

INFRARED REMOTE CONTROL RECEIVER

■ GENERAL DESCRIPTION

NJL65V/68H000 series are small and high performance receiving devices for infrared remote control system. NJL65V/68H000 series are mesh window type to improve EMI characteristic. Even under a lot of EMI noise condition, such as TV, VCR, Air-conditioner, etc., NJL65V/68H000 series can work normally.

■ FEATURES

1. Metal case type with mesh window.
2. Transmission distance : 15m typ.
3. Elliptic lens to improve the characteristic against light noise from the upper and lower side.
4. Line-up for various center carrier frequencies.

■ APPLICATIONS

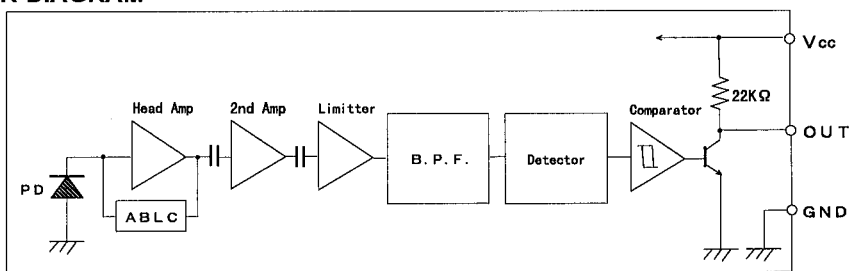
1. AV instruments such as Audio, TV, VCR, CD, MD, etc.
2. Home appliances such as Air-conditioner, Fan, etc.
3. The other equipment with wireless remote control.

■ LINE-UP

| ViewType | Side | Top |
|----------------------------|-----------|-----------|
| Carrier Frequency \ Height | 15.6 mm | 15 mm |
| fo=36 KHz | NJL65V360 | NJL68H360 |
| 36.7 KHz | NJL65V367 | NJL68H367 |
| 38 KHz | NJL65V380 | NJL68H380 |
| 40 KHz | NJL65V400 | NJL68H400 |
| 56.8 KHz | NJL65V568 | NJL68H568 |

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

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C)

| | | |
|-----------------------------|------------------|----------------------------------|
| Supply Voltage | V _{cc} | 6.3V |
| Operating Temperature Range | T _{opr} | -30 °C — +85 °C |
| Storage Temperature Range | T _{stg} | -40 °C — +85 °C |
| Soldering Temperature | T _{sol} | 260 °C 5sec 4.0mm from mold body |

RECOMMENDED OPERATING CONDITION

Supply Voltage Range V_{CC} 4.5V - 5.5V

ELECTRO-OPTICAL CHARACTERISTICS ($V_{CC} = 5.0V$, $T_a = 25^\circ C$)

| PARAMETER | SYMBOL | TEST CONDITION | MIN | TYP | MAX | UNIT |
|------------------------|------------|-------------------------------------|------|-----|------|---------|
| Supply Current | I_{CC} | No Signal Input | — | — | 3 | mA |
| Transmission Distance | L_c | Direction of Ray Axis *1 | 10 | 15 | — | m |
| Directivity | θ_L | Angle of half L_c , Horizontal *2 | — | 50 | — | deg |
| | θ_V | Angle of half L_c , Vertical *2 | — | 35 | — | deg |
| Output Voltage Low | V_L | No Load | — | 0.2 | 0.5 | V |
| Output Voltage High | V_H | No Load | 4.5 | — | — | V |
| Low Level Pulse Width | T_{WL} | See Test Circuit | 400 | — | 800 | μs |
| High Level Pulse Width | T_{WH} | See Test Circuit | 400 | — | 800 | μs |
| Carrier Frequency | f_o | See Line-up | 36.0 | — | 56.8 | 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 in vertical.

TEST METHOD

Test condition is as follows:

(1) Standard Transmitter:

Transmitting wave form is shown in Fig.1. Transmitting power should be adjusted so that output voltage V_{out} will be 400 mVp-p.

Regarding IR LED used for transmitter,
 $\lambda_p = 940nm$, $\Delta \lambda = 50nm$.

Regarding photo diode, Sensitivity
 $S = 26nA/Lx$, in case light source
 temperature $2856^\circ K$, $E_e = 100Lx$, $VR = 5V$

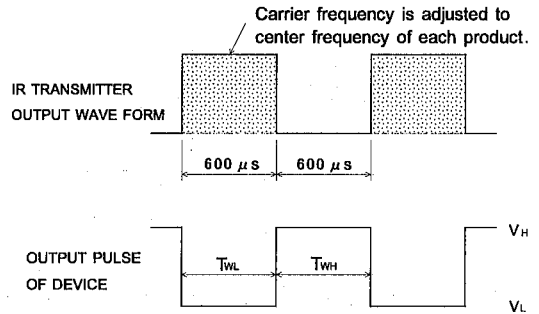


Fig. 1 TRANSMITTER WAVE FORM

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

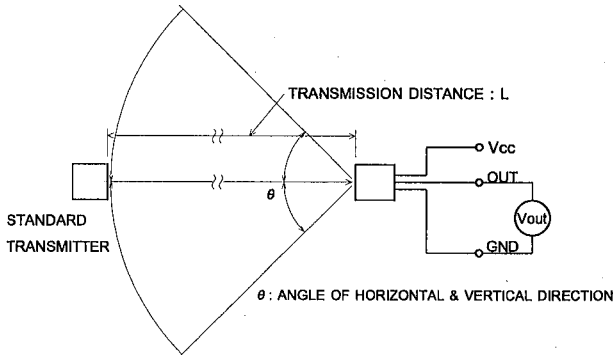


Fig. 3 TEST SYSTEM

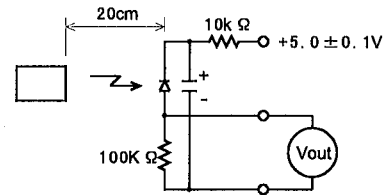
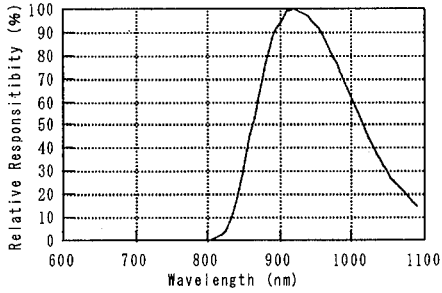


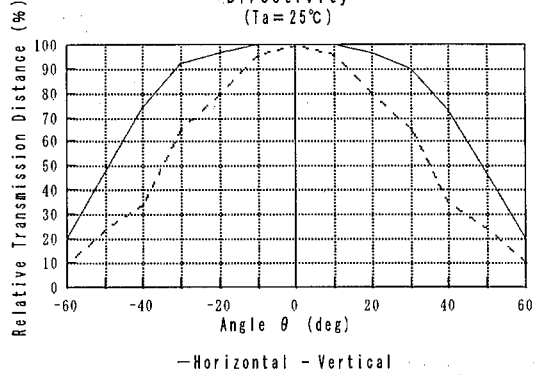
Fig. 2 STD. TRANSMITTER TEST CIRCUIT

■ TYPICAL CHARACTERISTICS

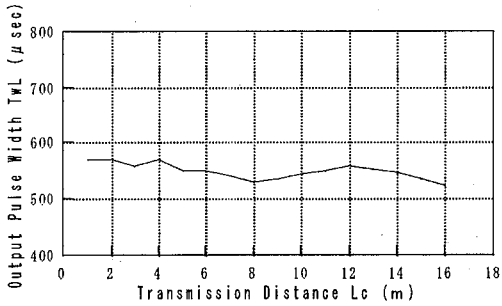
Spectral Response
(Ta = 25°C)



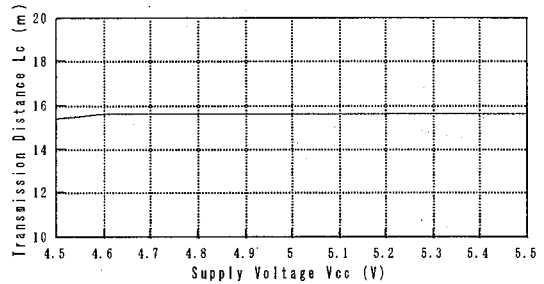
Directivity
(Ta = 25°C)



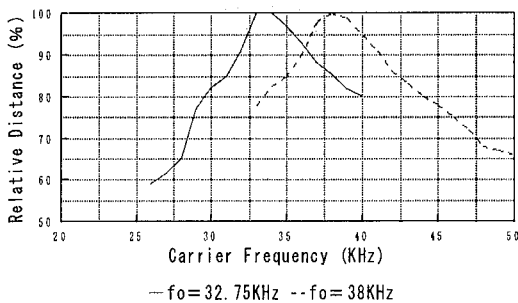
Output Pulse Width vs. Distance
(Input Pulse Width = 600 μ s, Vcc = 5.0V, Ta = 25°C)



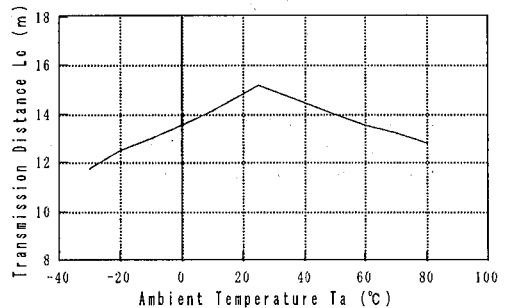
Transmission Distance vs. Supply Voltage
(Ta = 25°C)



Transmission Distance vs. Carrier Frequency
(Vcc = 5.0V, Ta = 25°C)

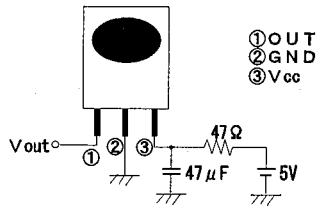


Transmission Distance vs. Temperature
(Vcc = 5.0V)



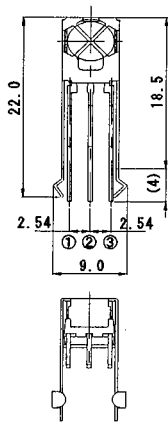
3

RECOMMENDED APPLICATION CIRCUIT

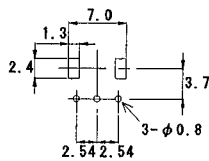
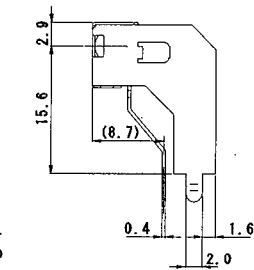


RC Filter should be connected closely between Vcc pin and GND pin.

OUTLINE

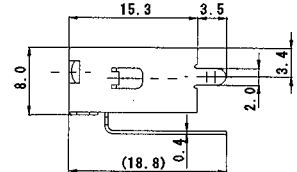
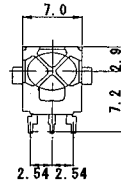


①OUT
②GND
③Vcc

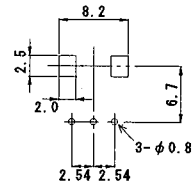
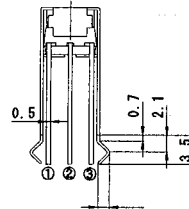


PCB Pattern

NJL65V000
UNIT : mm



①OUT
②GND
③Vcc



PCB Pattern

NJL68H000
UNIT : mm

1. Tolerance is ± 0.3 unless otherwise noted.
2. Ground metal case on PCB. Metal case is not connected to GND pin inside.

MEMO

[CAUTION]

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