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

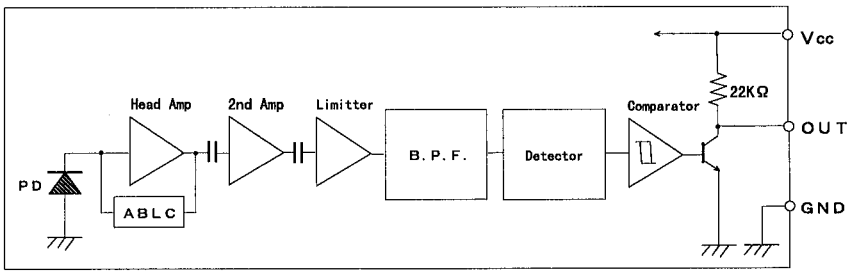
1. AV instruments such as Audio, TV, VCR, CD, MD, etc.
2. Home appliances such as Air-conditioner, Fan, etc.
3. The other equipment with wireless remote control.

■ LINE-UP

ViewType / Height / Carrier Frequency	Side	Top
	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°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 Lc, Horizontal *2	–	50	–	deg
	θ_V	Angle of half Lc, 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 Vout will be 400 mVp-p.
Regarding IR LED used for transmitter, λp = 940nm, $\Delta\lambda$ = 50nm.
Regarding photo diode, Sensitivity S = 26nA/Lx, in case light source temperature 2856°K, Ee = 100Lx, VR = 5V

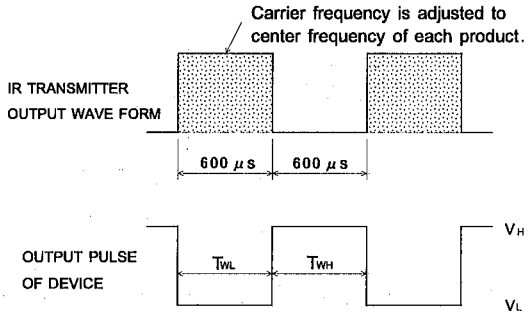


Fig. 1 TRANSMITTER WAVE FORM

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

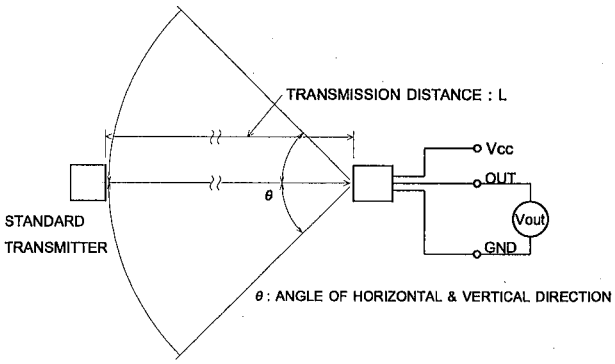


Fig. 3 TEST SYSTEM

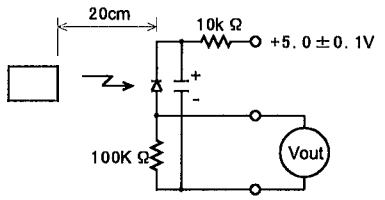
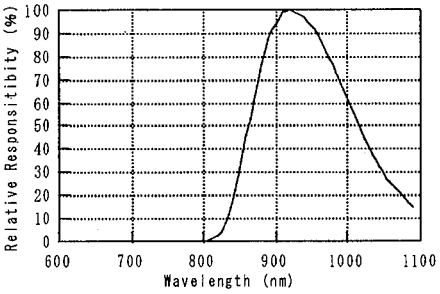


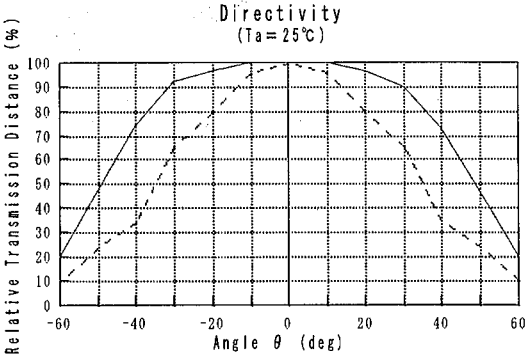
Fig. 2 STD. TRANSMITTER TEST CIRCUIT

■ TYPICAL CHARACTERISTICS

Spectral Response
(Ta=25℃)

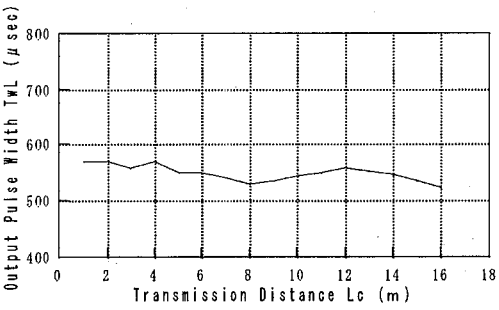


Directivity
(Ta=25℃)

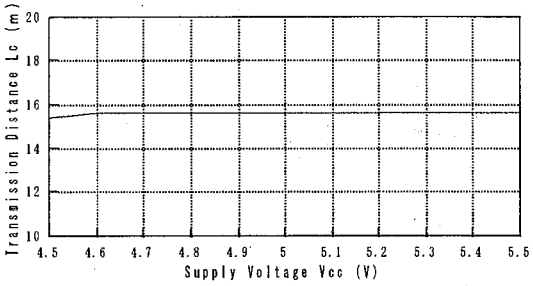


—Horizontal - Vertical

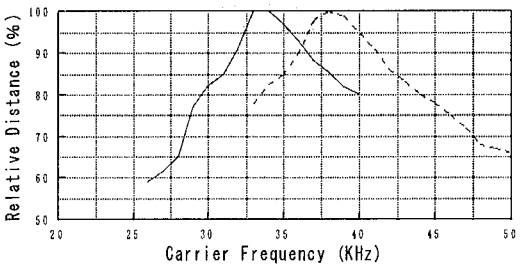
Output Pulse Width vs. Distance
(Input Pulse Width=600μs, Vcc=5.0V, Ta=25℃)



Transmission Distance vs. Supply Voltage
(Ta=25℃)

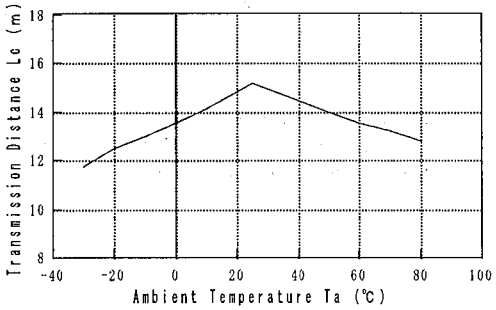


Transmission Distance vs. Carrier Frequency
(Vcc=5.0V, Ta=25℃)



—fo=32.75KHz --fo=38KHz

Transmission Distance vs. Temperature
(Vcc=5.0V)



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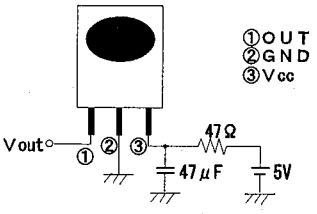
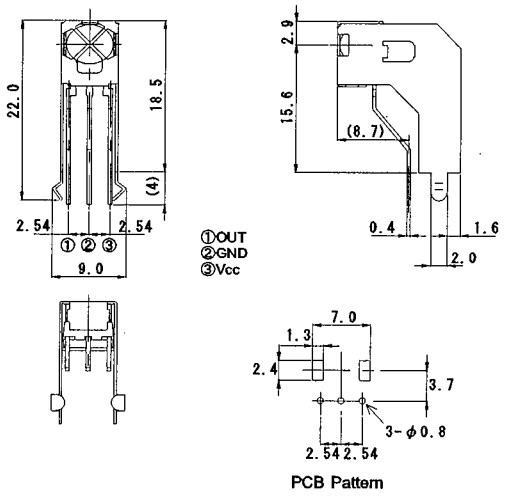
■ RECOMMENDED APPLICATION CIRCUIT

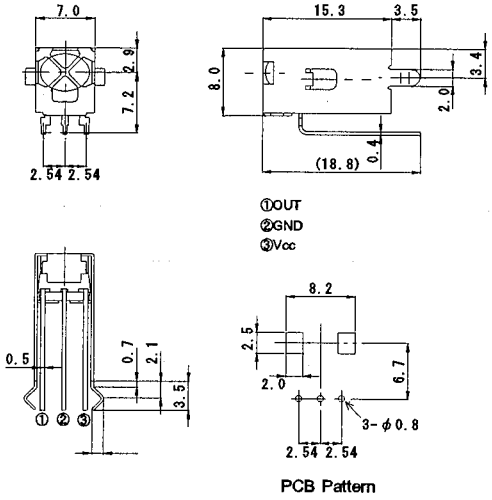


RC Filter should be connected closely between Vcc pin and GND pin.

■ OUTLINE



NJL65V000
UNIT : mm



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