DATE: 2007. 06. 15.

SPECIFICATION

PRODUCT : REMOCON MODULE

MODEL : R24FV1A

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OPTO ELECTRONICS CO., LTD. (株) 元 光 電 子	T I T L E REMOCON PREAMP R24FV1A	문 서 번 호	OQSS-R-292
		개 정 번 호	IR
		개 정 일 자	2007년 06월 15일
		P A G E	1 / 6

1. GENERAL DESCRIPTION

The R24FV1A is miniaturized receiver for infrared remote control systems. PIN photo diode and preamplifier are assembled on lead frame, the epoxy package is designed as IR filter.

2. Application

AV equipment such as TV sets, VCRs and AUDIO equipment.
HA equipment such as air conditioners and electric fans.

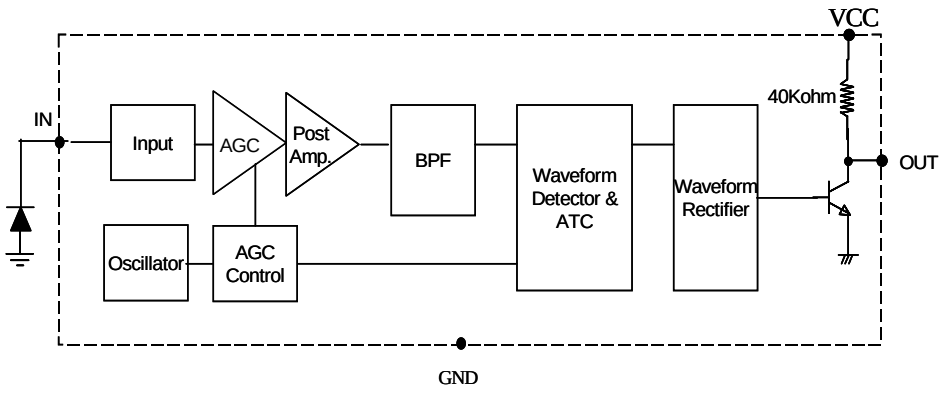
3. Outline

Refer to the attached drawing R24FV1A

4. Features

* Wide Operating Voltage 2.7~6.0V
* Photo detector and preamplifier in one package
* Enhanced immunity against all kinds of disturbance light
* High performance photo diode and built-in excursive I·C
* High speed response and output
* Low consumption of electric power and easy use

5. Block Diagram



NOTE

6. Ratings and Characteristics

6-1. Absolute maximum ratings

(Ta=25℃)

Characteristics	Symbol	Min	Max	Unit
Supply voltage	Vcc	0	6.0	V
Supply Current	Icc	0	3.0	mA
Output Voltage	Vout	0	6.0	V
Output Current	Iout	0	2.5	mA
Operating temperature	Tamb	-25	85	℃
Storage temperature	Tstg	-25	85	℃
Soldering temperature	Tsol	260 , 5 sec		℃

6-2. Electro-optical characteristics

* All values are at 25℃

(Ta=25℃)

Characteristic	Symbol	Condition		Min	Typ	Max	Unit
Supply voltage	Vcc			2.7	-	6.0	V
Supply Current	Icc	*1		0.5	-	1.7	mA
Resonance frequency	Fo			-	38	-	KHz
Peak wave length	λp			-	980	-	nm
H level output voltage	Voh	*2		4.8	5.0	-	V
L level output voltage	Vol	*2		-	0.2	0.4	V
Output Pulse width	Tpw	*2		500	600	700	us
Arrival distance	L	*2,3,4	±0° 3.0V	20	-	-	m
			±0° 5.0V	25	-	-	
			±30°	15	-	-	
			±45°	08	-	-	
Output form	Active low						

◈ 1. No input signal, Vin=0V

◈ 2. The specifcations 6-2 shall be satisfied under the following conditions

2-1. The burst wave forms shown bellow in the Fig 1 shall be transmitted by the standard transmitter.

The standard transmitter shall be specified of the burst wave form in the Fig 1 adjusted to Vin 500uVpp upon Po measuring circuit Fig 2.

NOTE

Fig 1. Output Waveform

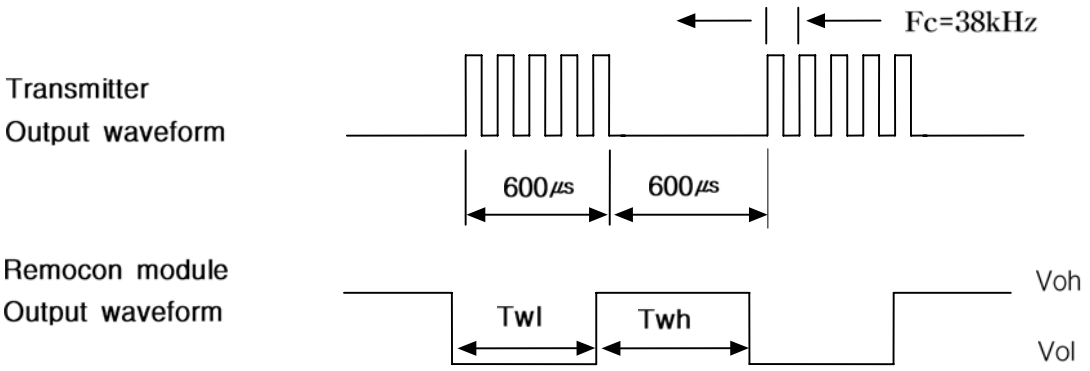
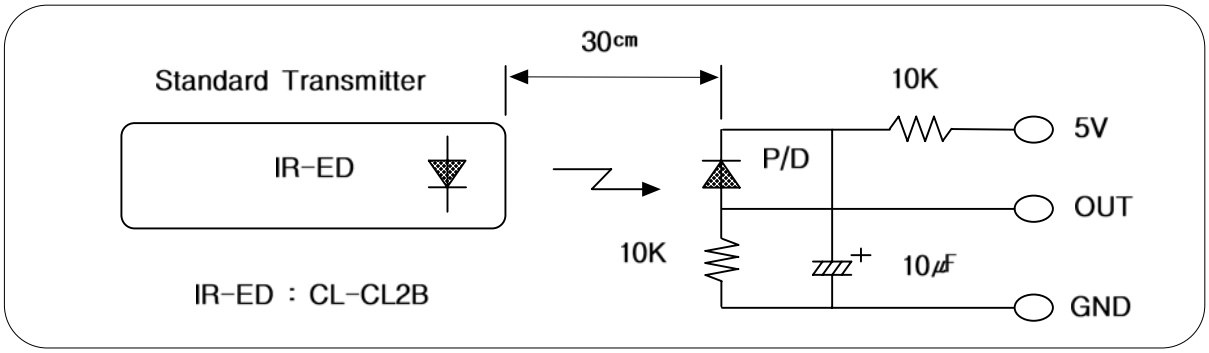
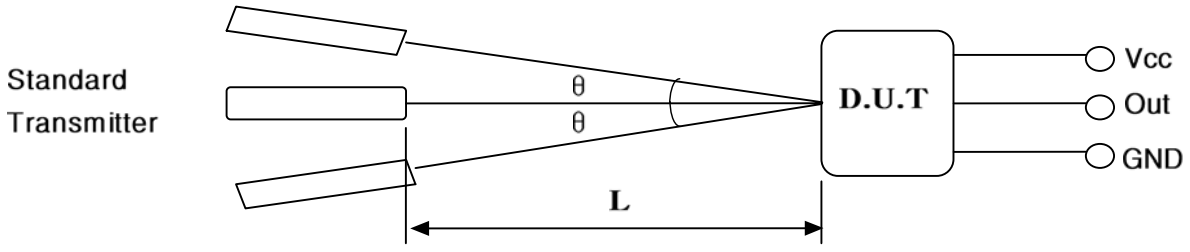


Fig 2. Po Measuring circuit



◈ 3. Arrival distance test condition



Where θ : Horizontal and vertical directions

D.U.T : Device under test

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

NOTE

7. Reliability

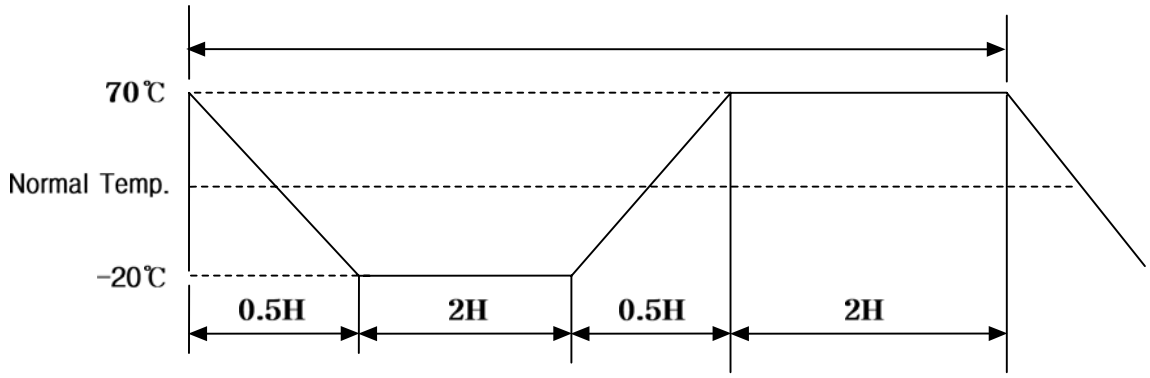
Test items	Test conditions	Remarks
High temp high humid	Ta=40℃ 90%RH t=96H	* 1, 2
Heat cycle	* 2, 3	
Fall test	* 4	

* 1. Supply voltage 2.7V~6V in the load test.

* 2. Electro-optical chara. (6-2) shall satisfy the figure they be left 2H at normal condition.

* 3. Heat cycle test as below Fig 3 for 20 cycles under no load.

Fig 3. heat cycle



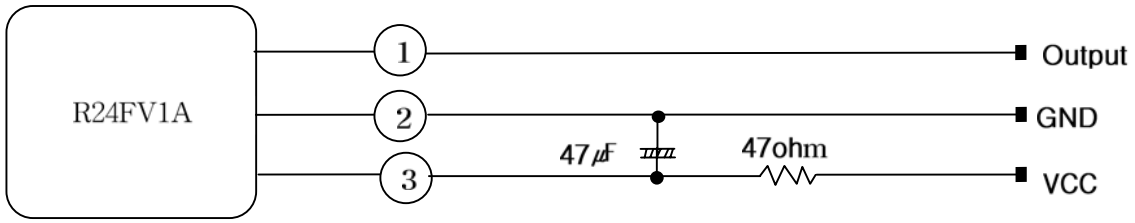
◈ 4. Fall test

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

NOTE

8. The Others

In case of noisy power supply, please serially insert about 47ohm resistance and about 47uF Electrolytic capacitance in Vcc line as follows.



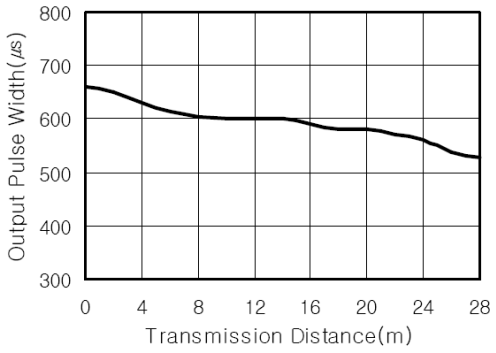
9. Precaution in handling

When soldering leave 2mm of minimum clearance between the resin and the soldering point.

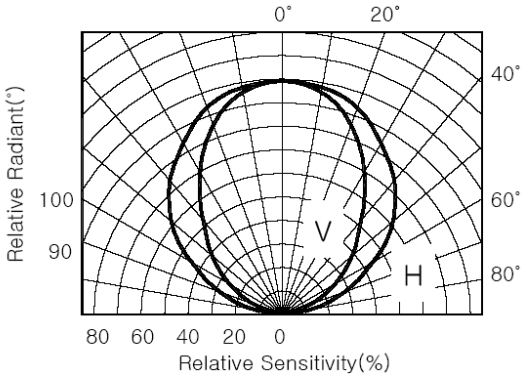
NOTE

■Typical Characteristics (Tamb = 25℃ unless otherwise specified)

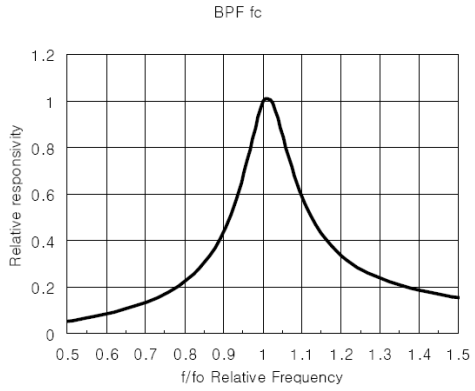
Output Pulse Width Vs. Distance



Directivity(Horizontal/Vertical)



BPF Fc Curve



NOTE