

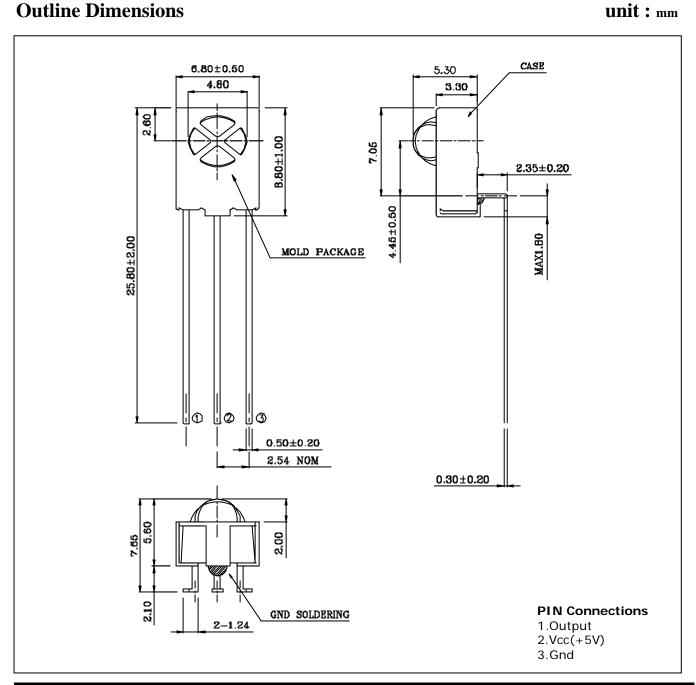
#### **Features**

- Photo detector and preamplifier in one package
- Enhanced immunity against all kinds of disturbance light
- High performance photo diode and built-in I.C
- High speed response and output
- Low power consumption and easy use

### **Application**

- Light detecting portion of remote control
- TVs, VCRs, Audio equipments, CATV Set Top boxes, Multi-media equipments

### **Outline Dimensions**



KMM-1011-000

# **Absolute maximum ratings**

Characteristic	Symbol	Ratings	Unit	
Supply Voltage	V <sub>cc</sub>	6.0	V	
Power Dissipation	$P_{\scriptscriptstyle D}$	0.27	W	
Operating Temperature	$T_{opr}$	-10 ~ 60		
Storage Temperature	T <sub>stg</sub>	-20 ~ 75		
*1Soldering Temperature	$T_{sol}$	260 within 5 seconds		

<sup>\*1.</sup>Keep the distance more than 2.0mm from PCB to the bottom of package

## **Electrical Characteristics**

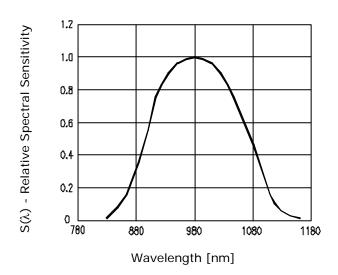
(Ta=25°C)

Parameter	Symbol	Test Condition		Min.	Тур.	Max.	Unit
Supply Voltage	V <sub>cc</sub>	-		4.5	5.0	5.5	V
Current Consumption	I <sub>cc</sub>	#1		0.3	ı	1.5	mA
Resonance Frequency	f <sub>C</sub>	-		-	38	-	KHz
Peak sensitivity wavelength	Р	-		-	980	-	nm
H level output voltage	V <sub>OH</sub>	#2		4.5	5.0	-	V
L level output voltage	V <sub>oL</sub>			-	0.2	0.4	V
H level pules width	$T_{wh}$			500	-	700	us
L level pules width	T <sub>wl</sub>			500	-	700	us
Arrival distance	L	#2,3,4	± 0°	-	20	-	m
			± 30°	-	15	-	
			± 45°	-	10	-	
Output form	Active low						

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# **Characteristic Diagrams**

Fig. 1 Relative Spectral Sensitivity - Wavelength



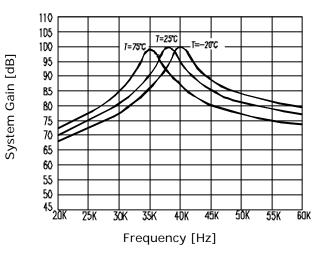
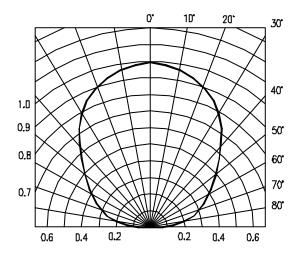


Fig. 2 drel-Relative Transmission Distance
Directivity tsop



drel-Relative Transmission Distance
Directivity tsop

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- # 1. No input signal.
- # 2. The burst wave forms shown below in the Fig 1. Shall be transmitted by the standard transmitter.

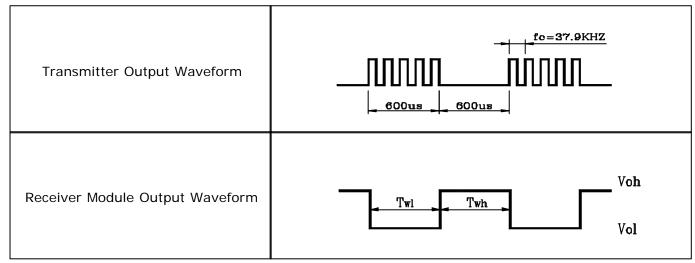
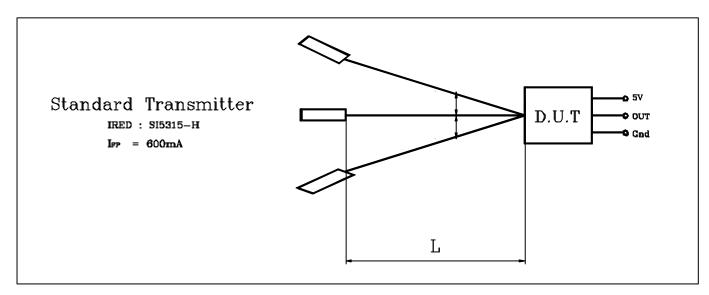


Fig 1. Transmitter & Receiver wave forms

# 3. The test condition of arrival distance.



#4. The arrival distance is measured in the darkness without disturbing noises.

## **Reliability Test**

Test items	Test condition	Remarks		
High temp & High humid	Ta=40 , RH=90%, t=96Hr's	#1, 2		
Heat cycle	#2, 3	-		
Fall test	#4	-		

- #1. Supply voltage 5V at the load test.
- #2. Electro-optical characteristics shall be satisfied after 2hr's at normal temperature.
- #3. Heat cycle test as below Fig2. For 20 cycles under no load.

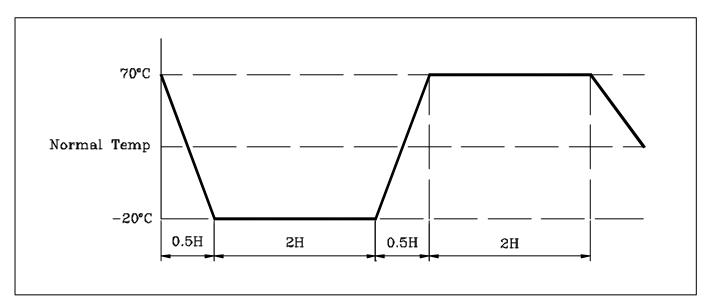


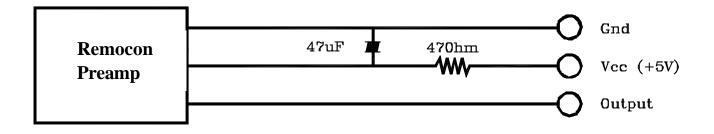
Fig 2. Heat cycle test

#### #4. Fall test

The test devices to fall three time onto hard wooden board from a level 75 cm

### The others

In case of noisy power supply, please serially insert about 47  $\,\mu$ F electrolytic capacitance in line as follows.



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