

INFRARED REMOTE CONTROL RECEIVER

■ GENERAL DESCRIPTION

NJL35V/38H000 series are small and high performance receiving devices for infrared remote control system. They can operate under low and wide supply voltage (2.7V to 5.5V). NJL35V/38H000 series are mesh window type to improve EMI characteristic. Even under strong EMI noise condition such as TV, Air-conditioner, etc., NJL25V/28H000 series can work normally.

■ FEATURES

1. Wide and low supply voltage 2.7V to 5.5V
2. Low supply current 0.43mA typ. $V_{cc}=3.3V$
3. Metal case type with mesh window
4. Line-up for various center carrier frequencies

■ APPLICATIONS

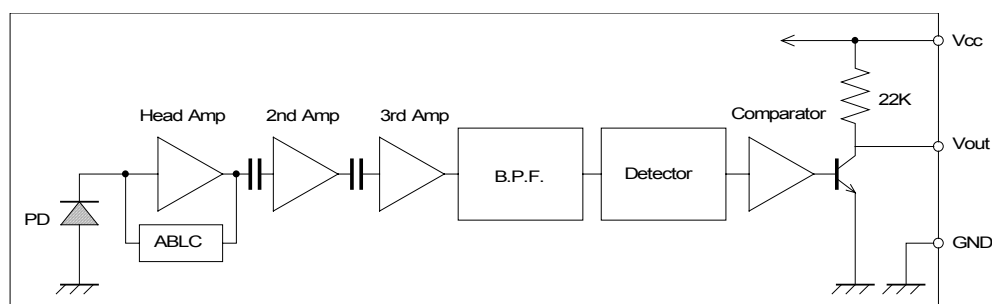
1. Home application such as Room light Air-conditioner, etc.
2. AV instruments such as Audio, TV, DVD, STB etc.

■ LINE-UP

View Type	Side	Top
Height		
Carrier Frequency	15.6mm	15mm
fo= 36 kHz	NJL35V360	NJL38H360
36.7 kHz	NJL35V367	NJL38H367
38 kHz	NJL35V380	NJL38H380
40 kHz	NJL35V400	NJL38H400

Regarding the other frequency or packages, please contact to New JRC individually.

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{cc}	6.3	V
Operating Temperature Range	T_{opr}	-30 to +80	°C
Storage Temperature Range	T_{stg}	-40 to +85	°C
Soldering Temperature	T_{sol}	260 (5sec. 4.0mm from mold body)	°C

RECOMMENDED OPERATING CONDITION

Supply Voltage Range V_{CC} 2.7 V to 5.5V

ELECTRO-OPTICAL CHARACTERISTICS ($V_{CC}=3.3V$, $T_a=25^\circ C$)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Supply Current	I_{CC}	No Signal Input	—	0.43	0.56	mA
Transmission Distance	L_c	Direction of Ray Axis *1	10	15	—	m
Directivity	θ_L	Angle of half L_c , Horizontal *2	—	45	—	deg
	θ_V	Angle of half L_c , Vertical *2	—	30	—	deg
Output Voltage Low	V_L	No Load	—	0.2	0.5	V
Output Voltage High	V_H	No Load	2.8	—	—	V
Low Level Pulse Width	T_{WL}	See Test Circuit	400	—	950	μs
High Level Pulse Width	T_{WH}	See Test Circuit	250	—	800	μs
Center Carrier Frequency	f_o	See Line-up	—	*3	—	kHz

Note *1: Test with each center carrier frequency under the test condition shown below.

*2: Place major axis of elliptic lens in horizontal direction and minor vertical.

*3: Four types of frequency : 36.0, 36.7, 38.0, 40.0KHz

TEST METHOD

Test condition is as follows:

(1) Standard transmitter:

Transmitting waveform is shown in Fig.1

Transmitting power should be adjusted

so that output voltage V_{out} will be

400mVp-p. (Test circuit is shown in Fig.2)

Regarding IR LED used for transmitter,

$\lambda_p=940nm$, $\Delta\lambda=50nm$.

Regarding photo diode,

Sensitivity $S=26nA/Lx$

in case light source temperature $2856^\circ K$,

$E_e=100Lx$, $V_R=5V$

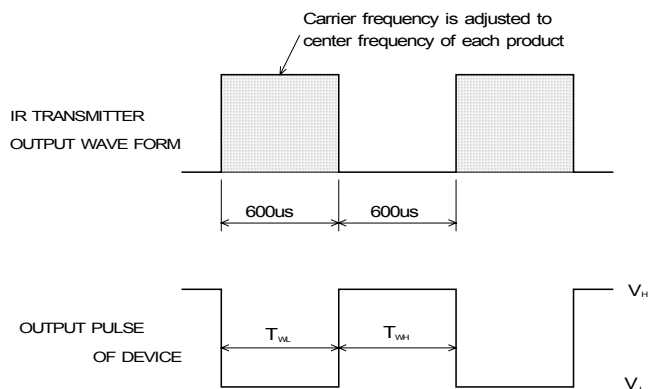


Fig.1 TRANSMITTER WAVE FORM

(2) Test system: Shown in Fig.3.

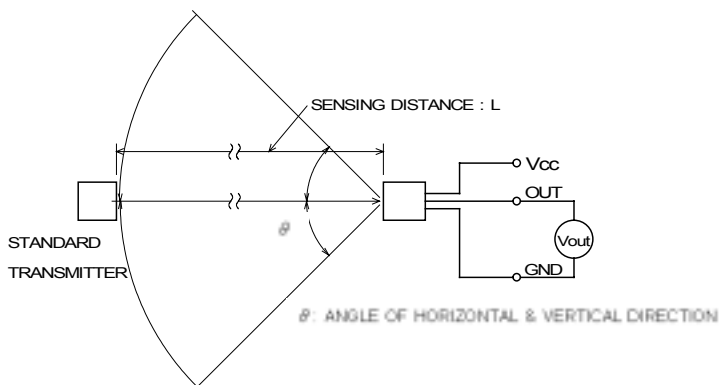


Fig.3 TEST SYSTEM

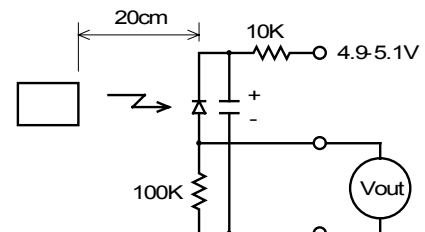
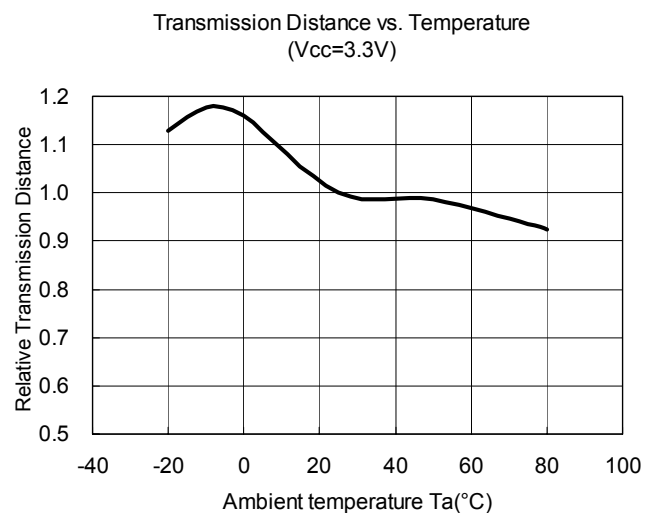
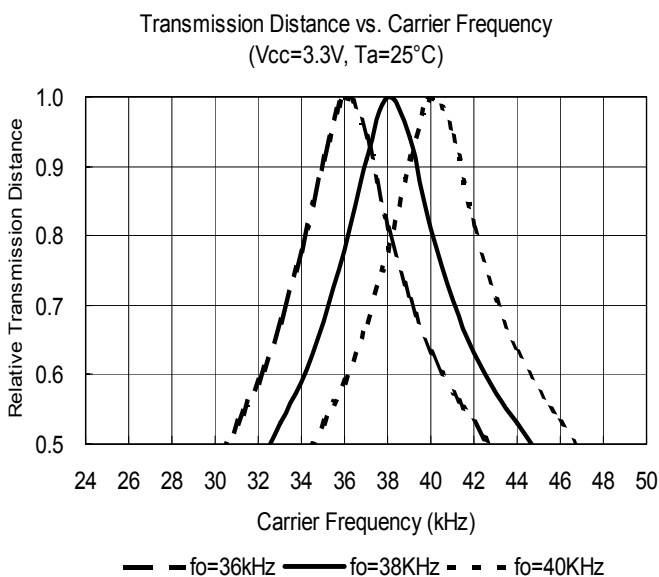
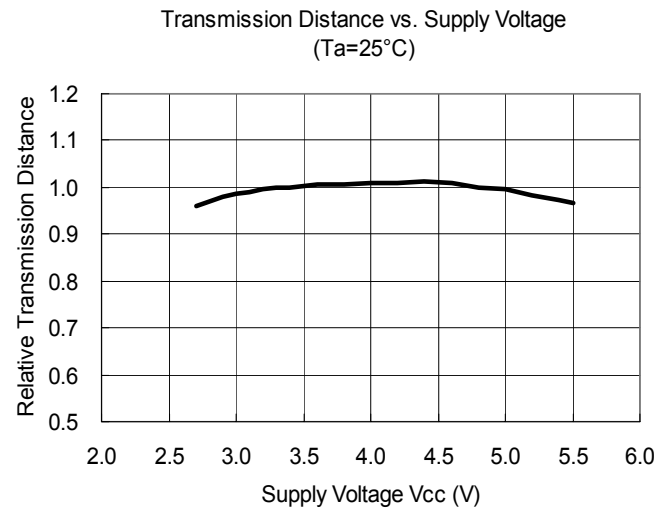
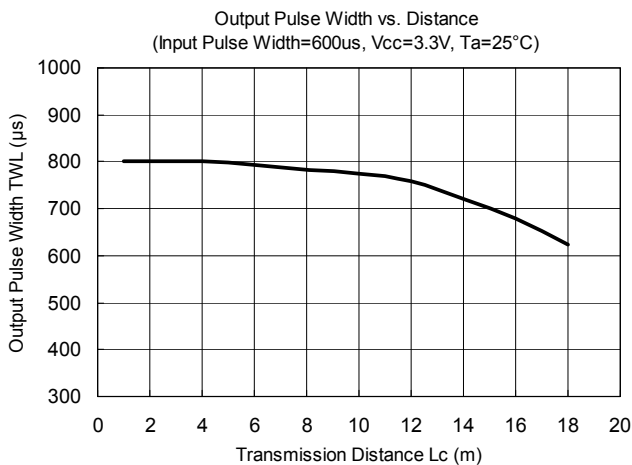
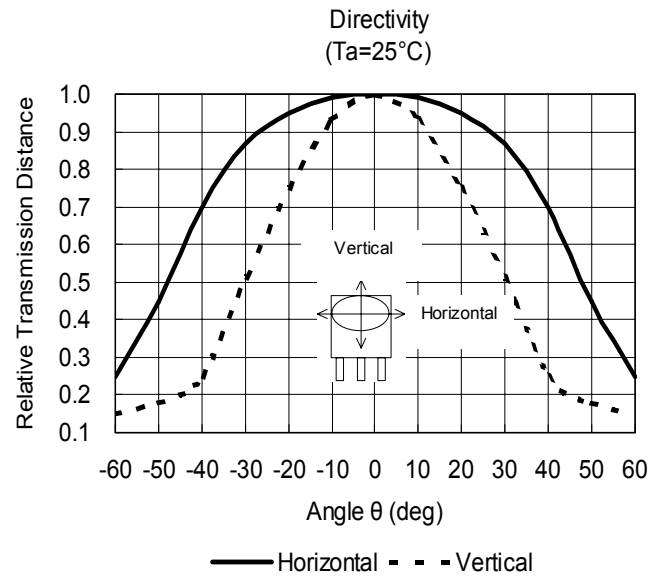
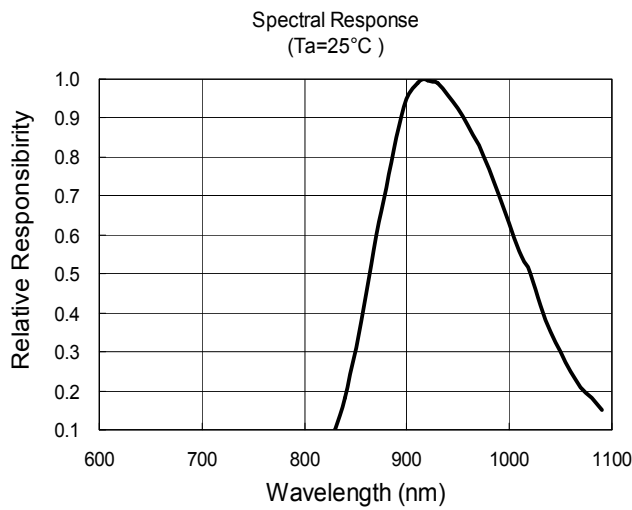


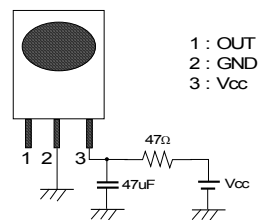
Fig.2 STD. TRANSMITTER TEST CIRCUIT

■ TYPICAL CHARACTERISTICS



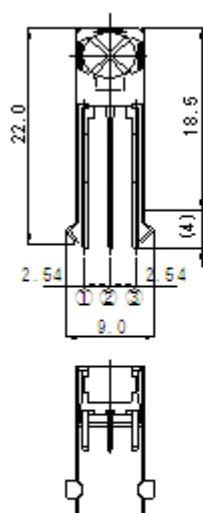
NJL35V/38H000

RECOMMENDED APPLICATION CIRCUIT

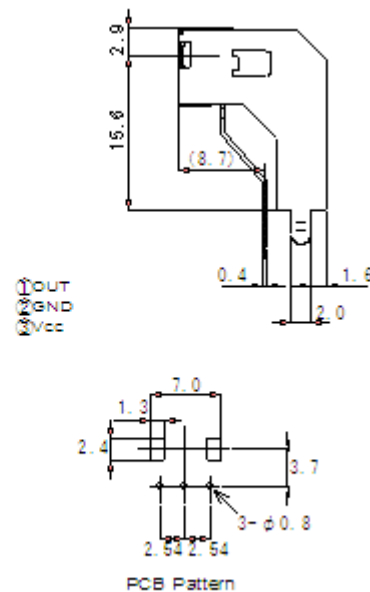


RC Filter should be connected closely between Vcc pin and GND pin.

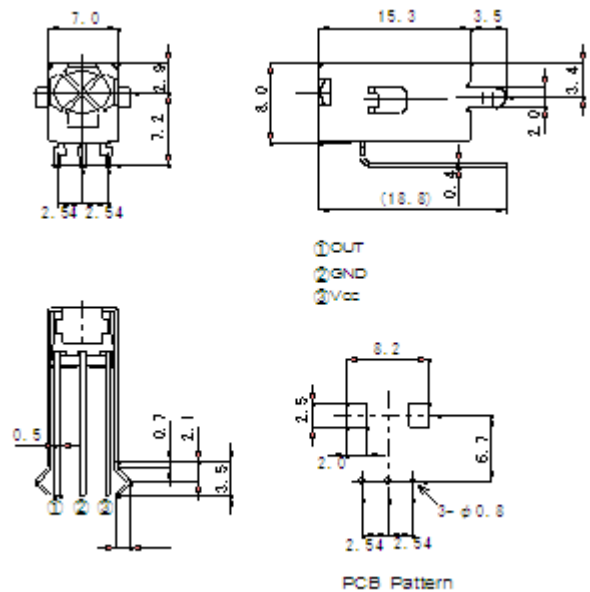
OUTLINE



NJL35V000
UNIT:mm



NJL35H000
UNIT:mm



- 1.Tolerance is $\pm 0.3\text{mm}$ unless otherwise noted.
- 2.Ground metal case on PCB. Metal case is not connected to GND pin inside.Tolerance is $\pm 0.3\text{mm}$ unless otherwise noted.

[CAUTION]
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