

IR Receiver 2.7V – 5.5V

INFRARED RECEIVER MODULE

OS-1638

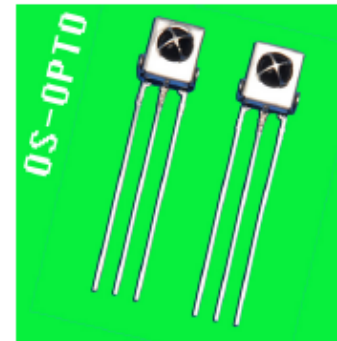
● Description

The OS-1638 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

- Photo detector and preamplifier in one package .
- Internal filter for PCM frequency.
- Inner shield, good anti-interference ability.
- High immunity against ambient light.
- Improved shielding against electric field disturbance
- 3.0V or 5.0V supply voltage; low power consumption.
- TTL and CMOS compatibility.
- Suitable transmission code: NEC code, RC5 code.

● Applications:

1. Optical switch
2. Light detecting portion of remote control
 - 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 (T_a=25°C)

Parameter	Symbol	Ratings	Unit	Notice
Supply Voltage	V _S	2.7-5.5	V	—
Operating Temperature	T _{opr}	-20~+65	°C	—
Storage Temperature	T _{stg}	-40~+85	°C	—
Soldering Temperature	T _{sd}	260	°C	4mm from mold body less than 5 sec

Datasheet

Item no. 1571478

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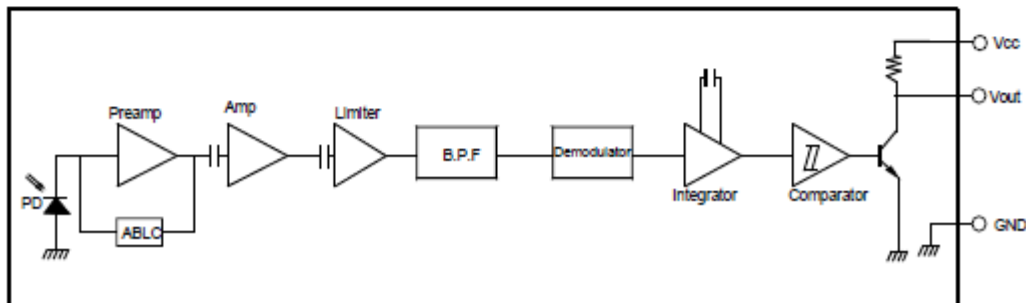
● Electrical And Optical Characteristics (Ta=25°C)

Parameter	Symbol	Ratings			Unit	Condition
		Min.	Typ.	Max.		
Supply Voltage	V _S	2.7	—	5.5	V	
Supply Current	I _{CC}	—	0.35	0.6	mA	I _{in} =0uA, V _{CC} =5V
Reception Distance	L ₀	20			m	At the ray axis*1
	L ₄₅	16	—	—		
B.P.F Center Frequency	f ₀	—	38	—	KHz	
Peak Wavelength	λ _p	—	940	—	nm	
Half Angle	θ ±	—	45	—	deg	At the ray axis *1
High Level Pulse Width	T _H	450	600	750	μS	At the ray axis *2
Low Level Pulse Width	T _L	450	600	750	μS	
High Level Output Voltage	V _H	4.5	—	—	V	
Low Level Output Voltage	V _L	—	—	0.5	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

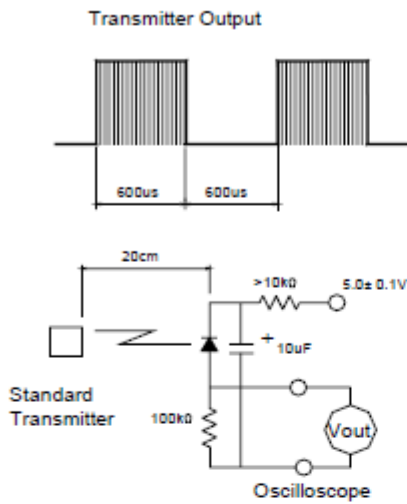
● BLOCK DIAGRAM



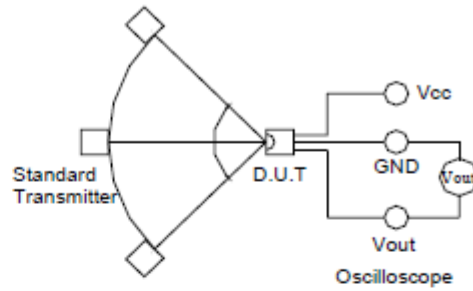
● Test Method

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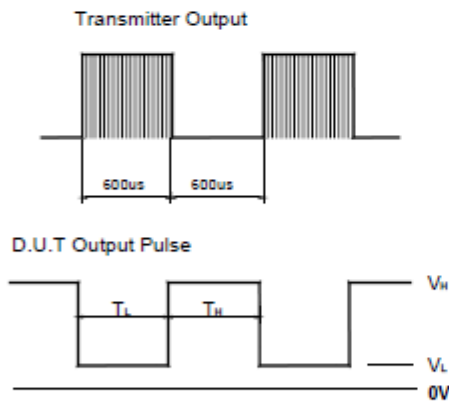
A. Standard Transmitter



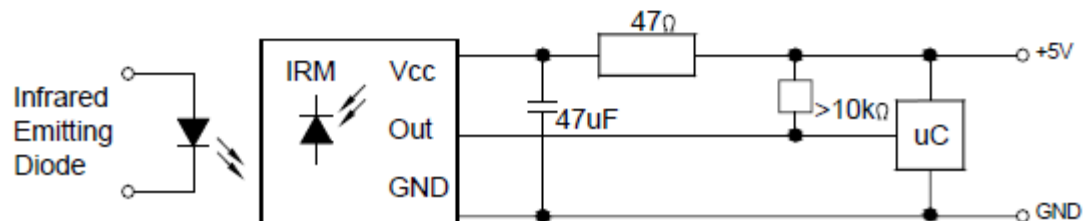
B. Detection Length Test



C. Pulse Width Test



● Application Circuit



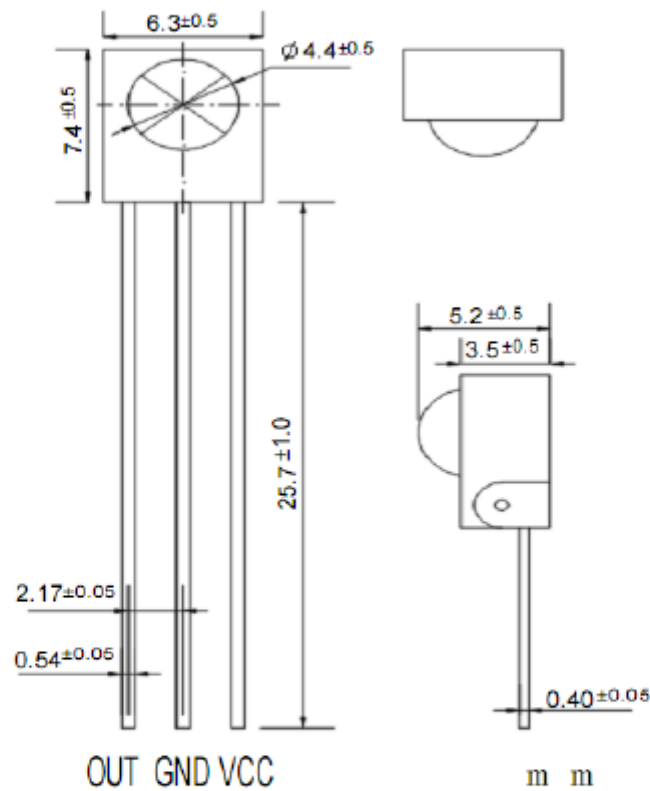
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● Package Dimensions:

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NOTES:

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

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● Electrical And Optical Curves(Ta=25°C)

