



# HUNIN ELECTRONICS CORP.

## PRODUCTION SPECIFICATION

**PRODUCT LINE : REMOTE CONTROL RECEIVER MODULE**

**TITLE : HI-M900H0-3series**

### 1. Description

The HI-M900H0-3 series are receiver units for infrared remote control system. Assembled high performance PIN photodiode and preamplifier on lead frame is molded in uniquely designed epoxy package with daylight cut filter & metal shield case.

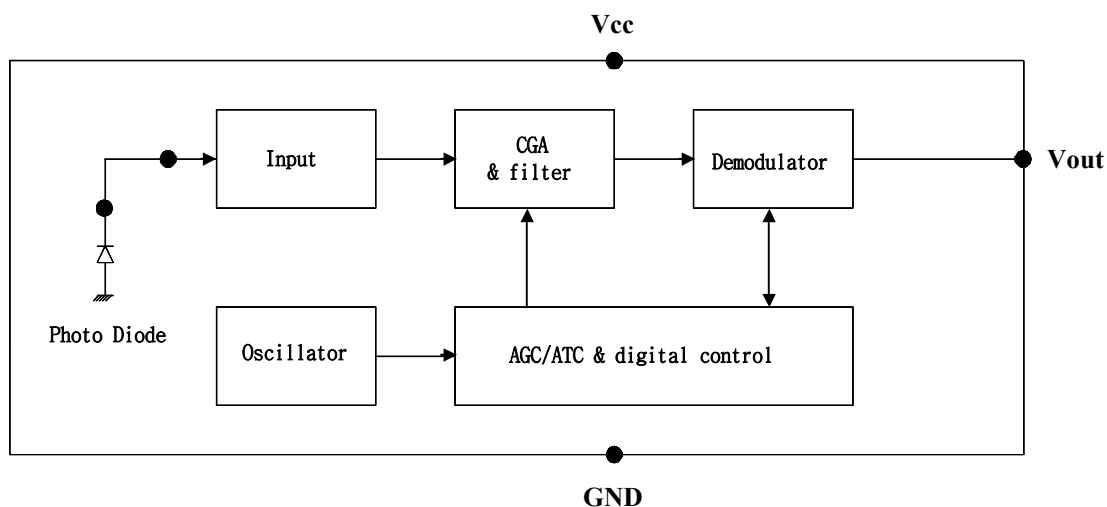
### 2. Features

- ◇ Low power consumption
- ◇ Possible to direct connection to TTL & CMOS
- ◇ Low sensitivity against fluorescent lamp driven by inverter
- ◇ Open collector output with a pull-up resistance
- ◇ Various Band Pass Filter frequency

### 3. HI-M900H0-3 Series Models

- ◇ HI-M901H0-3 40.0KHz
- ◇ HI-M902H0-3 38.0KHz
- ◇ HI-M903H0-3 56.7KHz
- ◇ HI-M904H0-3 32.7KHz
- ◇ HI-M905H0-3 36.7KHz

### 4. Block Diagram





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### 5. Absolute Maximum Ratings

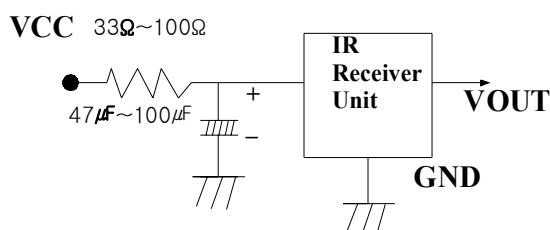
Parameter	Symbol	Rating	Unit
Supply voltage	Vcc	5.5	V
Operating temperature	Topr	-10 ~ +60	°C
Storage temperature	Tstg	-20 ~ +75	°C
Soldering temperature * <sup>1</sup>	Tsol	260	°C

\*<sup>1</sup>. Within 5 seconds

### 6. Recommended Operating Conditions

Parameter	Symbol	Operating condition	Unit
Supply voltage	Vcc	4.5 ~ 5.5	V

\* In case of Vcc include noise factor please add the R-C line filter as shown



### 7. Electro-optical Characteristics

Ta=25°C, Vcc=5V

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
Current consumption	Icc		1		mA	No input signal
High level output voltage	VOH	Vcc-0.25	Vcc		V	*2.
Low level output voltage	VOL			0.25	V	*2.
High level pulse width	TWH	450	600	750	μs	*2.
Low level pulse width	TWL	450	600	750	μs	*2.
B.P.F. center frequency	fo	40.0,38.0,56.7,32.7,36.7			KHz	*2.
Peak sensitive wavelength	λP		940		nm	
Detecting distance	L	8.0			m	*2. Ee=200LUX
Detecting half angle	Δθ		±45		deg	Horizontal direction

\*2 The output signal and detecting distance of this receiver unit shall satisfy the following requirements with the transmitter specified as below (Fig.1) in the optical standard system (Fig.2).

#### (1) Standard transmitter

A transmitter output shall be set as Vout=40mVpp, and the burst wave as shown in the figure shall be transmitted by the transmitter.

however the HI-D470R in this application is Pin Photodiode which has a characteristics as short-circuit current Isc=25mA at Ev=1000LUX(2856. K standard light source), spectral sensitivity λ=880~1050nm.



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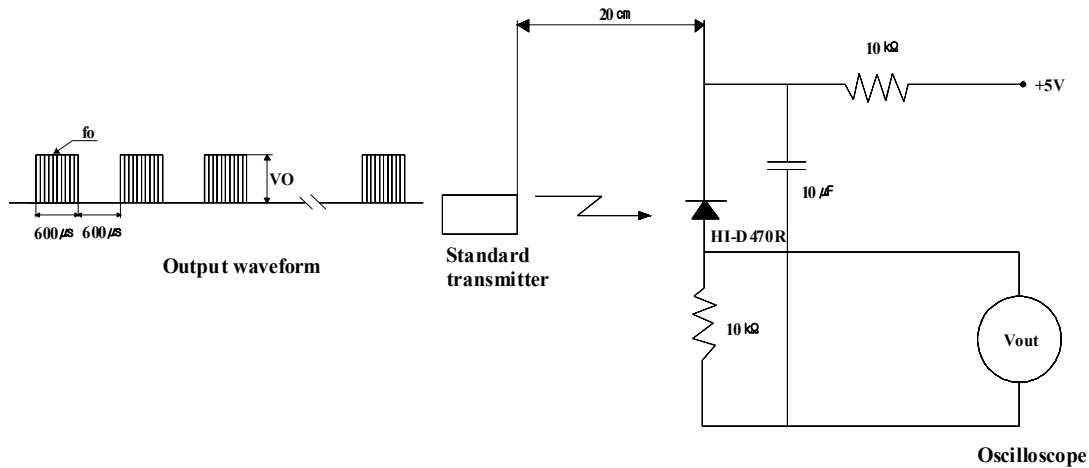


Fig.1 Standard transmitter

### (2) Standard optical system

Using a standard transmitter (Fig.1) output pulse width  $T_{WL}$  and  $T_{WH}$  is tested at the detector face illuminance  $E_e=200LUX$  by outer peripheral light source.

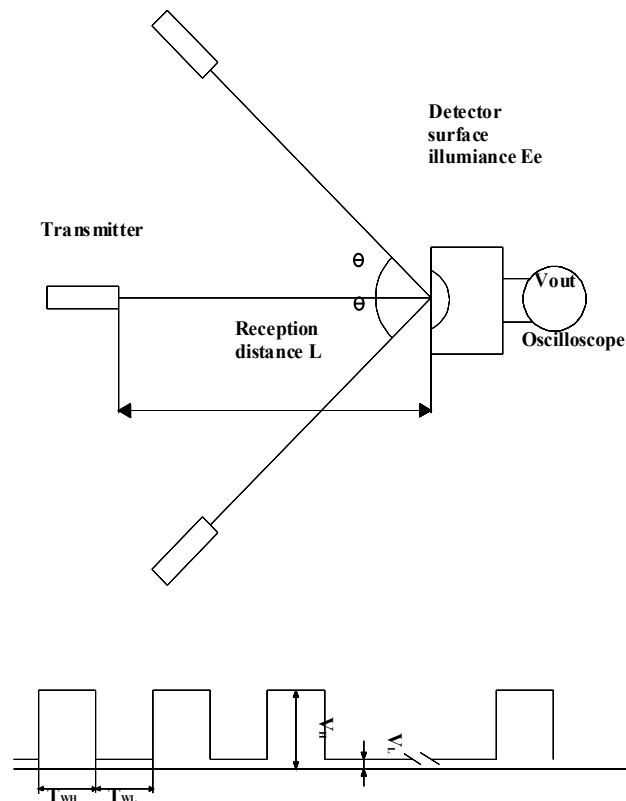


Fig.2 Standard optical test system



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### 8. Reliability test items and condition

No.	Test Items	Test Conditions
1	Terminal tension	Weight: 50g, 30 sec. / each terminal
2	Terminal bending	Weight: 250g, 0°~ 90°~ 0°, 2times /each terminal
3	Shock	Acceleration: 100g, 6ms, 3direction /3times
4	Variable frequency Vibration	Fre.R:10~55Hz/1min,Amp.: 1.5mm X,Y,Z/2H.each
5	High temp./high hum. storage	Ta=40 °C, 90%RH t=240H
6	High temperature storage	Ta=75 °C t=240H
7	Low temperature storage	Ta=-20 °C t=240H
8	Temperature cycling	-20 °C (30min.)~+70 °C (30min.) 20cycle
9	Operation life (high temp.)	Ta=60 °C, Vcc=5V t=240H
10	Soldering heat	260 ± 5 °C 5sec.

In performance test, Electro-optical characteristics should be satisfied but it is required that the samples passed through test No.5~No.9 are left 2 hours at normal temperature and humidity after being taken out of the chamber.



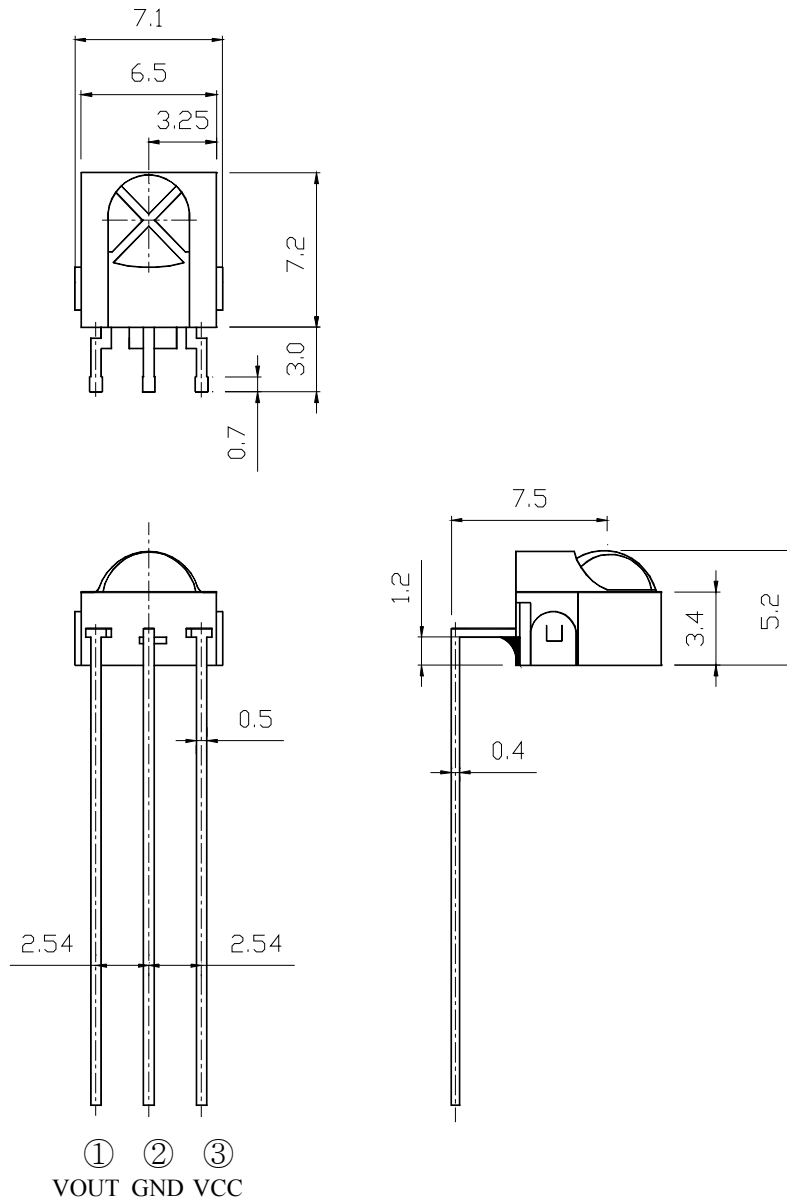
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### 9. Dimension



Tolerance:  $\pm 0.3$  unless otherwise specified