EVERLIGHT ELECTRONICS CO.,LTD.

Technical Data Sheet

Infrared Remote-control Receiver Module

IRM-2656



Features :

- Photo detector and preamplifier in one package
- Internal filter for PCM frequency
- Improved shielding against electrical field disturbance
- TTL and CMOS compatibility
- Output active low
- Low power consumption
- Improved immunity against ambient light
- Suitable burst length ≧10 pulses/burst.
- Pb free

Descriptions

- The IRM-2656 are miniaturized receivers for infrared remote control systems. PIN diode and preamplifier are assembled on lead frame, the epoxy package is designed as IR filter. The demodulated output signal can directly be decoded by a microprocessor. IRM-2656 is the standard IR remote control receiver series, supporting all major transmission codes.

Applications

1. Optical switch
2. Light detecting portion of remote control
   - AV instruments such as Audio, TV, VCR, CD, MD, etc.
   - Home appliances such as Air-conditioner, Fan , etc.
   - The other equipments with wireless remote control.
   - CATV set top boxes
   - Multi-media Equipment

PART	MATERIAL	COLOR
Chip	Silicon	Black
Compound	Epoxy	Black

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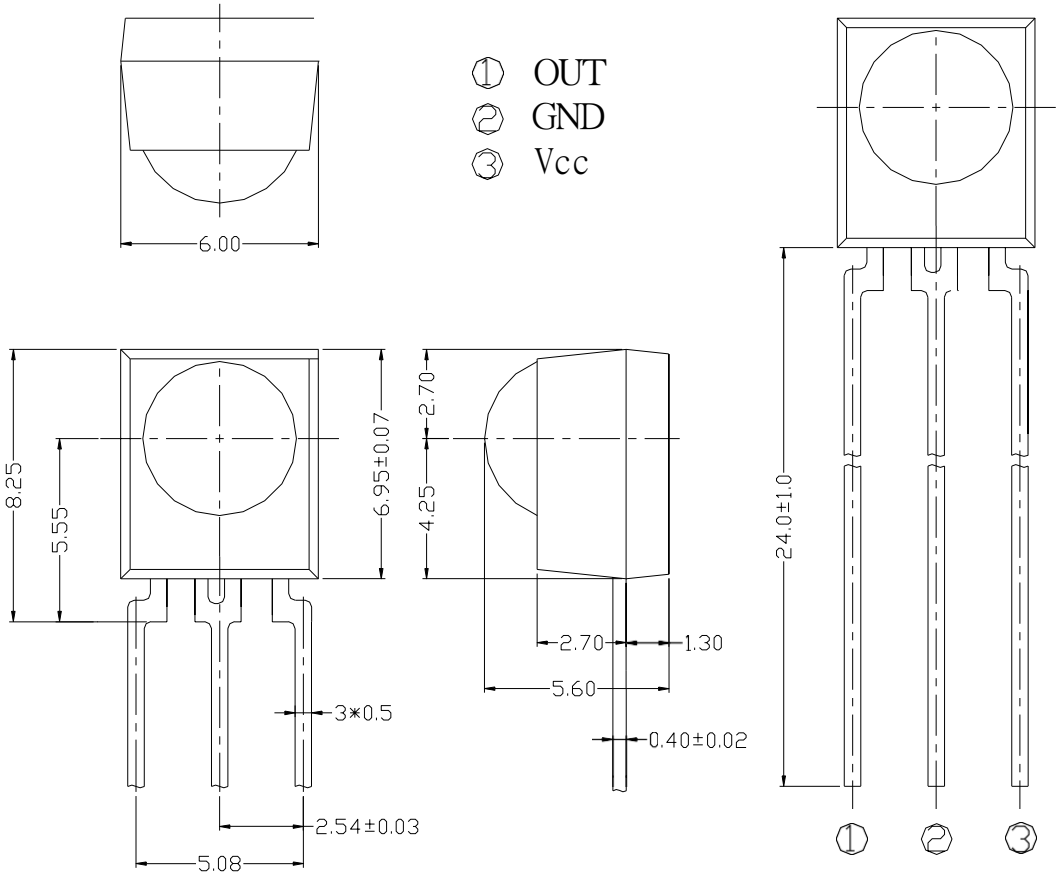
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Package Dimensions



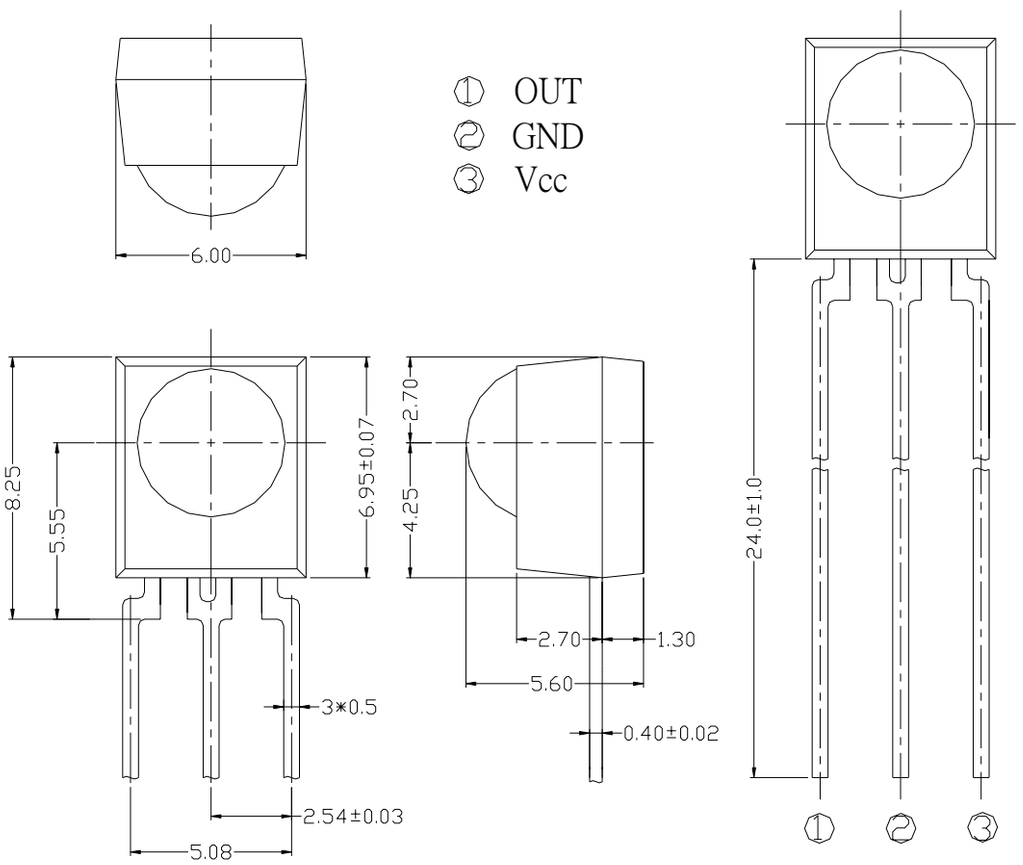
Notes: 1.All dimensions are in millimeters.
2.Tolerances unless dimensions ±0.3mm.

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit	Notice
Supply Voltage	Vcc	0~6	V	
Operating Temperature	Topr	-25 ~ +80	℃	
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Recommended Operating Condition

Supply Voltage Rating: Vcc 4.5V to 5.5V

Electro-Optical Characteristics (Ta=25℃, and Vcc=5 V)

Parameter	Symbol	MIN.	TYP.	MAX.	Unit	Condition
Consumption Current	Icc	---	1.2	---	mA	No signal input
B.P.F Center Frequency	Fo	---	56	---	KHz	
Peak Wavelength	λ_p	---	940	---	nm	
Reception Distance	L_0	14	---	---	m	At the ray axis *1
	L_{45}	6	---	---		
Half Angle(Horizontal)	Θ_h	---	45	---	deg	
Half Angle(Vertical)	Θ_v	---	45	---	deg	
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	4.5	---	---	V	
Low Level Output Voltage	V_L	---	0.2	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.

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Test Method：

The specified electro-optical characteristics is satisfied under the following Conditions at the controllable distance.

♍Measurement place

A place that is nothing of extreme light reflected in the room.

♎External light

Project the light of ordinary white fluorescent lamps which are not high Frequency lamps and must be less then 10 Lux at the module surface. (Ee≦10Lux)

♏Standard transmitter

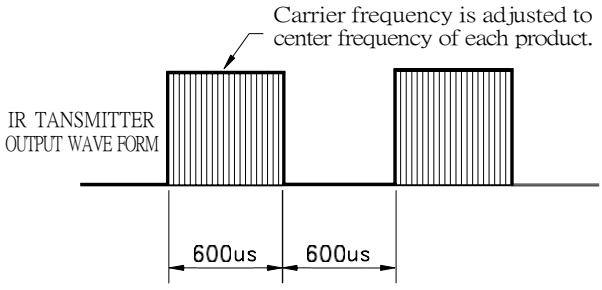
A transmitter whose output is so adjusted as to **Vo=400mVp-p** and the output Wave form shown in Fig.-1.According to the measurement method shown in Fig.-2 the standard transmitter is specified.

However , the infrared photodiode to be used for the transmitter should be λp=940nm,Δλ=50nm. Also, photodiode is used of PD438B(Vr=5V).

♐Measuring system

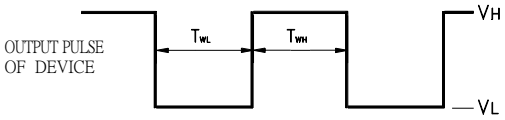
According to the measuring system shown in Fig.-3

Fig.-1 Transmitter Wave Form



Duty=0.5

D.U.T output Pulse



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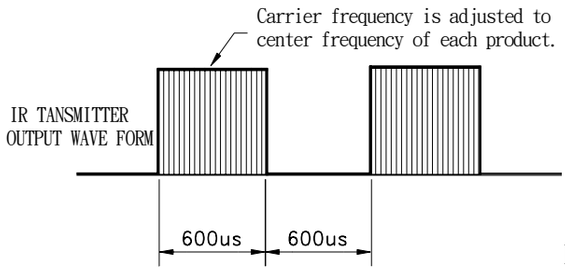
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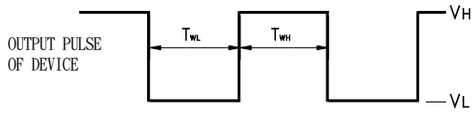


Fig.-2 Measuring Method

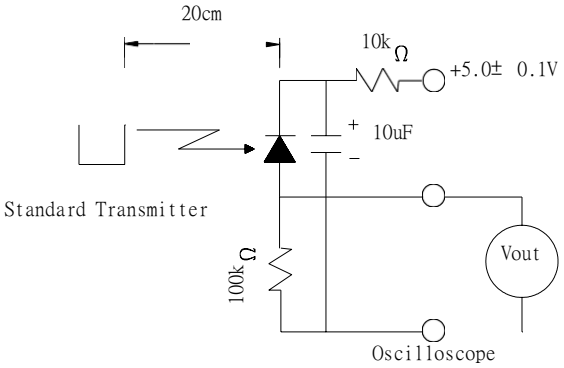
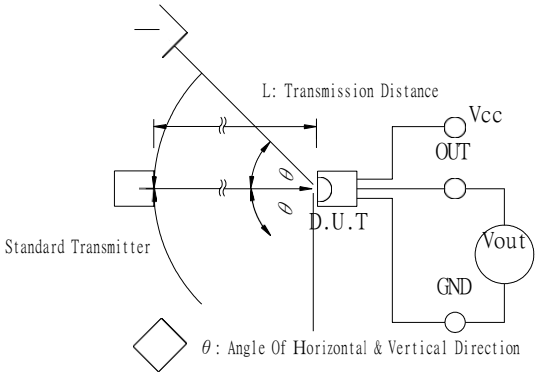
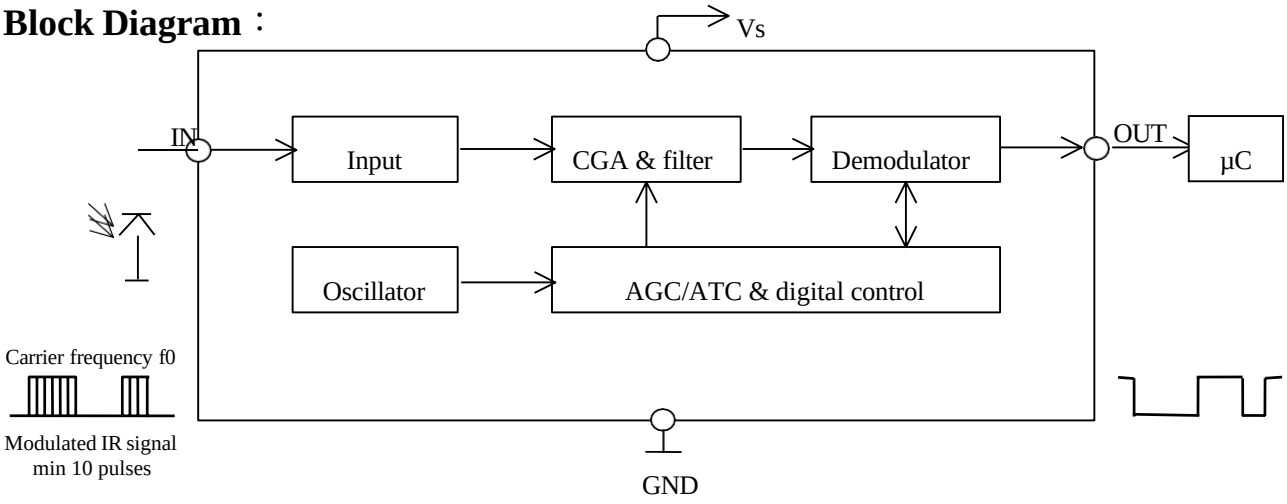


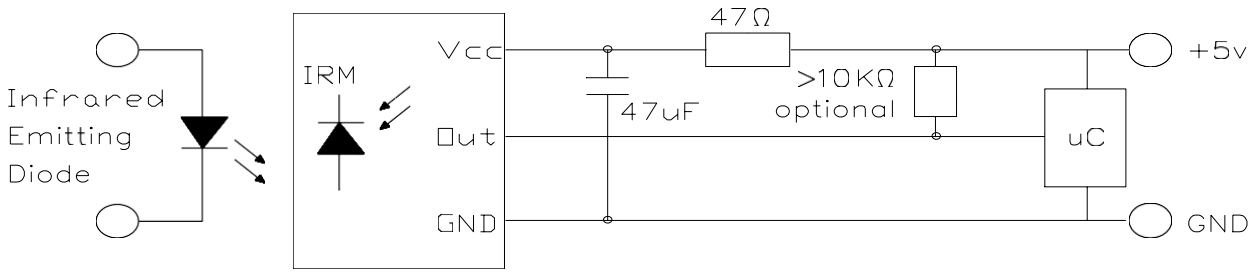
Fig.-3 Measuring System



Block Diagram：



Application Circuit：



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

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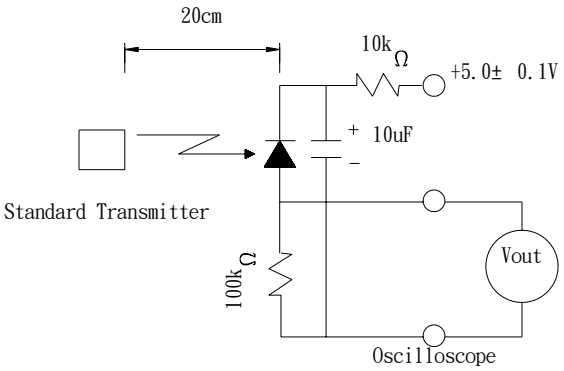
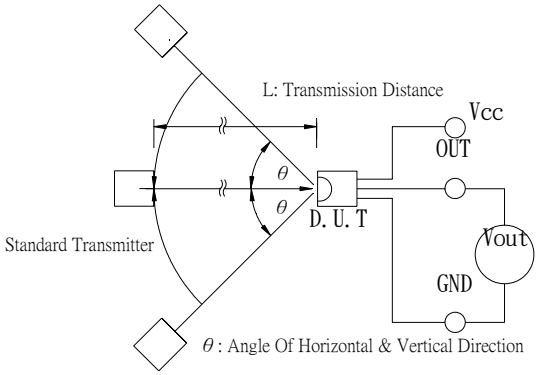
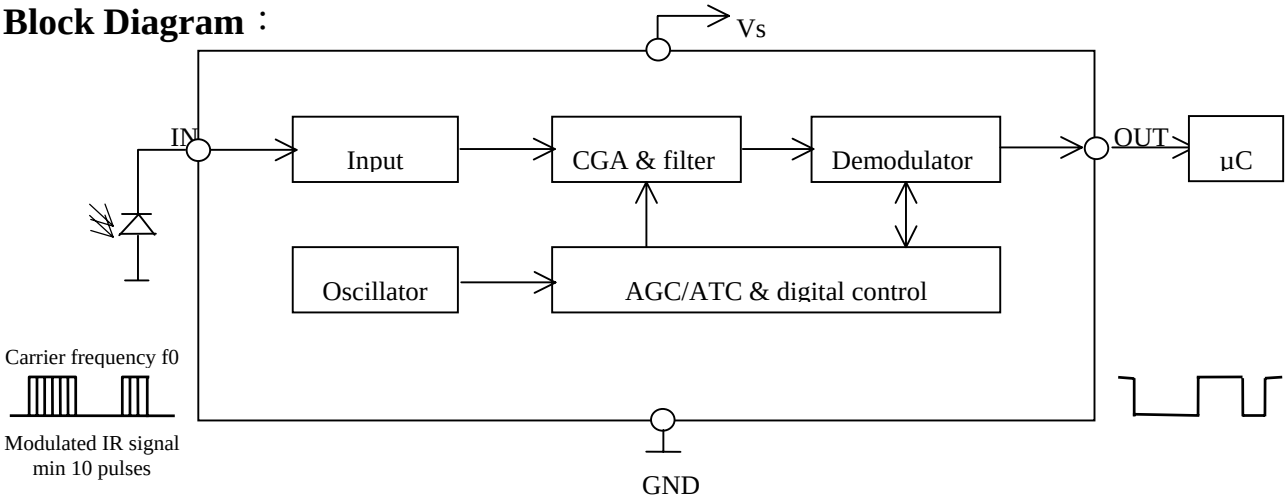


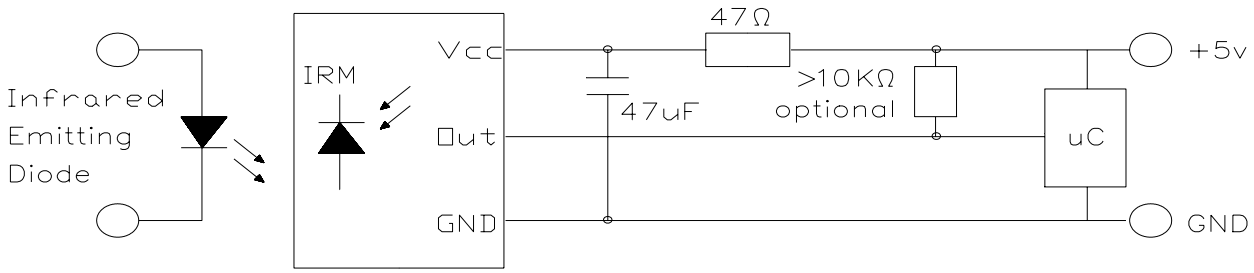
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