

INFRARED RECEIVER MODULE

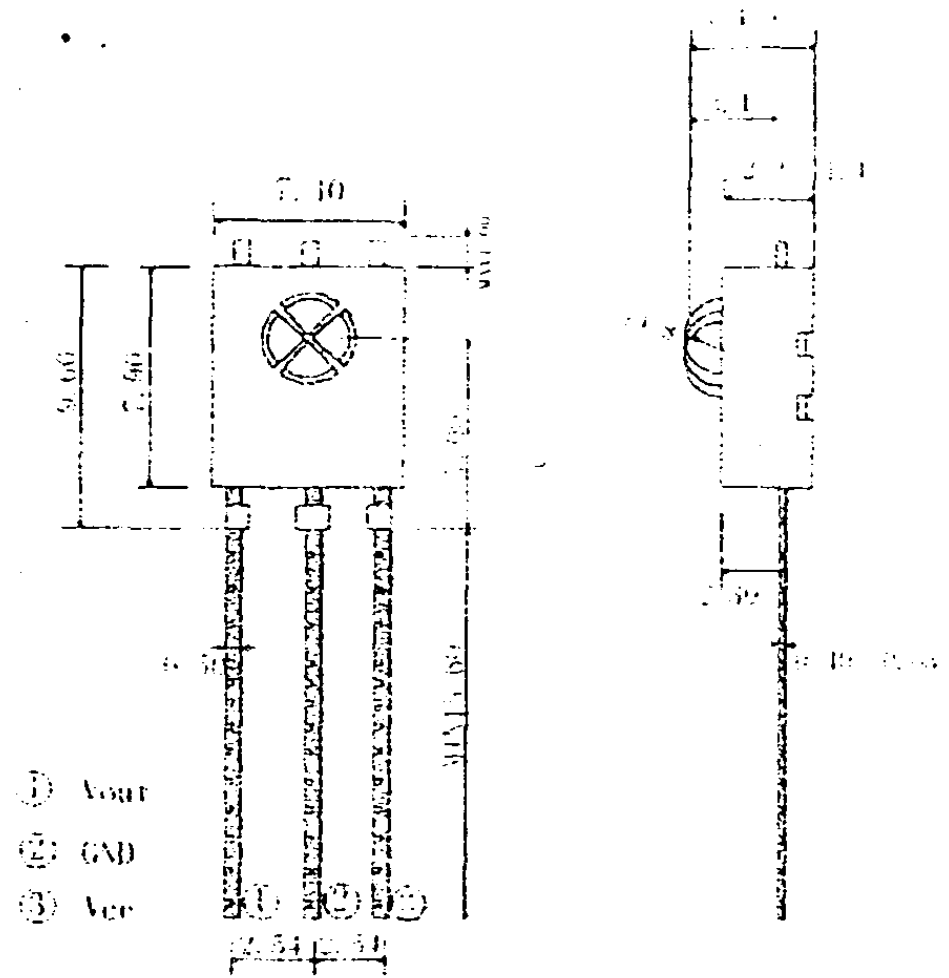
SJ1838 SERIES

Description

The SJ1838 series is 37.9 KHz miniaturized Infrared receivers for remote control and other applications requiring improved ambient light rejection. The separate PIN diode and preamplifier IC are assembled on a single leadframe. The epoxy package contains a special IR filter. This module has excellent performance even in disturbed ambient light applications and provides protection against uncontrolled output pulses.

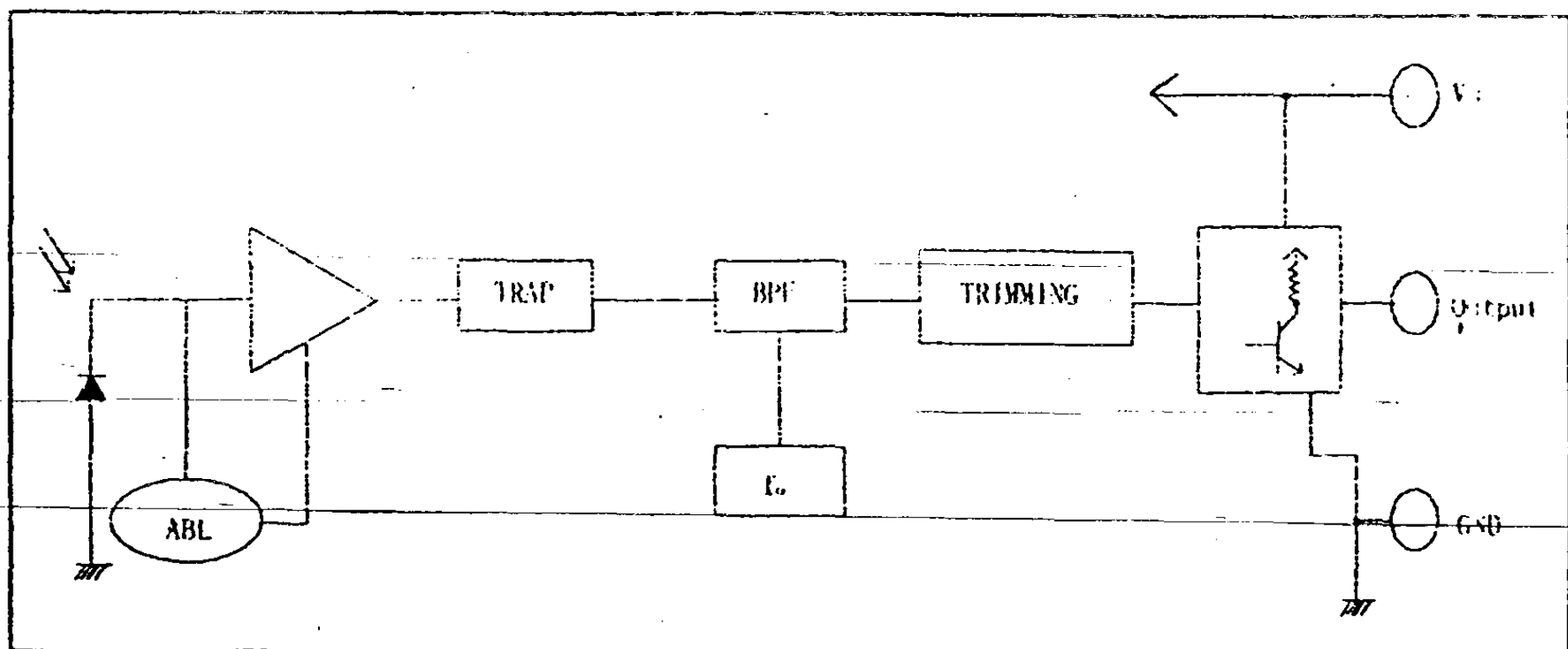
Features

- Photo detector and preamplifier in one package
- Internal filter for PCM frequency
- High immunity against ambient light
- Improved shielding against electric field disturbance
- 5.0-Volt supply voltage, low power consumption
- TTL and CMOS compatibility



Ps 1. MATERIAL : 0.10±0.05 THICK
2. TOLERANCE : ±0.1 UNLESS OTHERWISE SPECIFIED

BLOCK DIAGRAM



Absolute Maximum Ratings

@Ta=25°C

Item	Symbol	Ratings	Unit	Remark
Supply voltage	V _{cc}	5.8	V	
Operating temperature	T _{opr}	-10~+60	°C	
Storage temperature	T _{stg}	-20~+75	°C	
Soldering temperature	T _{sd}	260	°C	Maximum 5 seconds

Electro-optical characteristics (V_{cc}=5V)

(Ta=25°C, V_{cc}=5V)

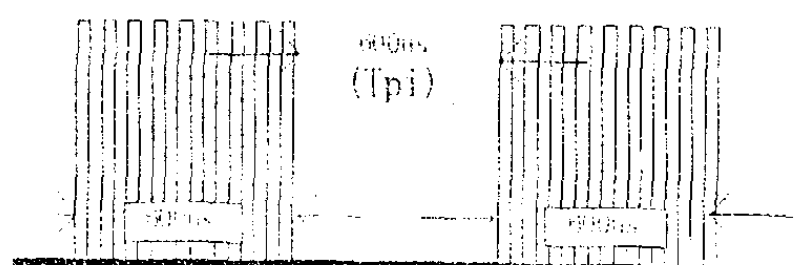
Parameter	Symbol	Min	Typ	Max	Unit	Remarks
Current consumption	I _{cc}			5.0	mA	Under no signal
Peak wavelength	λ _P		940		nm	Note 1
Tuning frequency	f _o		37.9		KHz	Note 1
Output form	----active low output----					
H level output voltage	V _{oh}	4.2			V	Note 1
L level output voltage	V _{ol}			0.5	V	Note 1
H level output pulse width	T _{wh}	400		800	μs	Note 1
L level out pulse width	T _{wh}	400		800	μs	Note 1
Distance between emitter&detector	L	10.0			m	Note 1
Half angle	Δθ		±45		deg	Horizontal direction

Test Method

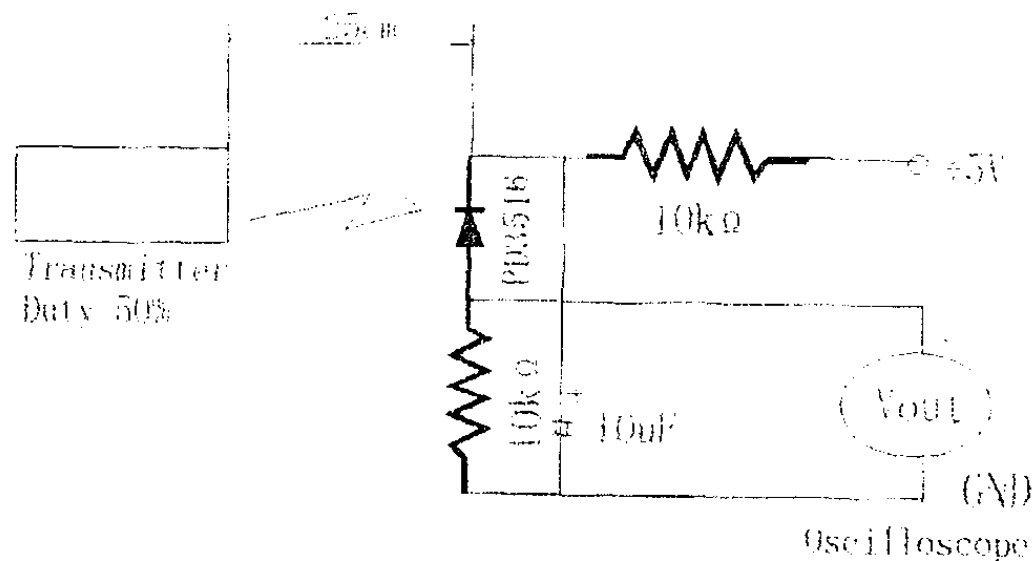
A. Standard Transmitter

ON/OFF pulse width satisfied from 25 cm to detection limit

Carrier frequency f_c
duty 50%



Drawing 1. Burst Wave



Use Oscilloscope

Drawing2. Standard Transmitter Measurement circuit

