

## ● 概述 (Description) :

JY-19..系列是一种集成了光探测器和前置放大器的微型红外遥控接收放大装置。环氧封装可以滤除可见光的干扰，检波输出的信号可直接由微处理译码，JY-19..系列是标准的红外遥控接收放大装置，支持所有主要的传输代码。

The JY-19- series are miniaturized receivers for infrared remote control systems. PIN diode and preamplifier are assembled on leadframe, the epoxy package is designed as IR filter.

The demodulated output signal can directly be decoded by a microprocessor, JY-19.. is the standard IR remote control receiver series, supporting all major transmission codes.

## ● Parts Table

Type	f <sub>o</sub>	type	f <sub>o</sub>	type	f <sub>o</sub>
JY-1930	30 KHz	JY-1933	33 KHz	JY-1936	36 KHz
JY-1937	36.7 KHz	JY-1938	38 KHz	JY-1956	56 KHz

## ● 特点 (Features):

- ◆ 没有外围元件，可靠性高 (No external parts, high reliability)
- ◆ 内部屏蔽，抗干扰能力强 (Inner shield, good anti-interference ability)
- ◆ 2.5~5.6V 供电电压，功耗低 (2.6~5.5V supplied voltage, low power consumption)
- ◆ 灵敏度高，传输范围大 (High sensitivity, large transmission range)
- ◆ TTL 和 CMOS 兼容 (Capability of TTL & CMOS)

## ● 极限参数 (Ta=25°C) (Absolute Maximum Ratings, Ta=25°C)

参数 Parameters	符号 Symbol	额定值 Rated value	单位 Unit
电源电压 Supply voltage	V <sub>s</sub>	5.6	V
电源电流 Supply current	I <sub>s</sub>	5.0	mA
工作温度 Operation Temp.	T <sub>amb</sub>	-25~+105	°C
贮存温度 Storage Temp.	T <sub>stg</sub>	-25~+105	°C
焊接温度 (5 秒) Soldering Temp. (5s)	T <sub>sd</sub>	+260	°C

## ● 光电参数 (Ta=25°C) (Opto-electric characteristics, Ta=25°C)

参数 Parameters	符号 symbol	测试条件 Test condition	最小值 Min.	典型值 Typ.	最大值 Max.	单位 Unit
电源电流 Supply current	$I_{CC}$	$V_s=5V$ $E_v=0$		0.8	1.25	mA
峰值波长 Peak wavelength	$\lambda_p$			940		nm
调制频率 Modulated freq.	$f_0$			37.9		KHz
高电平输出电压 High output voltage	$V_{OH}$	$E_v=0.5\text{mw/m}^2$ 周期=1.2ms (Cycle=1.2ms) 占空比=50% (Duty=50%)	4.5			V
低电平输出电压 Low output voltage	$V_{OL}$				0.4	V
高电平输出脉宽 High output pulse width	$T_{Wh}$		400	600	800	$\mu\text{S}$
低电平输出脉宽 Low output pulse width	$T_{wl}$		400	600	800	$\mu\text{S}$
接收距离 Receiving distance	L	$V_s=5V$ $E_v=(200\pm 50)L_x$	18			M
受控角 Controlled angle	$\Delta\theta$	$V_s=5V$ $E_v=(200\pm 50)L_x$ L=6.5M		$\pm 48$		deg

● 可靠性试验要求 (Reliability Test)

组别 GROUP	试验项目 TEST ITEM	试样 SAMPLE NUMBER	试验条件 TEST CONDITIONS	指标 TECHNICAL DATA	合格 OK NUM
1	耐焊接热试验 Soldering heat Durability test	16	(260±5)℃, (10±1)S, 浸渍到离器件本体 (2-2.5)mm the distance from the body to merging (2-2.5)mm	恢复1小时后,测试光电参 数符合表二要求 After resuming for 1 hour, test photoelectric parameters in Table 2.	16
2	温度快速变化 Temp. Fast Changing	12	Ta=(-25±3)℃、Tb=(85±2)℃ 暴露时间:10分钟 Exposure duration:10 min. 转移时间:(2-3)分钟 Transfer duration:2-3 min. 循环次数:5次 Circulation:5cycles. 恢复2小时后,做循环湿热试验. After resuming for 2 hours, do the experiments of circulating humidity & heat.	恢复4小时后,测试光电参 数符合表二要求. After resuming for 4 hour, test photoelectric parameters in Table 2.	12
	循环湿热 Circulating Hmidity & Heat.		(55±2)℃,2次(2 cycles)		
3	电耐久性 Operating Life	25	Vs=5V, Ev=0.5mW/m <sup>2</sup> , 1000h	恢复4小时后,测试下列光 电参数: After resuming for 4 hour, test the following parameters : 距离(distance):L≥18M 受控角(angle): △θ ≥ ±48deg	25
4	高温贮存 High Temp. Storage	16	85±2℃, 1000h	恢复4小时后,测试光电参 数符合表二要求. After resuming for 4 hour, test photoelectric parameters in Table 2.	16



● 特性曲线 (Characteristics Curve) ( $T_{amb}=25^{\circ}C$  unless otherwise specified)

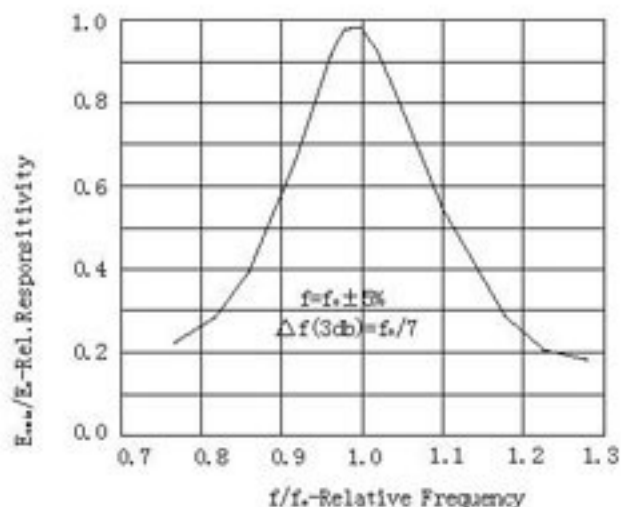


Figure 1. Frequency Dependence of Responsivity

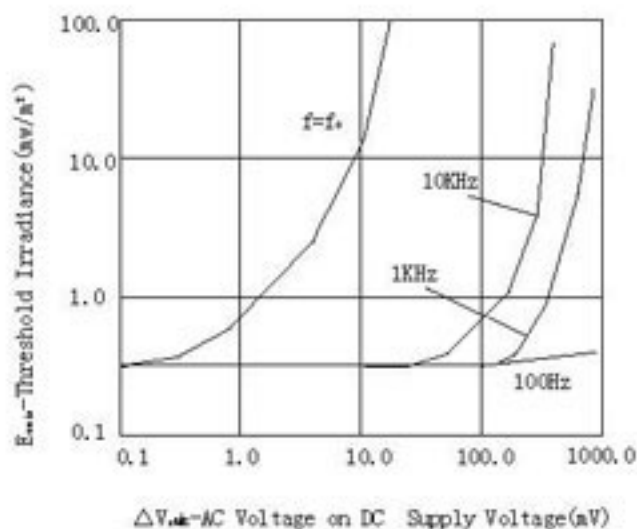


Figure 2. Sensitivity vs. Supply Voltage Disturbances

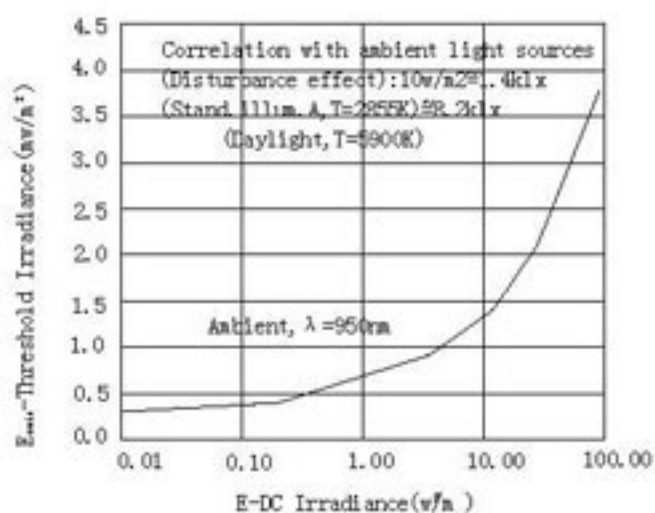


Figure 3. Sensitivity in Bright Ambient

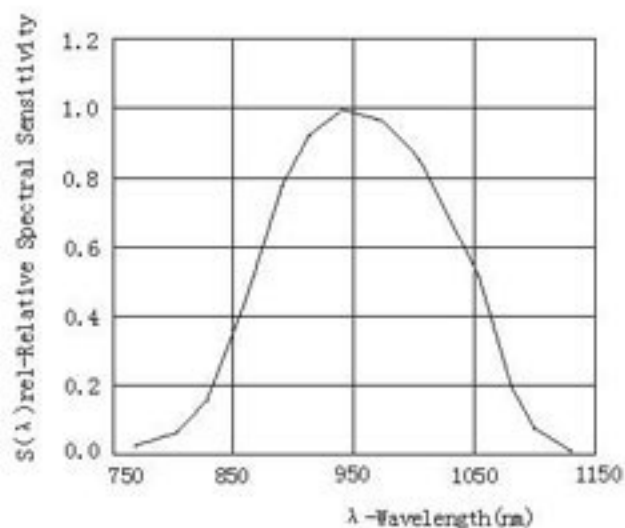


Figure 4. Relative Spectral Sensitivity vs. Wavelength

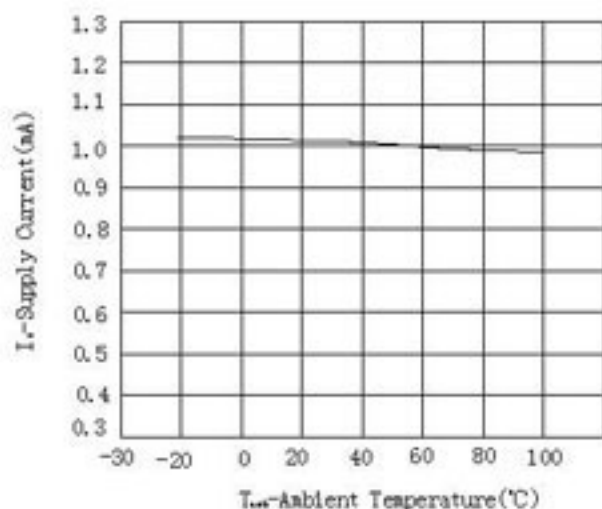


Figure 5. Supply Current vs. Ambient Temperature

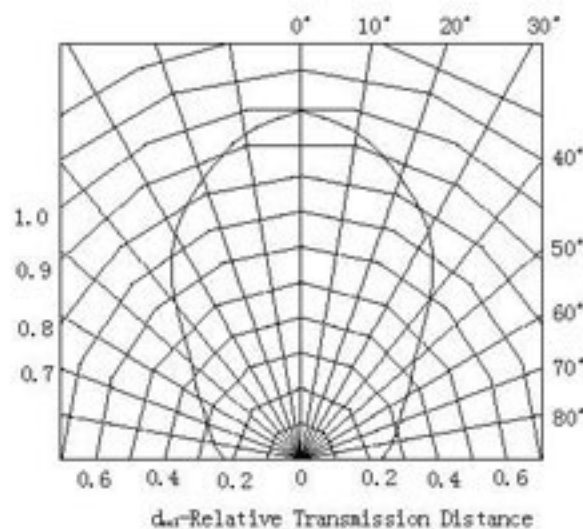
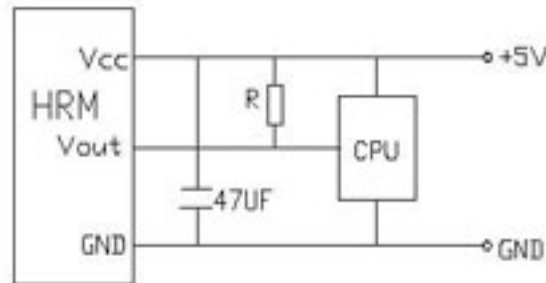


Figure 6. Directivity

推荐应用线路 (Recommended circuit) -fig. 1



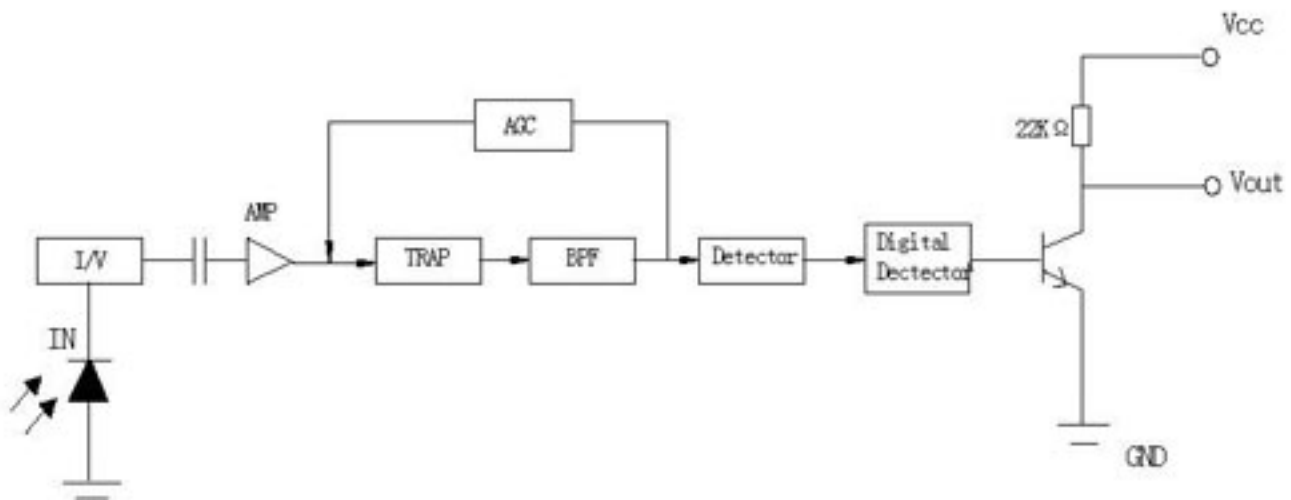
注: (1)当负载电阻为32. 4kΩ时, 推荐外接上拉电阻在1. 6-8. 5kΩ.

(2)当负载电阻改变, R也应作相应调整.

NOTE: (1)When load is 32. 4kΩ, 1. 6-8. 5kΩ external pull-up resistor(R) is recommended.

(2) R shall be adjusted with changing of load .

● Block diagram



● 外形图 (Outline)

