

# Technical Data Sheet

## Infrared Remote-control Receiver Module

# BRM-0505

### INFRARED RECEIVER MODULE

#### ● Description

1. This 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.

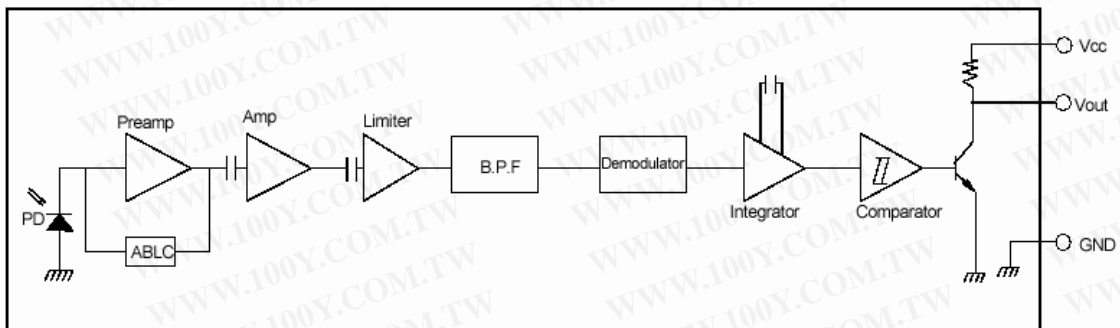
#### ● Features

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. 3.0 or 5.0V 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

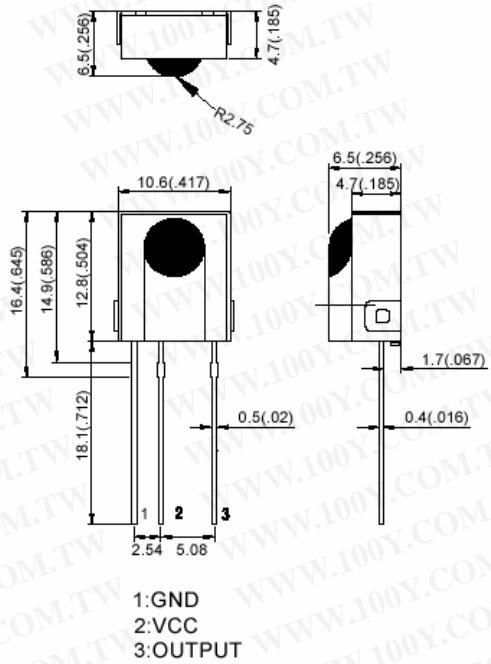
#### ● Applications:

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.

#### ● BLOCK DIAGRAM



#### ● Package Dimensions:



#### NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.10$ mm (0.004") unless otherwise specified.
3. Specifications are subject to change without notice.

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### ● Absolute Maximum Ratings ( $T_a=25^{\circ}\text{C}$ )

Parameter	Symbol	Ratings	Unit	Notice
Supply Voltage	Vcc	2.7~ 5.5	V	—
Operating Temperature	Topr	-30~+65	$^{\circ}\text{C}$	—
Storage Temperature	Tstg	-40~+85	$^{\circ}\text{C}$	—
Soldering Temperature	Tsol	260	$^{\circ}\text{C}$	4mm from mold body less than 5 sec

### ● Electrical And Optical Characteristics ( $T_a=25^{\circ}\text{C}$ )

Parameter	Symbol	Condition	Ratings			Unit
			Min.	Typ.	Max.	
Supply Voltage	Vcc	DC voltage	2.7	5.0	5.5	V
Supply Current	Icc	No signal input	—	—	1.5	mA
Reception Distance	L	At the ray axis	12	—	—	m
		In the range of 45° cone	6	—	—	
B.P.F Center Frequency	fo	—	—	38	—	KHz
Peak Wavelength	$\lambda_p$	—	—	940	—	nm
Half Angle	$\theta$	—	—	45	—	deg
High Level Pulse Width	$T_H$	Specified by the output $T_H$ period within a range from 10cm to the arrival distance (average value of 50 pulses)	400	—	800	$\mu\text{S}$
Low Level Pulse Width	$T_L$	Specified by the output $T_L$ period within a range from 10cm to the arrival distance (average value of 50 pulses)	400	—	800	$\mu\text{S}$
High Level Output Voltage	$V_H$	10cm over the ray axis	4.5	—	—	V
Low Level Output Voltage	$V_L$	10cm over the ray axis	—	—	0.5	V

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● Application Circuit

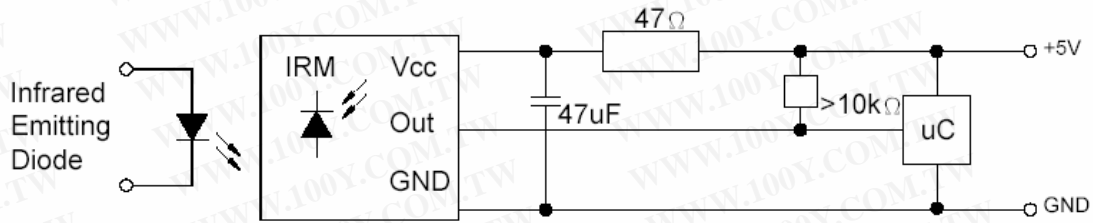


Fig.1 Transmitter Wave Form

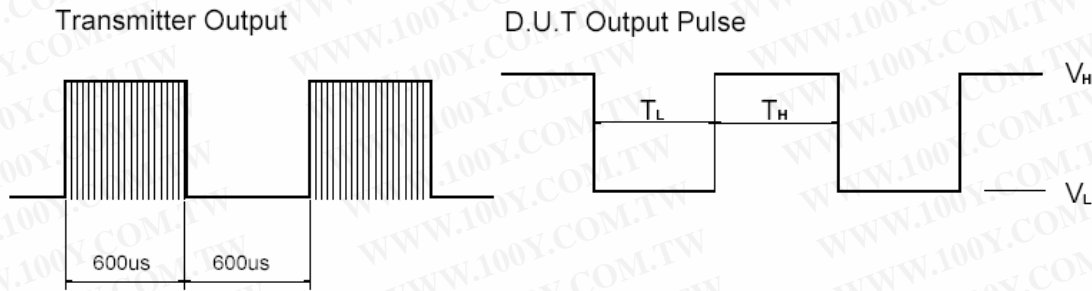


Fig.2 Measuring Method

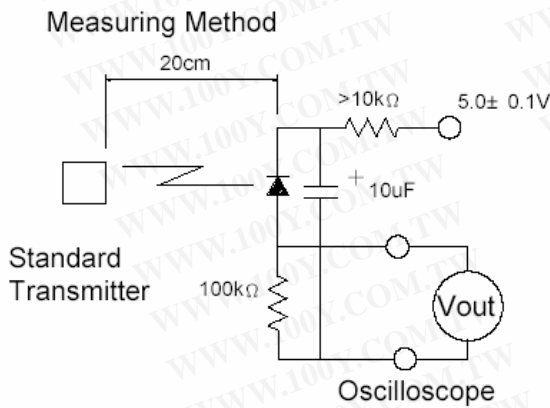
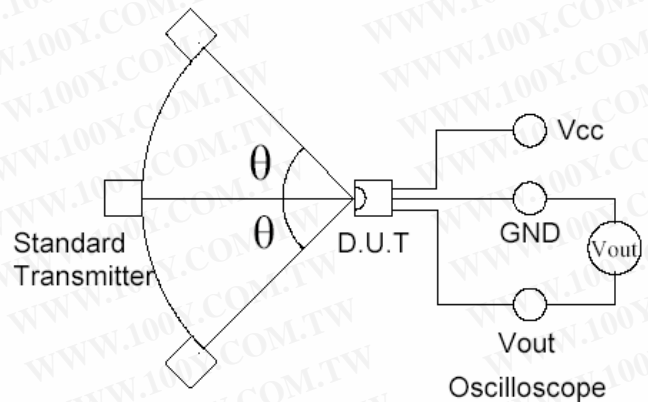


Fig.3 Measuring System



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● Electrical And Optical Curves(Ta=25°C)

Fig.4 Relative Spectral Sensitivity vs. Wavelength

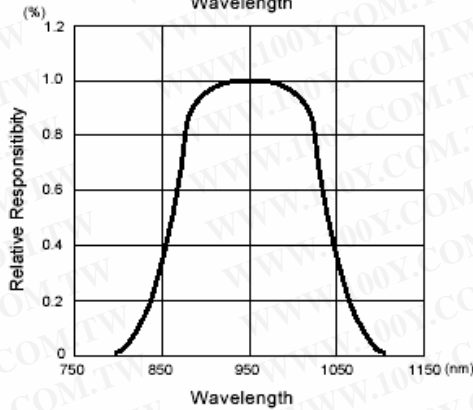


Fig.5 Relative Transmission Distance vs. Direction

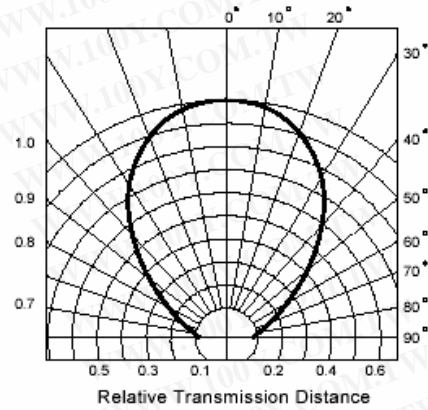


Fig.6 Output Pulse Diagram

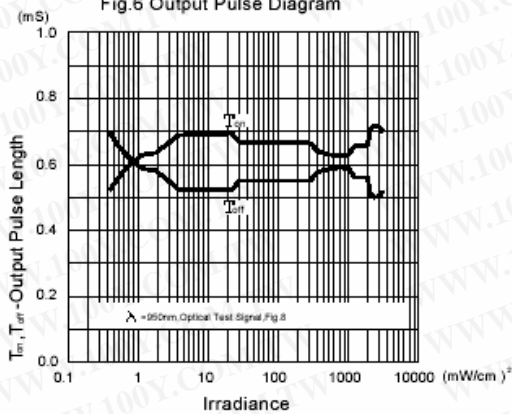
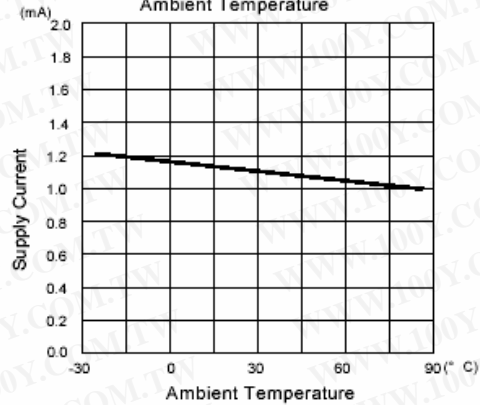


Fig.7 Supply Current vs. Ambient Temperature



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Fig.8 Frequency Dependence of Responsivity

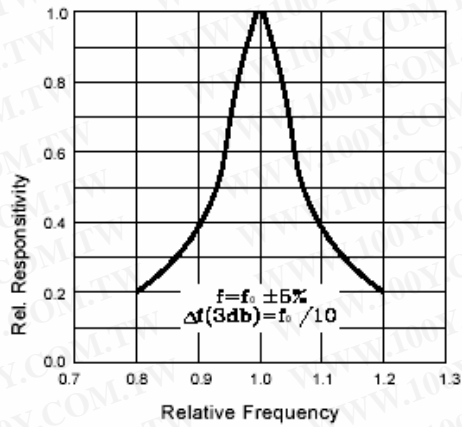
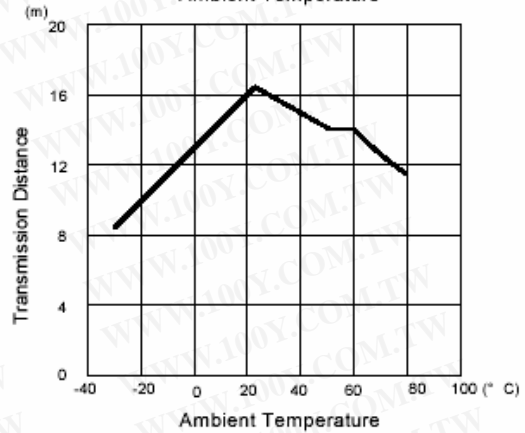


Fig.9 Arrival Distance Vs. Ambient Temperature



### Notes:

- 1、150pcs per bag, 1.8Kpcs per box.
- 2、All dimensions are in millimeters(inches).
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