規格承認書

客戶名稱 ：

客戶料号 ：

翱龙料号 ： AL138

送樣日期 ：

簽程:		客戶確認簽程:	
工程:	胡瑞明	工程:	
品管:	王德力	品管:	
日期:	2021-8-16	日期:	

上海翱龙电子科技有限公司

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网址:www.along-china.com

Description

The AL138 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

1.Photo detector and preamplifier in one package

2.Internal filter for PCM frequency

3. High immunity against ambient light

4. Improved shielding against electric field disturbance

5. 3.0-Volt supply voltage; low power consumption

6. TTL and CMOS compatibility

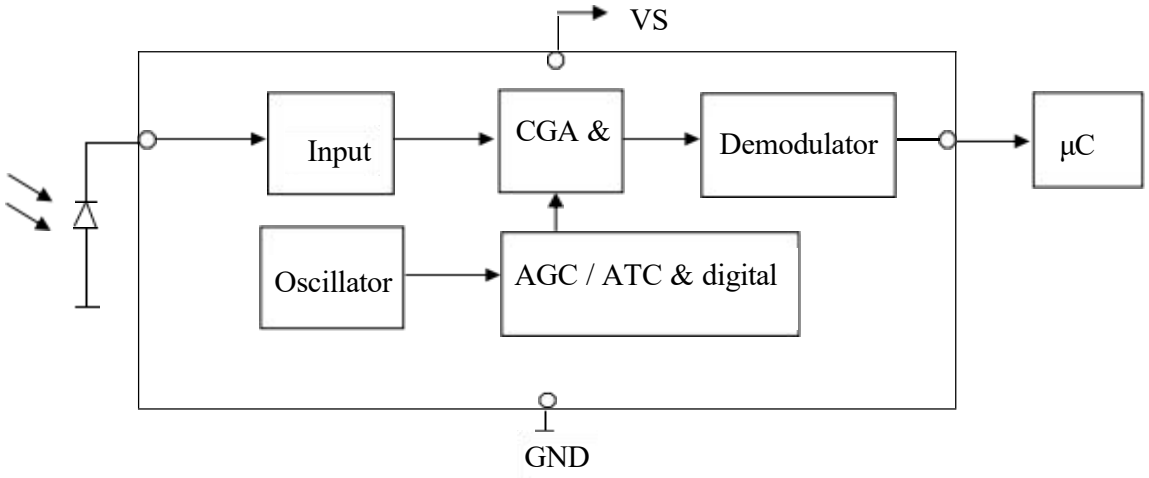
Applications

It can be used for Smart Meter，TVs、VTRs、audio equipment air conditioners、 car stereo radio、toys、 home computers and all other equipment requiring remote control.

Code information

Protocol	Suitable	Protocol	Suitable
NEC	Yes	Nokia NRC17 code	Yes
RC5	Yes	Panasonic code	Yes
RC6	Yes	Toshiba	No
JVC	Yes	RCA	Yes
KONKA code	Yes	Sharp	Yes
Power meter code	Yes	Sony 12 Bit	Yes
X-Sat code	Yes	Zenith	No
RCS-80	No	Continuous Code	No

BLOCK DIAGRAM



REV : A1

Absolute Maximum Ratings

@ Ta=25°C

Item	Symbol	Ratings	Unit	Remark
Supply voltage	Vcc	2.7 ~ 5.5	V	
Operating temperature	T_{opr}	-20 ~ + 80	°C	
Storage temperature	T_{stg}	-25 ~ + 90	°C	
Soldering temperature	T_{sd}	260	°C	Maximum 5 seconds

Electro-optical characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remarks
Supply Voltage	Vs	2.7	-	5.5	V	
Current consumption	Icc	-	0.40	0.50	mA	Under no signal
Response wavelength	λp	-	940	-	nm	
B P F Center Frequency	fo	-	37 9	-	KHz	
Output form	- - - - - active low output - - - -					
H level output voltage	V_0h	Vcc-0.4	-	-	V	
L level output voltage	V_0l	-	0.2	0.4	V	
H level output pulse width	Twh	400	-	800	μs	
L level output pulse width	Twl	400	-	800	μs	
Distance between emitter & detector	L_1（θ=0）	-	18	-	m	IF=400mA Vcc=5V Note 1
	L_2（θ=45°）	-	6	-	m	
Half angle	Δθ		±45		deg	Horizonal direction

Test Method

A. Standard Transmitter

ON/OFF pulse width satisfied from 25 cm to detection limit

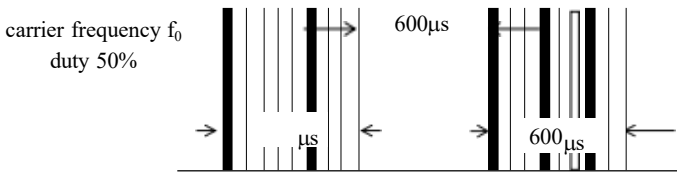


Fig 1. Burst Wave

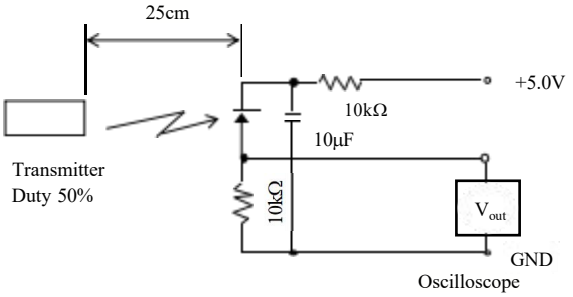


Fig 2. Standard Transmitter Measurement circuit

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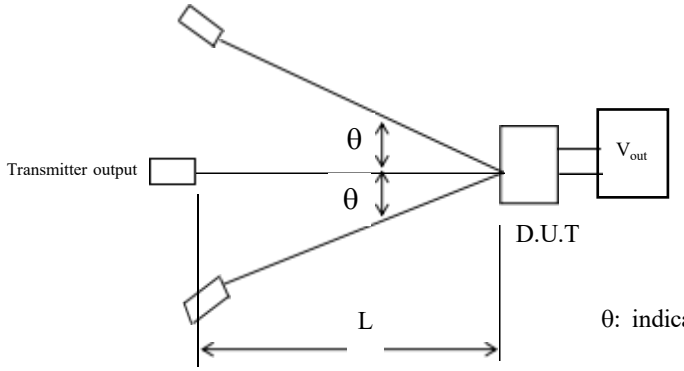
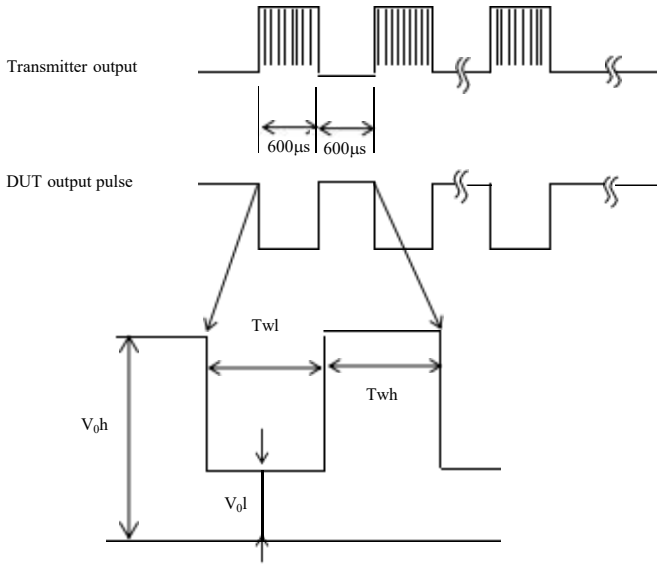
B. Detection Length Test

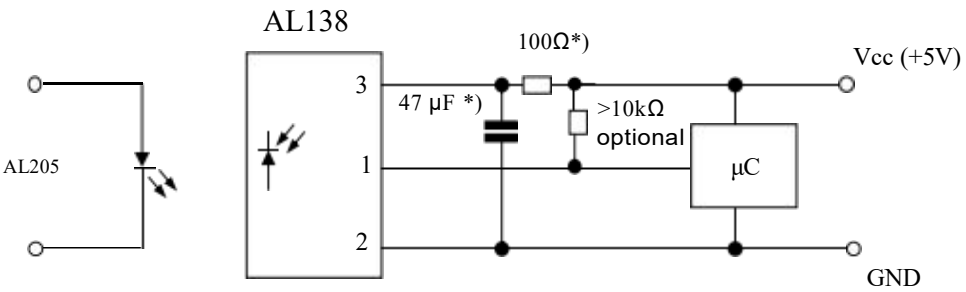


θ: indicates horizontal and vertical directions

C . Pulse Width Test



Application Circuit



*) recommended to suppress power supply disturbances

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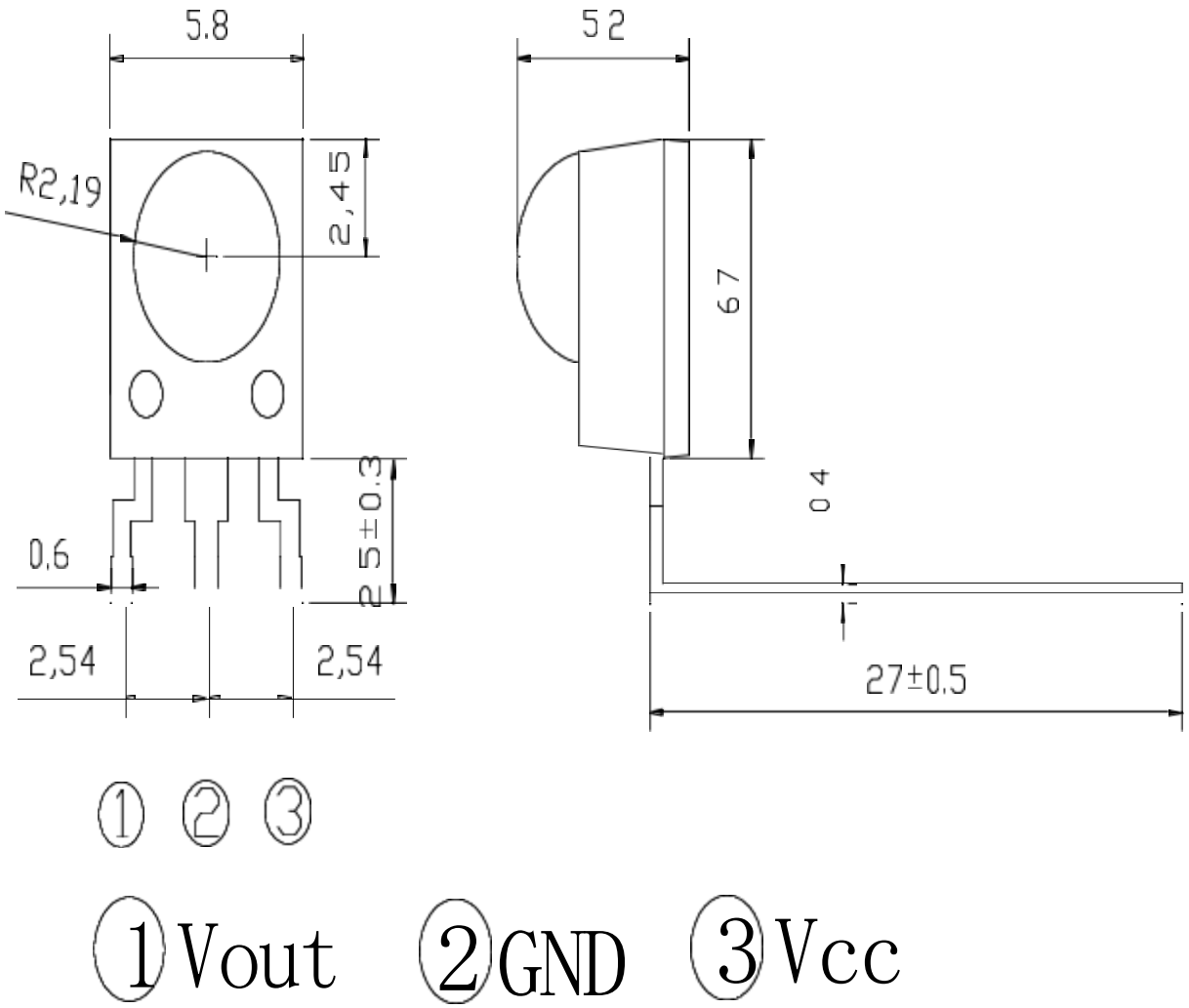
Dimensions in mm



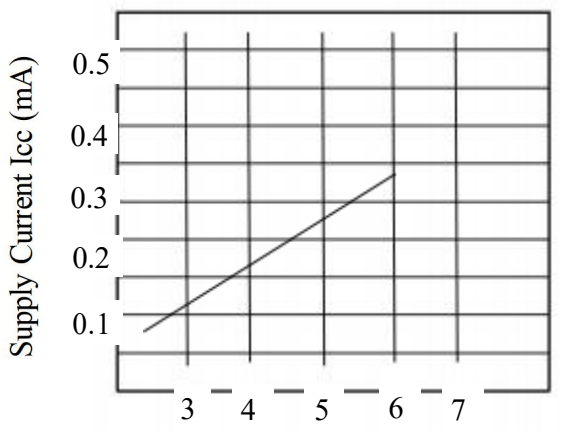
NOTES:

1.All dimensions are in millimeters .

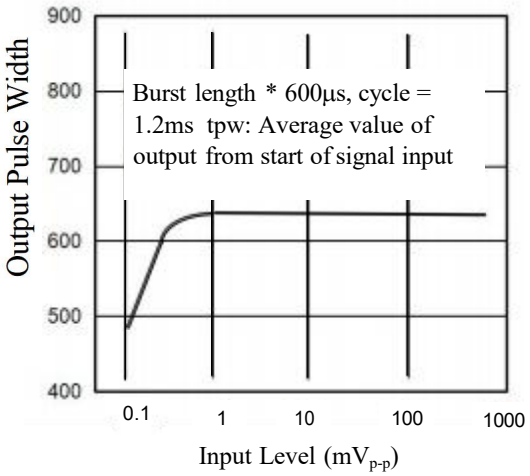
2.Tolerance is ±0.30mm unless otherwise specified.

3.Specifications are subject to change without notice.

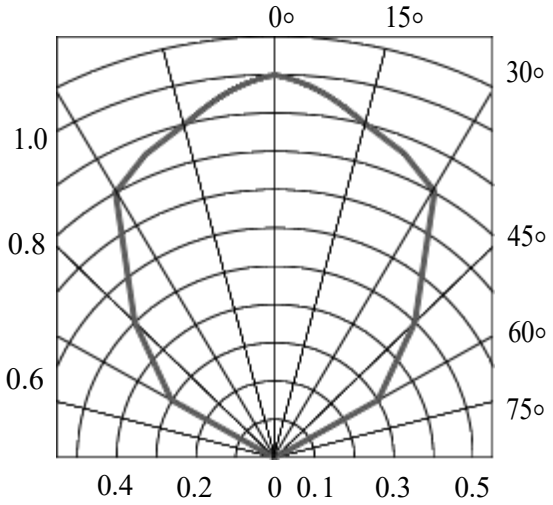
CHARACTERISTIC CURVES (T_A=25°C)



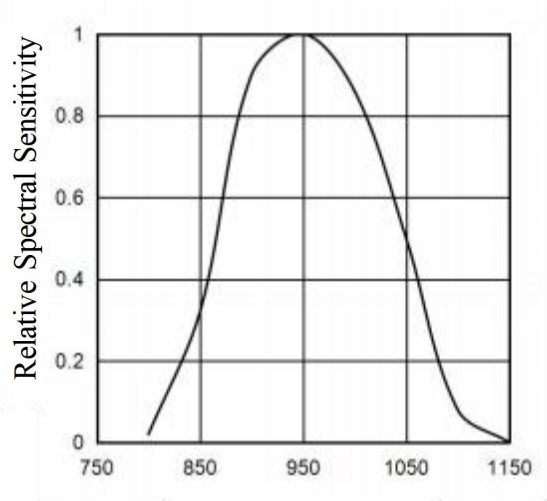
SUPPLY VOLTAGE vs. SUPPLY



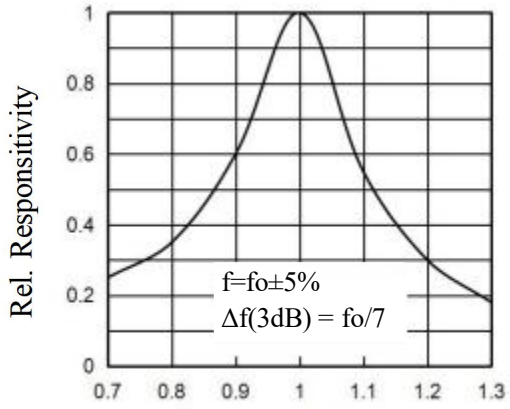
INPUT LEVEL vs.OUTPUT PULSE WIDTH



RELATIVE TRANIMISSION



RELATIVE SPECTRAL SENSITIVITY vs



FREQUENCY DEPENDENCE OF

REV : A1

Reliability

Test item	Test condition	Standard
High temparature	Ta=+85℃ t=48H	Note 2.
Life Test	Vcc=5V t=500H	Note 2.
Low temparature	Ta= -30℃ t=48H	Note 2.
Temperature cycle	-35℃(0.5H) ~ +85℃(0.5H) 20cycle	Note 2.
Dropping	Test devices shall be dropped 3 times naturally onto hard wooden board from a 75cm height position.	Note 2.
Soldering ability test	Ta=260℃ t=5s	Note 3

NOTE 1. Distance between emitter & detector specifies maximum distance that output wave form satisfies the standard under the conditions below against the standard transmitter .

1)Measuring place : Indoor without extreme reflection of light .

2)Ambient light source: Detecting surface illumination shall be 200±50Lux under ordinary hite fluorescense lamp of no high frequency lighting.

3)Standard transmitter: burst wave indicated in Fig1.of standard transmitter shall be arranged to 50mVp-p under the measuring circuit specified in Fig2.

NOTE 2. (electro-optical charactistics) shall be satisfied after leaving 1 hours in the normal temperature .

NOTE 3. (electro-optical charactistics) shall be satisfied and 90% or more of the solder area is covered with solder.

Inspection standard

1.Among electrical characteristics , total number shall be inspected on items blow.

1- 1 front distance between emitter & detector

1-2 Current consumption

1-3 H level output voltage

1-4 L level output voltage

2.Items except above mentioned are not inspected particularly , but shall fully satisfy

CAUTION (When use and storage of this device)

1.Store and use where there is no force causing transformation or change in quality .

2.Store and use where there is no corrosive gas or sea(salt) breeze .

3.Store and use where there is no extreme humidity .

4.Solder the lead-pin within the condition of ratings. After soldering do not add extra force .

5.Do not wash this device . Wipe the stains of diode side with a soft cloth. You can use the solvent , ethylalcohol or methylalcohol or isupropylene only .

6.To prevent static electricity damage to the Pre-AMP make sure that the human body , the soldering iron is connected to ground before using .

7.Put decoupling device between Vcc and GND for reduse the noise from power supply line .

8.The performance of remote-control system depends on environments condition and ability ofperiferal parts. Customer should evaluate the performance as total system in those conditions after system up with components such as commander , micon and this receiver module .

Others

1.This device is not design to endure radiative rays and heavily charged particles .

2.In case where any trouble or questions arise,both parties agress to make full discussion covering the said problem .