

## INFRARED RECEIVER MODULE

### ● Description

1. The BRM-2508-FB2.05 is miniaturized infrared Receivers for remote control and other applications requiring improved ambient light rejection.
2. The separate PIN diode and preamplifier IC are assembled on a single lead frame.
3. The epoxy package contains a special IR filter.
4. This module has excellent performance even in disturbed ambient light applications and provides protection against uncontrolled output pulses.

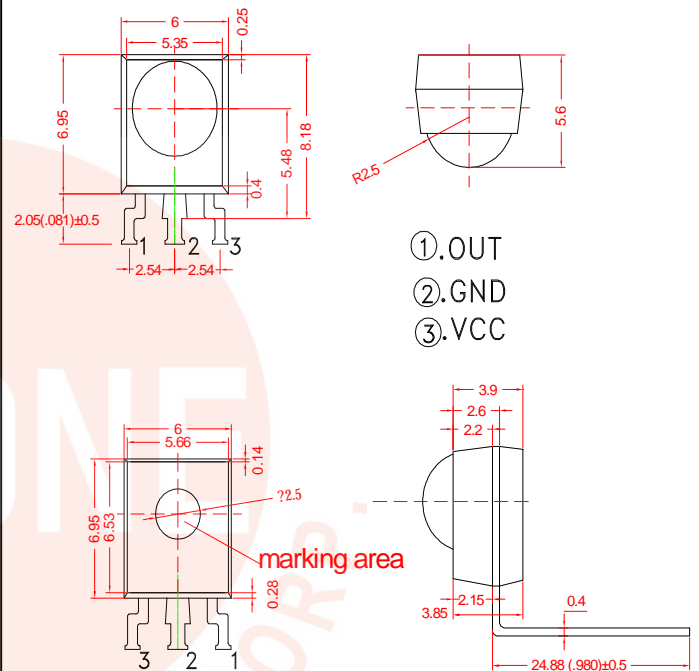
### ● Features

1. Photo detector and preamplifier in one package .
2. Internal filter for PCM frequency.
3. High immunity against ambient light.
4. Improved shielding against electric field disturbance.
5. 2.7V or 5.5V supply voltage; low power consumption.
6. TTL and CMOS compatibility.
7. Suitable transmission code:NEC code,RC5 code.
8. This product doesn't contain restriction substance, comply ROHS standard

### ● Applications:

1. It can be used for TVs 、VTRs 、audio equipment air conditioners 、 car stereo radio 、toys 、 home computers and all other equipment requiring remote control.

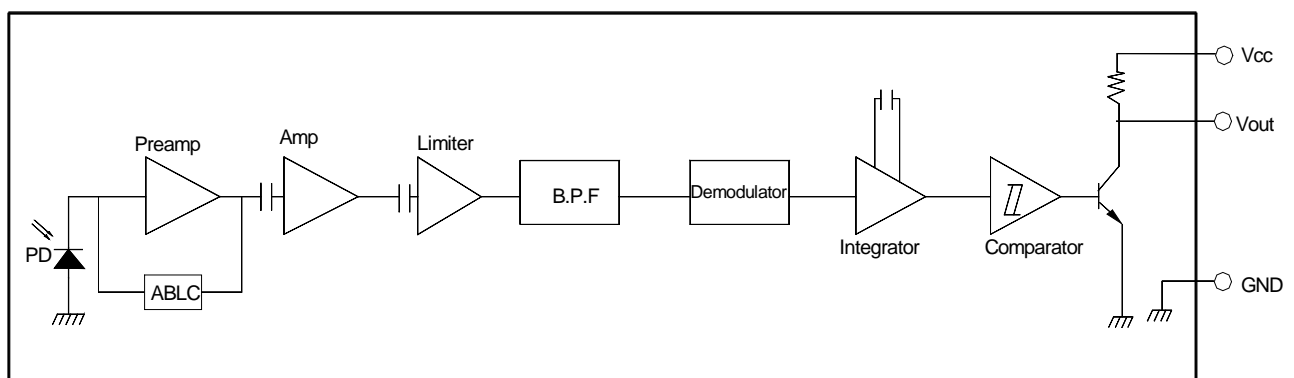
### ● Package Dimensions:



### NOTES:

- 1.All dimensions are in millimeters (inches).
- 2.Tolerance is  $\pm 0.25\text{mm}$  (0.01") unless otherwise specified.
- 3.Specifications are subject to change without notice.

### ● BLOCK DIAGRAM



## 2 Absolute Maximum Ratings(Ta=25℃)

| Parameter             | Symbol | Ratings | Unit | Notice                                |
|-----------------------|--------|---------|------|---------------------------------------|
| Supply Voltage        | Vcc    | 2.7~5.5 | V    | —                                     |
| Operating Temperature | Topr   | -40~+85 | ℃    | —                                     |
| Storage Temperature   | Tstg   | -40~+85 | ℃    | —                                     |
| Soldering Temperature | Tsol   | 260     | ℃    | 4mm from mold body<br>less than 5 sec |

## 2 Electrical And Optical Characteristics(Ta=25℃)

| Parameter                 | Symbol | Condition   | Ratings |      |      | Unit |
|---------------------------|--------|---|---------|------|------|------|
|                           |        |   | Min.    | Typ. | Max. |      |
| Supply Voltage            | Vcc    | DC voltage  | 2.7     | —    | 5.5  | V    |
| Supply Current            | Icc    | No signal input(Vcc=3V)   | —       | 0.9  | 1.5  | mA   |
|                           |        | No signal input(Vcc=5V)   | —       | 1.0  | 1.5  |      |
| Reception Distance        | L      | Set-top box   | 12      | 20   | —    | m    |
|                           |        | Electricity meter   | 3       | 6    | —    |      |
| B.P.F Center Frequency    | fo     | —   | —       | 38   | —    | KHz  |
| Peak Wavelength           | lp     | —   | —       | 940  | —    | nm   |
| Half Angle                | q      | —   | —       | 45   | —    | deg  |
| High Level Pulse Width    | TH     | Specified by the output TH period within a range from 10cm to the arrival distance (average value of 50 pulses) | 400     | —    | 800  | (S   |
| Low Level Pulse Width     | TL     | Specified by the output TL period within a range from 10cm to the arrival distance (average value of 50 pulses) | 400     | —    | 800  | (S   |
| High Level Output Voltage | VH     | 10cm over the ray axis(Vcc=3V)  | 2.7     | 3.0  | —    | V    |
|                           |        | 10cm over the ray axis(Vcc=5V)  | 4.7     | 5.0  | —    |      |
| Low Level Output Voltage  | VL     | 10cm over the ray axis  | —       | —    | 0.5  | V    |

NOTES: Sutable min. burst length=6pulses

## 2 Application Circuit

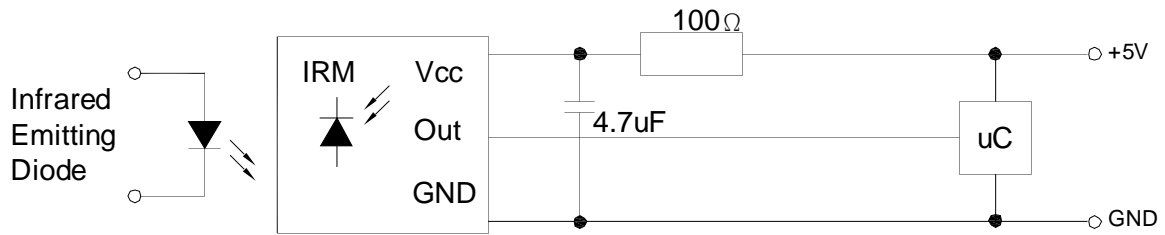


Fig.1 Transmitter Wave Form

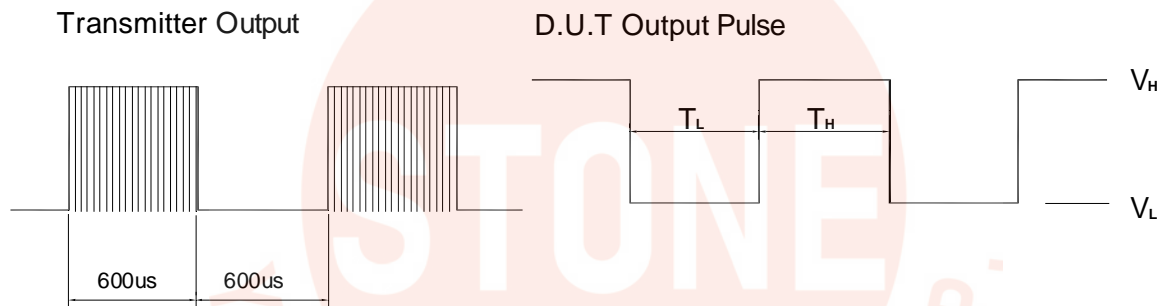


Fig.2 Measuring Method

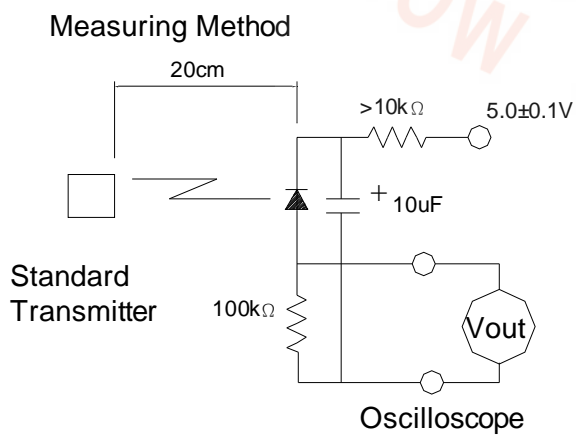
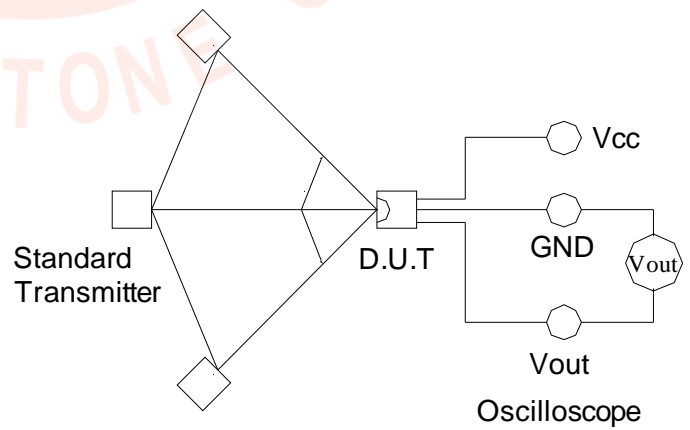


Fig.3 Measuring System



## 2 Electrical And Optical Curves(Ta=25°C)

Fig.4 Relative Spectral Sensitivity vs. Wavelength

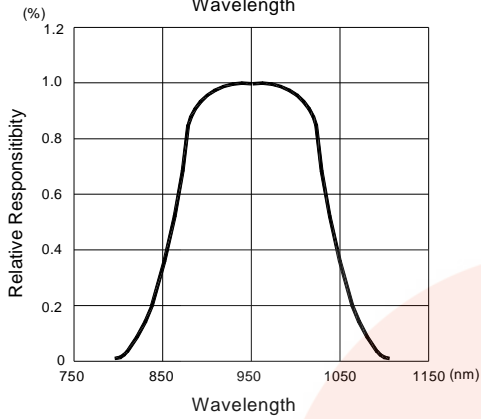


Fig.5 Relative Transmission Distance vs. Direction

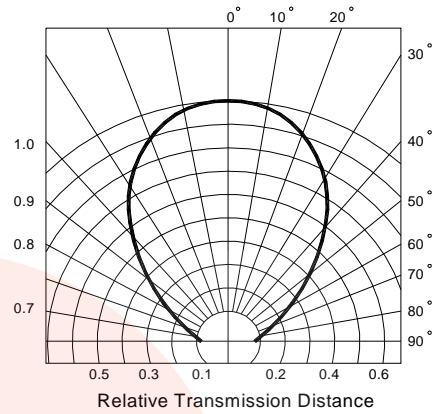


Fig.6 Output Pulse Diagram

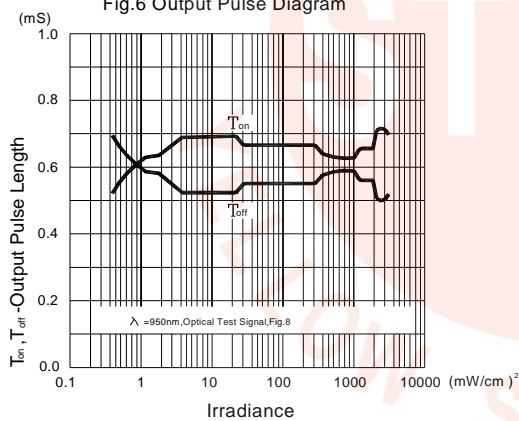


Fig.7 Supply Current vs. Ambient Temperature

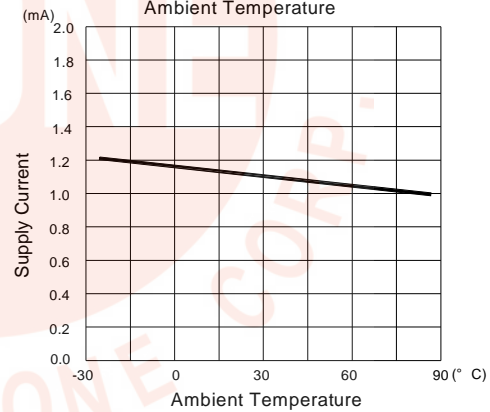


Fig.8 Frequency Dependence of Responsivity

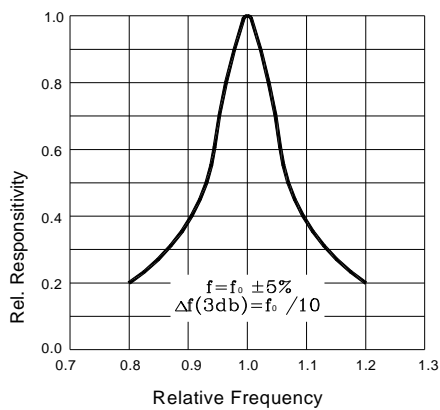
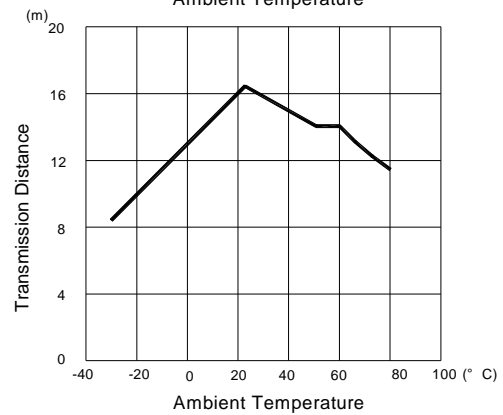
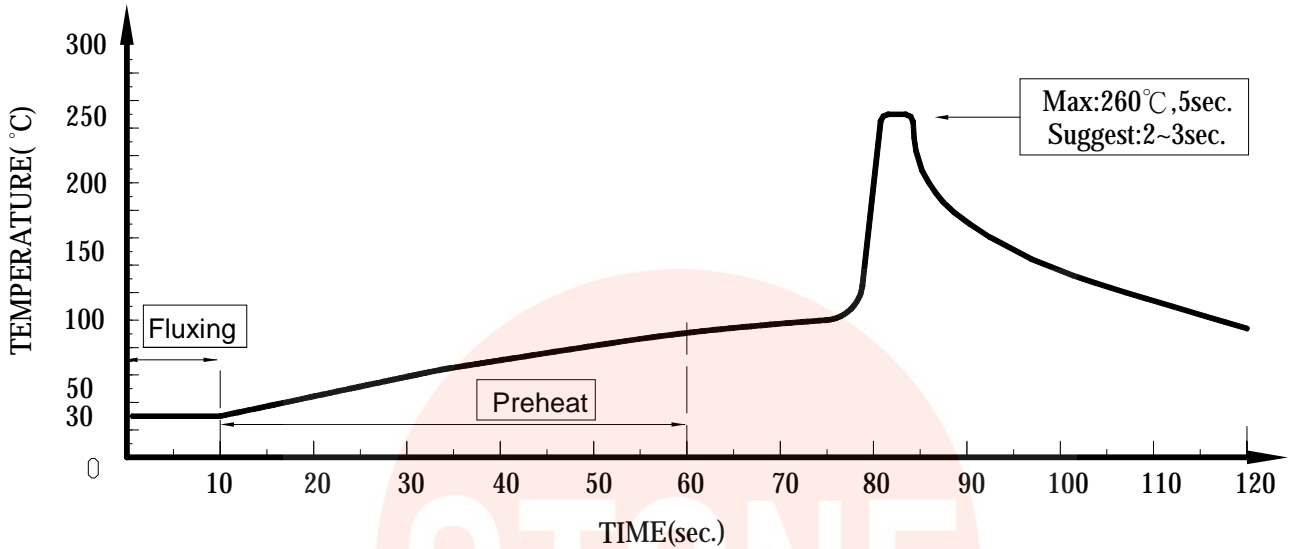


Fig.9 Arrival Distance Vs. Ambient Temperature



## ● Dip Soldering

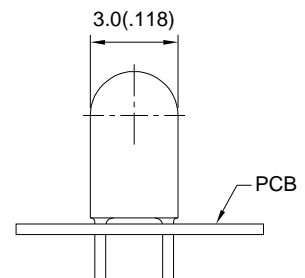


1. Please avoid any external stress applied to the lead-frames and epoxy while the LEDs are at high temperature, especially during soldering
2. DIP soldering and hand soldering should not be done more than one time.
3. After soldering, avoid the epoxy lens from mechanical shock or vibration until the LEDs are back to room temperature.
4. Avoid rapid cooling during temperature ramp-down process
5. Although the soldering condition is recommended above, soldering at the lowest possible temperature is feasible for the LEDs

## ● IRON Soldering

**A: Max: 350°C Within 3 sec. One time only.**

**B: The products of 3mm without flange, welding condition of flat plate PCB Max: 350°C Within 2 sec. One time only**





**Precautions for use:**

1. Since the device is static sensitive, it is requested that anti-static measures should be taken on human body, all devices (including soldering iron) and equipment, machinery, desk and ground;
2. Do not supply unnecessary stress to lead;
3. Please pay careful attention to the lens of receivers, It might have a chance to miss-function when the lens gets dust or dirty. And also please do not touch the lens.

