Product Specification

Number: L-KLS9-RMNBT36

Name: Infrared Receiver Module

Customer: D02

Date: 2022-04-12

Customer Signature:

NINGBO KLS ELECTRONIC CO; LTD

Tel : 0086-574-86828566

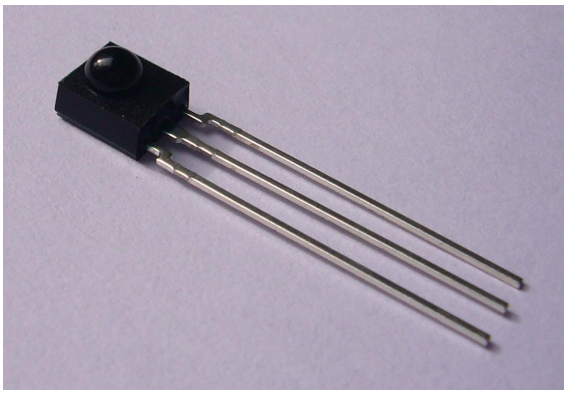
Fax : 0086-574-86824882

ADD : NO. 8-1, RONGXIA RD. XIAPU SHANQIAN INDUSTRIAL ZONE BEILUN NINGBO ZHEJIANG.

WWW.KLSELE.COM

Compi	Check	Review	Approva
Jenny	Jack.C		

INFRARED RECEIVER MODULE



● Description

The RMNBT36 is miniaturized infrared receivers for remote control and other applications requiring improved ambient light rejection.

The separate PIN diode and preamplifier IC are assembled on a single leadframe.

The epoxy package contains a special IR filter.

This module has excellent performance even in disturbed ambient light applications and provides protection against uncontrolled output pulses.

● Features

- Wide Operating Supply Voltage 2.7V - 5.5 V (Min . 2.0V operating)
- Low current consumption (Typ. 330uA @ 3V)
- Maximum interference safety against VCC noise & light noise
- Suitable for minimum burst length of 10 pulses per burst .
- Continuous (〈1ms pause time) and sony 20bit codes are acceptable .
- No external components necessary
- Internal filter for a high frequency lighting fluorescent lamp
- Output active low
- Carrier frequency 36khz

● Applications:

1. Optical switch
2. Light detecting protion of remote contol
   - AV instruments such as Audio,TV,VCR,CD,MD,DVD,etc.
   - Home appliances such as Air-conditioner,Fan,etc.
   - CATV set top boxes
   - Multi-media Equipment

● Absolute Maximum Ratings(Ta=25℃)

Parameter	Symbol	Ratings	Unit	Notice
Supply Voltage	Vs	0 - 7.0	V	—
Operating Temperature	Topr	-20~+85	℃	—
Storage Temperature	Tstg	-40~+125	℃	—
Soldering Temperature	Tsd	260	℃	4mm from mold body less than 5 sec

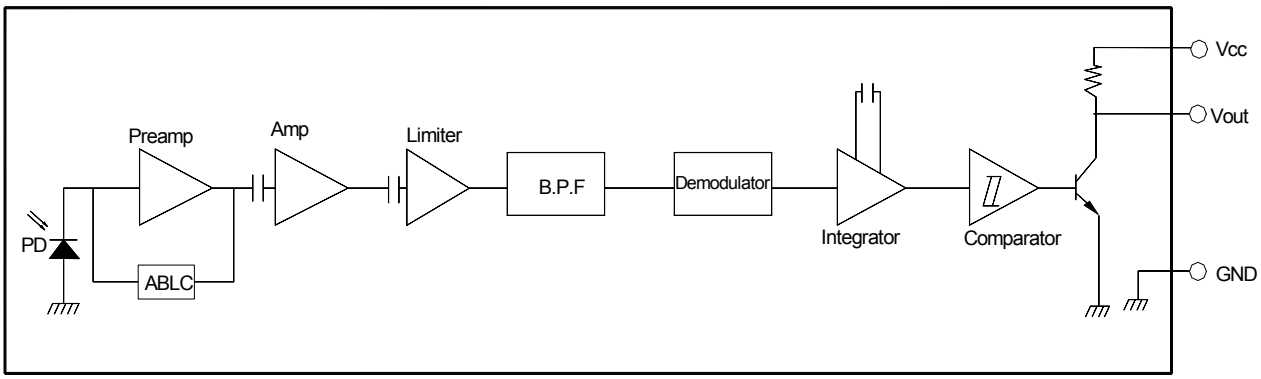
● Electrical And Optical Characteristics(Ta=25℃)

Parameter	Symbol	Ratings			Unit	Condition
		Min.	Typ.	Max.		
Supply Voltage	Vs	2.7	—	5.5	V	
Supply Current	Icc	0.35	0.45	0.68	mA	No signal input
Reception Distance	L_0	16	—	—	m	At the ray axis*1
	L_{45}	8	—	—		
B.P.F Center Frequency	fo	—	36	—	KHz	
Peak Wavelength	λp	—	940	—	nm	
Half Angle	θ	—	45	—	deg	At the ray axis *1
High Level Pulse Width	T_H	400	—	800	μS	At the ray axis *2
Low Level Pulse Width	T_L	400	—	800	μS	
High Level Output Voltage	V_H	4.7	5.0	—	V	
Low Level Output Voltage	V_L	—	0.2	0.4	V	

*1:The ray receiving surface at a vertex and relation to the ray axis in the range of θ=0° and θ=45°

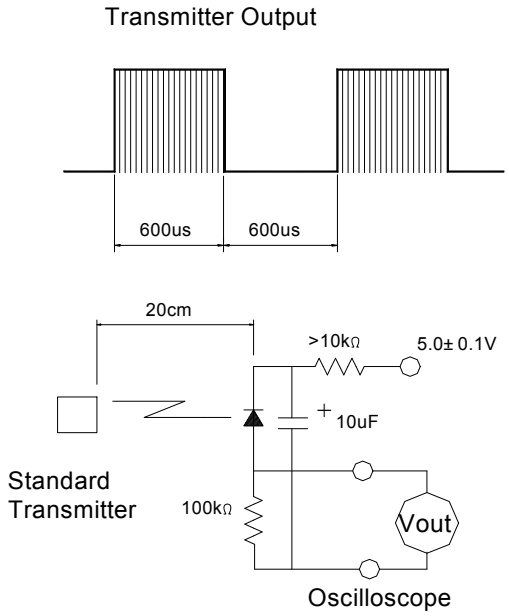
*2:A range from 30cm to the arrival distance. Average value of 50 pulses

● BLOCK DIAGRAM

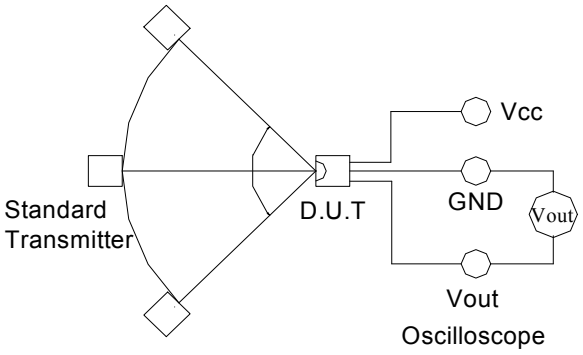


● Test Method

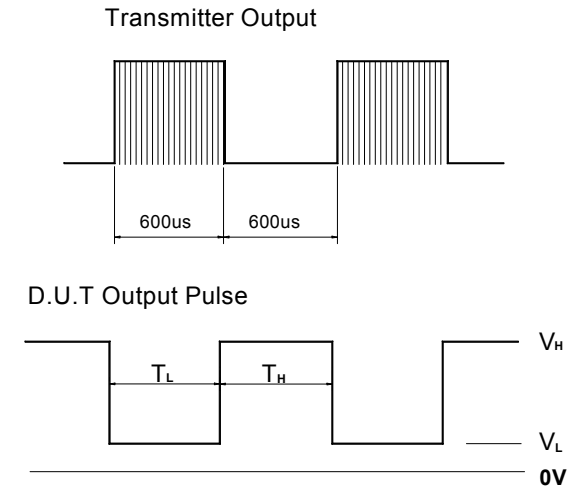
A.Standard Transmitter



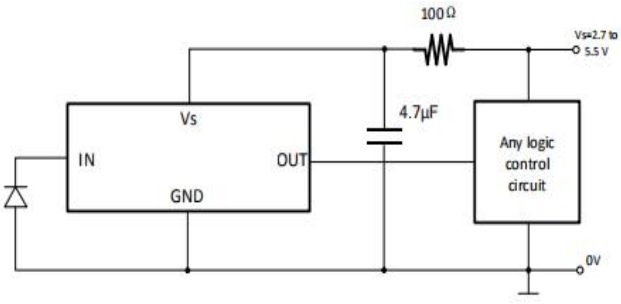
B.Detection Length Test



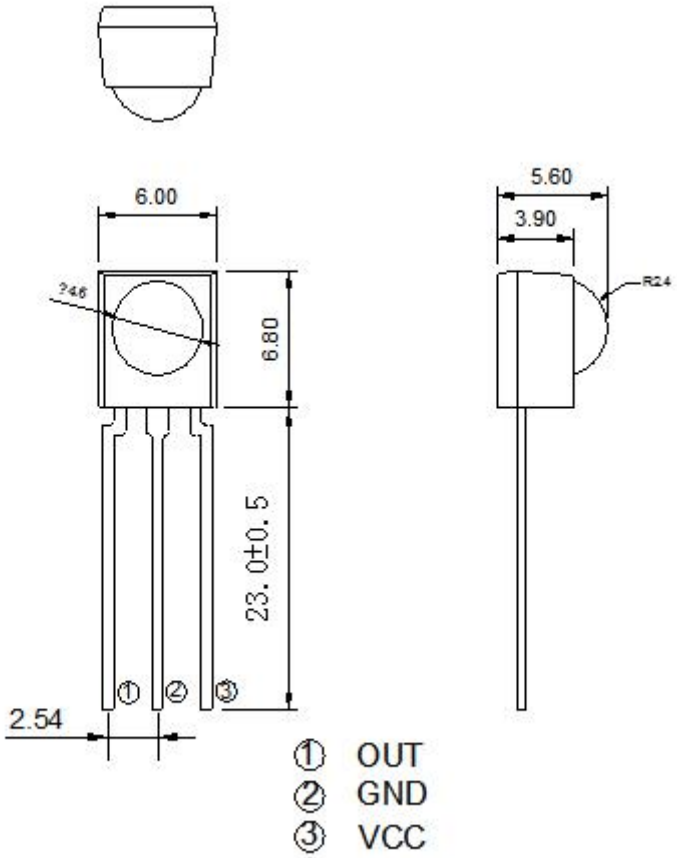
C.Pulse Width Test



● Application Circuit



● **Package Dimensions:**



NOTES:

1.All dimensions are in millimeters (inches).
2.Tolerance is ±0.30mm (0.012") unless otherwise specified.
3.Specifications are subject to change without notice.

● Electrical And Optical Curves(Ta=25℃)

Fig.1 Relative Spectral Sensitivity vs. Wavelength

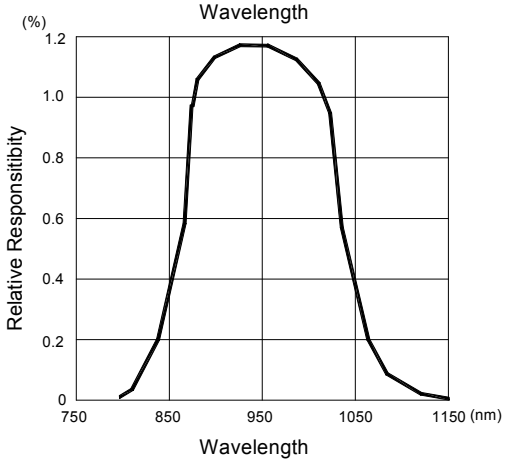


Fig.2 Relative Transmission Distance Vs. Direction

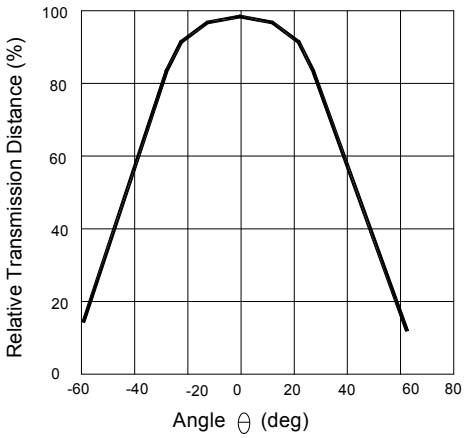


Fig.3 Frequency Dependence of Responsivity

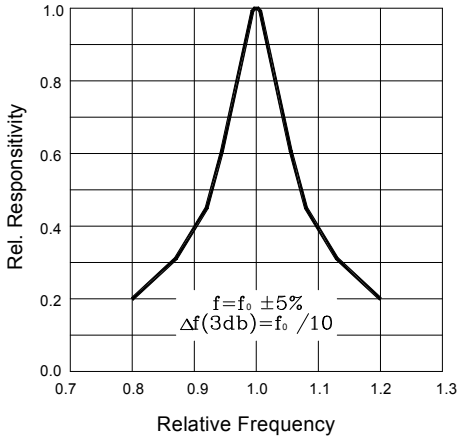


Fig.4 Supply Current vs. Ambient Temperature

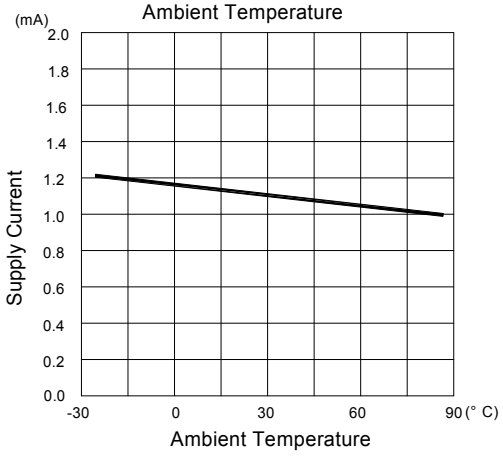
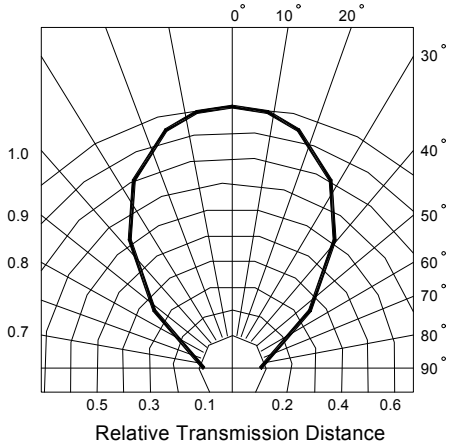


Fig.5 Relative Transmission Distance vs. Direction



- **acceptable code list**

data format	code acceptable
NEC	O
RC5_Philips	O
RC6_Philips	O
RCA_Thomson	X
Toshiba	O
Sharp	O
Sony 12 Bit	O
Sony 15 Bit	X
Sony 20 Bit	X
Matsushita	O
Mitsubishi	X
XMP / RCMM	X
JVC	X
Continuous code	X
High Data Rate code	X

- **Use matters needing attention**
  - store and use where there is no force causing transformation or change in quality
  - store and use where there is no extreme humidity
  - in order to prevent damage from static electricity make sure that the human body and the Soldering iron are connected to ground before using
  - Please from the bottom of the resin for welding for more than 2 mm
  - Dip soldering: please below 260 degrees, 5 seconds to complete welding
  - Soldering iron: please below 350 degrees, 3 seconds to complete welding
  - Please avoid correct position after welding
  - When welding in the lead frame please don't put pressure on the heated condition
  - When the circuit board is installed, the mounting hole distance is consistent With the lead frame