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DATA SHEET

PART NO.:PL-IRM1838B

REV: A/0

CUSTOMER'S APPROVAL : _____ DCC : _____

INFRARED RECEIVER MODULE

Part No. :PL-IRM1838B REV: A/0

1.Descriptions:

The PL-IRM1838B is remote control receiver modules. Pin diode and receiver IC are assembled on one module. Small-sized, light-weight, and low current consumption. modules have been achieved by using resin mold. The demodulated output signal can directly be decoded by a microprocessor. The main benefit is the reliable function even in disturbed ambient and the protection against uncontrolled output pulses.

The service life can reach 5-8 years if used according tothe parameters and conditions guided by this specification.

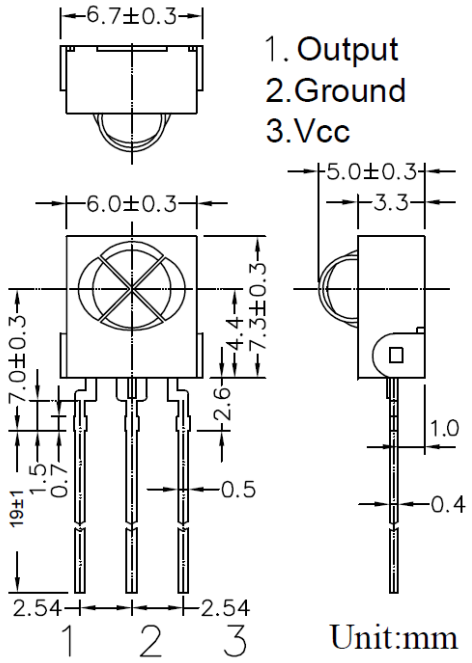
2.Features:

- ●Supply Voltage Range: 2.7V to 5.5 V;
- ●TTL and CMOS compatibility;
- ●Photo detector and preamplifier in one package;
- ●Internal filter for PCM frequency;
- ●Output active low
- ●Enhanced Immunity against all kinds of disturbance light
- ●No occurrence of disturbance pulses at output pin with in nominal conditions.
- ●Short settling time after power On
- ●Meet RoHS

3.Applications:

- ●Audio video applications.
- ●Home appliances
- ●Toy applications
- ●Remote control equipment

4. Package Dimensions:



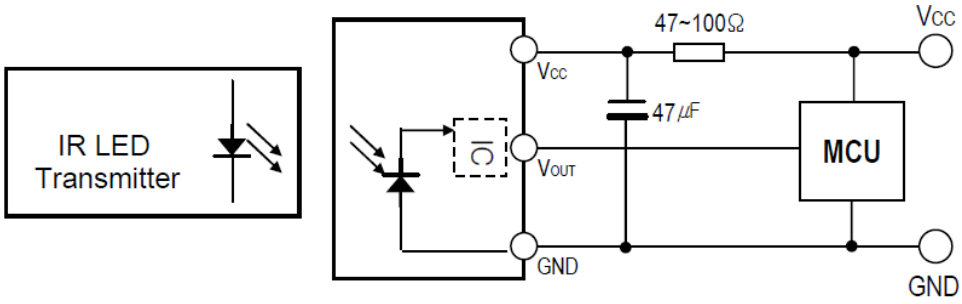
NOTES:

1.All dimensions are in millimeters

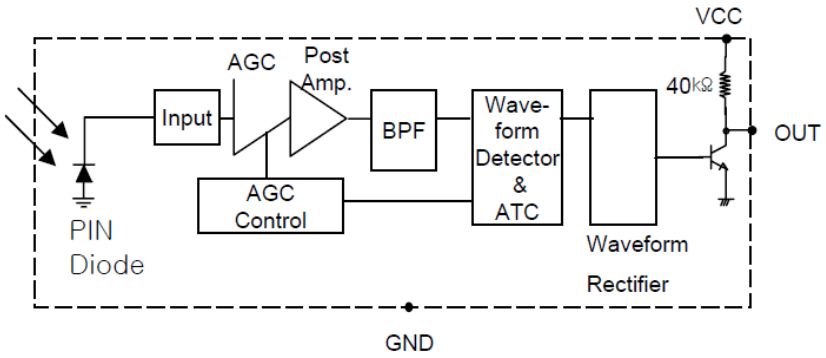
2.Tolerances are±0.1mm unless otherwise noted

3.The Specifications in the datasheet are subject to change without notice

5.Application circuit diagram:



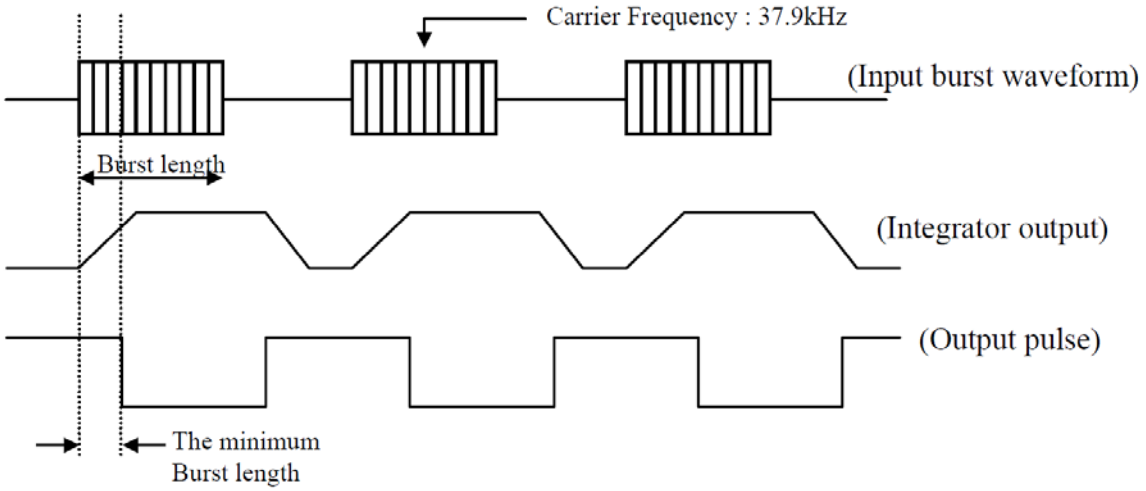
6.Block diagram:



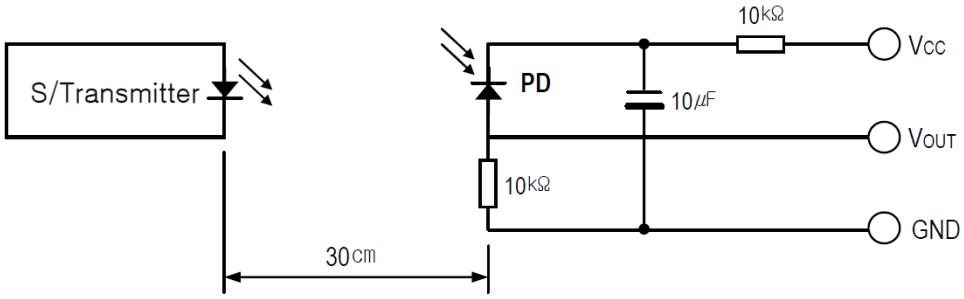
7.Typical electrical & optical characteristics(T=25℃):

Parameter	Symbol	Test condition	Min	Type	Max	Unit
Supply current	Icc	Iin=0μA, Vcc=3V	-	0.9	1.5	mA
		Iin=0μA, Vcc=5V	-	1.0	1.5	mA
Max. Voltage gain	Av	fin=37.9kHz, Vin=30 μ p-p	75	80	85	dB
BPF Bandwidth	fBW	-3dB Bandwidth Vin=30 μV p-p	3.5	6.0	8.5	kHz
Output pulse width	tPW1	fin=37.9kHz, burst wave Vin=500 μV p-p note*1	500	-	800	
	tPW2	fin=37.9kHz, burst wave Vin= 50mVp-p note*1	500	-	800	
Output voltage low	Vol	Isink=2.0mA	-	0.2	0.4	V
Output voltage high	Voh	Vcc=3V	2.7	3.0	-	V
		Vcc=5V	4.7	5.0	-	

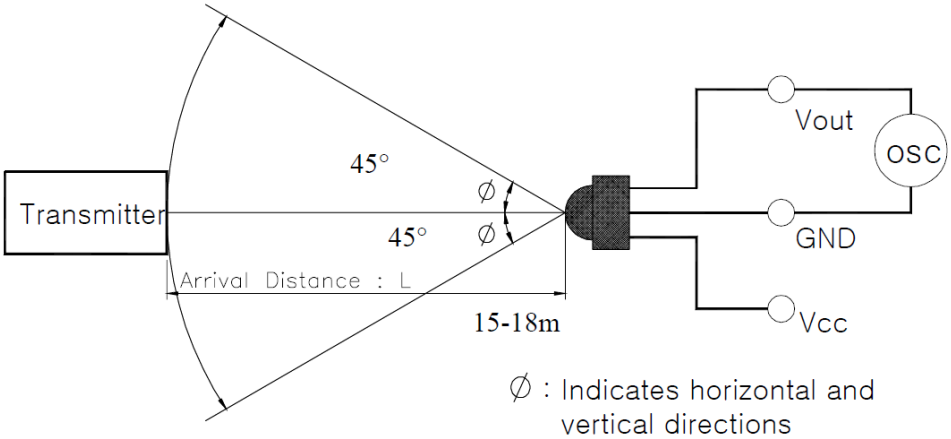
[Fig. 1] Data Signal diagram



[Fig.2] Transmitter



[Fig.3] Test condition of arrival distance

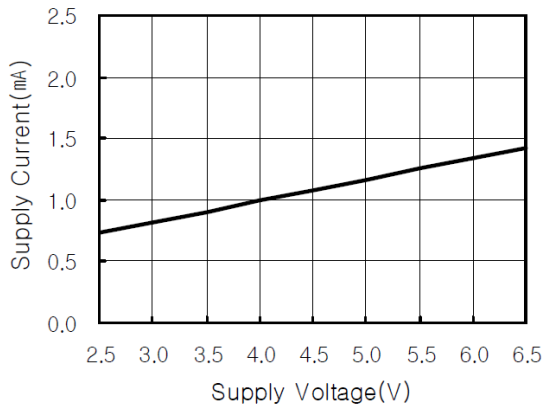


[Measurement condition for arrival distance]

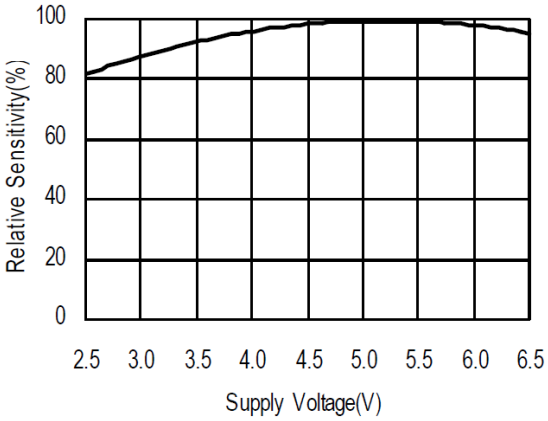
Ambient light source : Detecting surface illumination shall be irradiate 200±50Lux under ordinary white fluorescence lamp without high frequency lighting

8.Typical electro-optical characteristics curves:

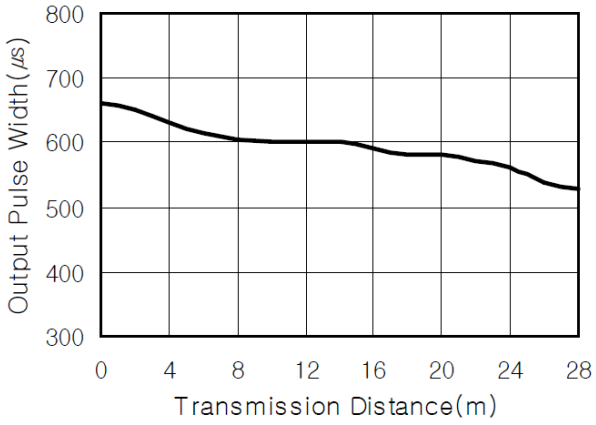
[Fig.4] Supply Current vs. Voltage



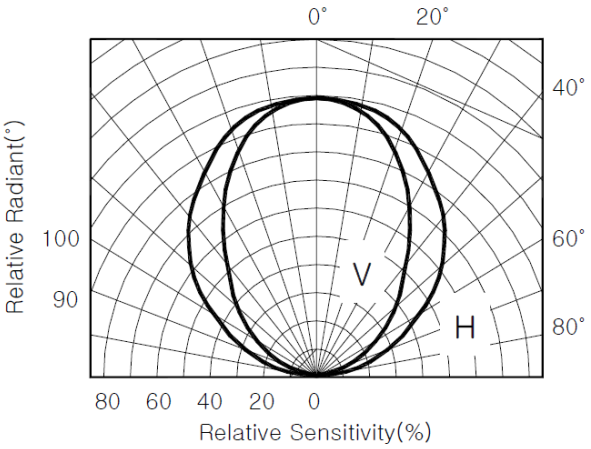
[Fig.5] Sensitivity vs. Supply Voltage



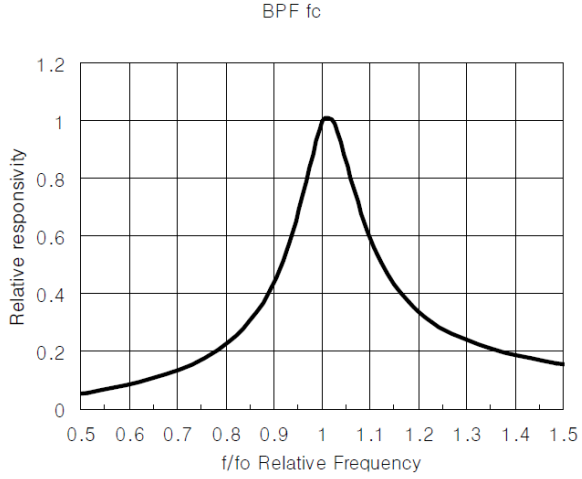
[Fig.6] Output Pulse Width vs. Distance



[Fig.7] Directivity (Horizontal)



[Fig.8] BPF Fc Curve



ESD Test Results DXJ

Parameter	Conditions	Specification	Results
Machine Model	C=200pF, R=0Ω	Min ±200V	>±200V
Human Body Model	C=100pF, R=1.5kΩ	Min ±2000V	>±2000V
Charged Device Model	R=100MΩ, 1Ω	Min ±800V	>±800V

9.Absolute maximum ratings(T=25℃):

Parameter	Symbol	Rated Value	Unit
Supply voltage	V_{cc}	0-6	V
Output Voltage	Vout	0-6	V
Output Current	Iout	0-2.5	mA
Storage temperature	Tstg	-20 —+80	℃
Soldering temperature	Tsd	260±5（Within 5 seconds）	℃

Note：

1. Below 25 Free Air Temperature
2. 1% Pulse width≦100 μs,Duty cycle= 1%
3. 2.5mm form body for 5 seconds

10. Recommended Operating Conditions：

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating Voltage	Vcc	2.7	5.0	5.5	V
Input Frequency	fin		37.9		kHz
Operating Temperature	Top	-20	25	80	℃

NOTE 1. Distance between emitter & detector specifies maximum distance that output wave form satisfies the standard under the conditions below against the standard transmitter .

1) Measuring place : Indoor without extreme reflection of light .

2)Ambient light source: Detecting surface illumination shall be 200±50Lux under ordinary hite fluorescense lamp of no high frequency lighting.

3)Standard transmitter: burst wave indicated in Fig1.of standard transmitter shall be arranged to 50mVp-p under the measuring circuit specified in Fig2.

NOTE 2. (electro-optical charactistics) shall be satisfied after leaving 1 hours in the normal temperature .

NOTE 3. (electro-optical charactistics) shall be satisfied and 90% or more of the solder area is covered with solder.

11. CAUTION (When use and storage of this device):

1. Store and use where there is no force causing transformation or change in quality.
2. Store and use where there is no corrosive gas or sea(salt) breeze .
3. Store and use where there is no extreme humidity.
4. Solder the lead-pin within the condition of ratings. After soldering do not add extra force.
5. Do not wash this device. Wipe the stains of diode side with a soft cloth. You can use the solvent, ethylalcohol or methylalcohol or isupropylene only.
6. To prevent static electricity damage to the Pre-AMP make sure that the human body, the soldering iron is connected to ground before using.
7. Put decoupling device between Vcc and GND for reduse the noise from power supply line.
8. The performance of remote-control system depends on environments condition and ability of periferal parts. Customer should evaluate the performance as total system in those conditions after system up with components such as commander , micon and this receiver module .

Others：

1. This device is not design to endure radiative rays and heavily charged particles.
2. In case where any trouble or questions arise, both parties agress to make full discussion covering the said problem.