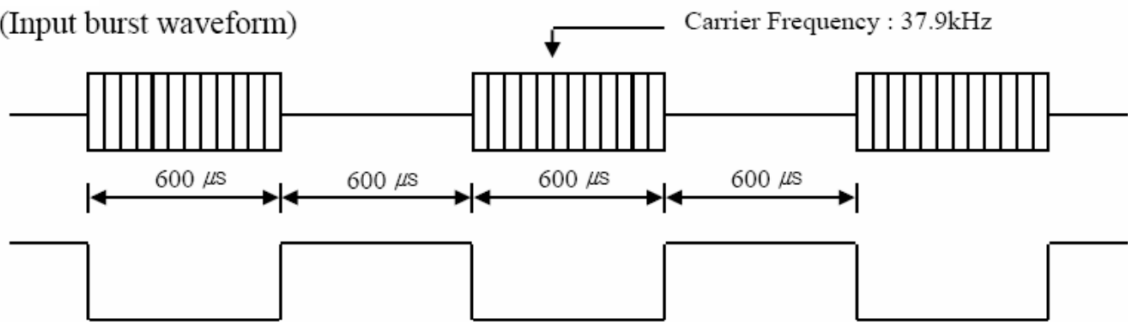


FIG-1

Fig-2

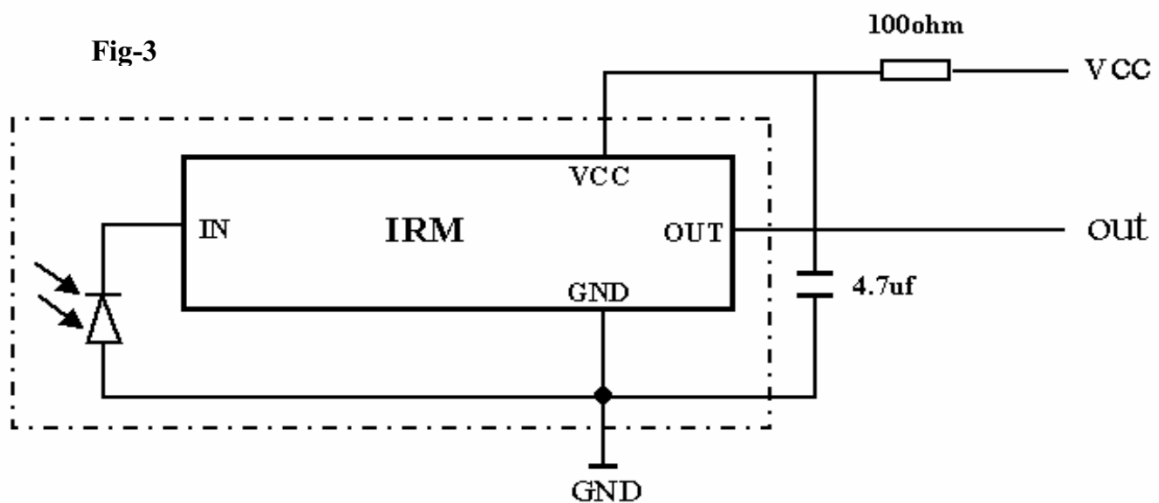
(Input burst waveform)



(Output pulse)

## Application Guide

Fig-3





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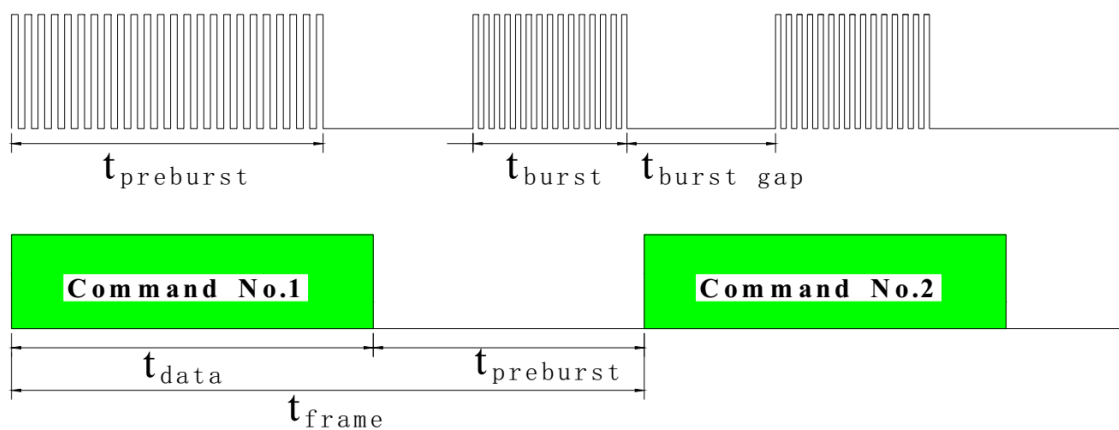
## Application Guide

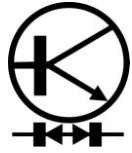
### 1. Acceptable code list

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 Length $t_{burst}$ (number of pulses per burst)	10 pulses
Minimum Burst Gap time $t_{burst-gap}$ (number of pulses per burst) between two burst	14 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

