

承认书

Specification for approval

客户名称(Customer name): _____

经办者(Director): _____

职称(title): _____

客户料号(Customer part NO): _____

版本(Revision): _____ A.0

发件日期(Issue date): _____ 2024-04-16

回文日期(Return date): _____

一、谨致执事者：兹提供敕公司产品之有关详细规格及图面数据，敬请给予办理测试认定手续，同时敬请送返一份附有贵公司签认之测试认定后之样品认定书。

(We are please in sending you herewith our specification and drawings for your approval.)

(Please return to us one copy “For Approval” with your approved signatures.)

二、附件(Accessory):

- | | | | |
|--------------------------------|----------------------------------|---------------------------------|---------------------------------|
| ☐ 样品 | ☐ 出货检验记录表 | ☐ 封装尺寸图 | ☐ 电气特性曲线 |
| ☐ 内部线路图 | ☐ 焊性建议 | ☐ PAD 建议 | ☐ 包装方式 |

三、客户意见栏(Customer's Proposal)

☐ 同意(Agree): (请于认可栏中签名)

☐ 不同意(Disagree):

原因(Reason): _____

客户认可签章(Customer Signature): _____

1、 Description:

The GRM-4033H4C6-ET2 is SMD Type 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.

2、 Features:

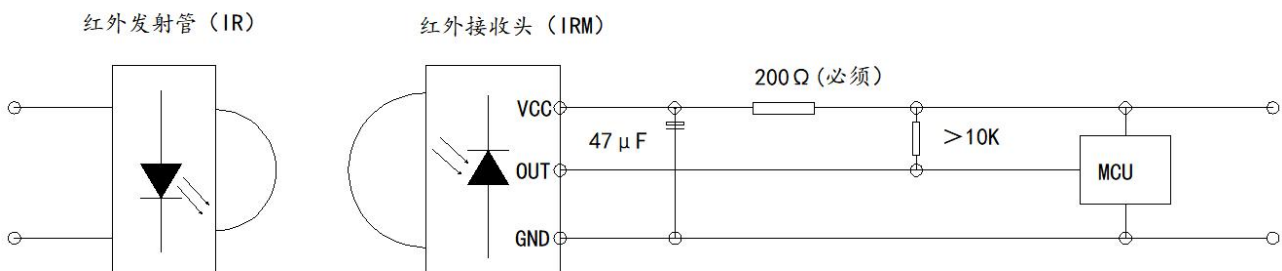
21. Photo detector and preamplifier in one package
2. Internal filter for PCM frequency
3. High immunity against ambient light
4. Improved shielding against electric field disturbance
5. 3.0-Volt supply voltage; low power consumption
6. TTL and CMOS compatibility



3、 Applications:

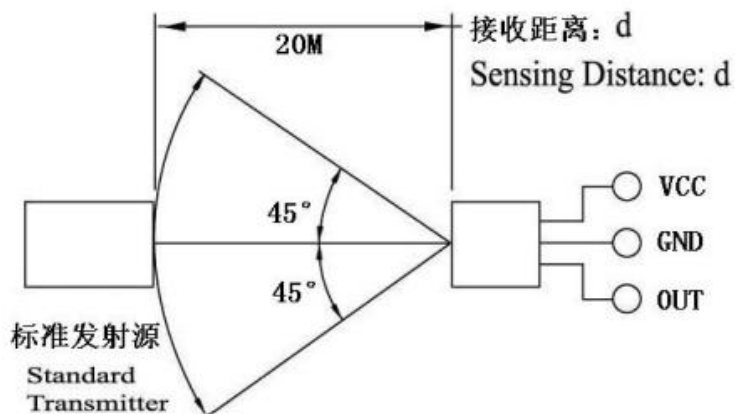
It can be used for TVs、VTRs、audio equipment air conditioners、 car stereo radio、 toys、 home computers and all other equipment requiring remote control.

4、 Application Circuit:





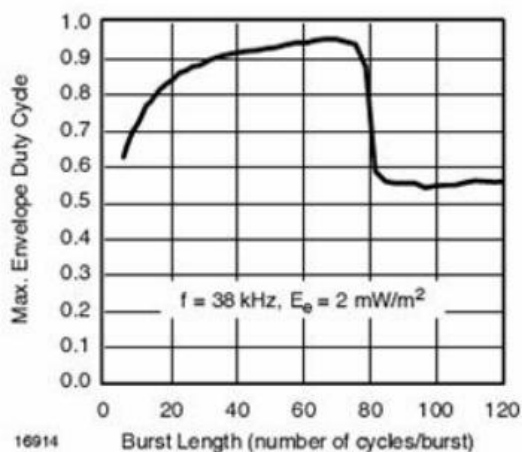
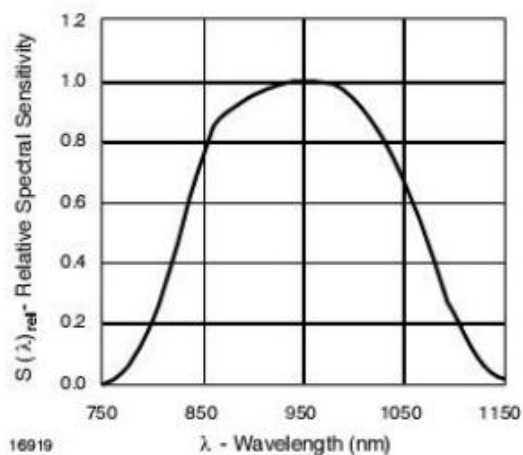
5、Detection Length Test:



6、 Absolute Maximum Ratings: (Ta=25°C)

Parameter	Symbol	Rating	Unit
Forward Voltage	VDD	0-6	V
Operating Temperature Range	Topr	-20°C ~ +70°C	
Storage Temperature Range	Tstg	-40°C ~ +85°C	
Soldering Condition	Tsol	Reflow soldering : 260°C , 10s Hand soldering : 300°C , 3s	

7、 CHARACTERISTIC CURVES (TA=25oC):



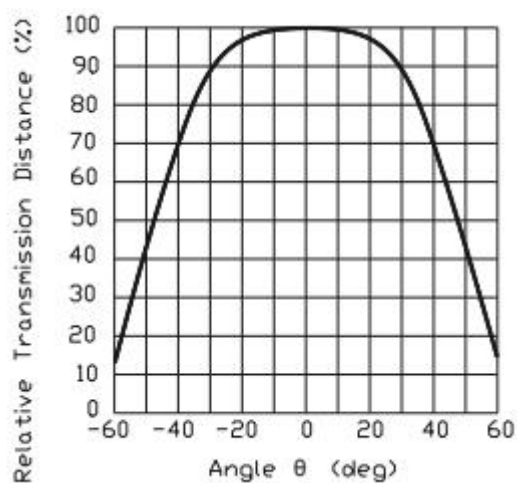


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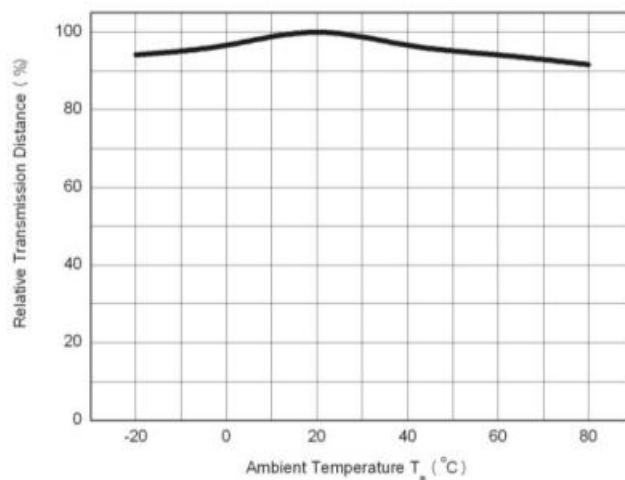
SMD TYPE INFRARED RECEIVER MODULE

GRM-4033H4C6-ET2

1、Relative Spectral Sensitivity vs.Wavelength



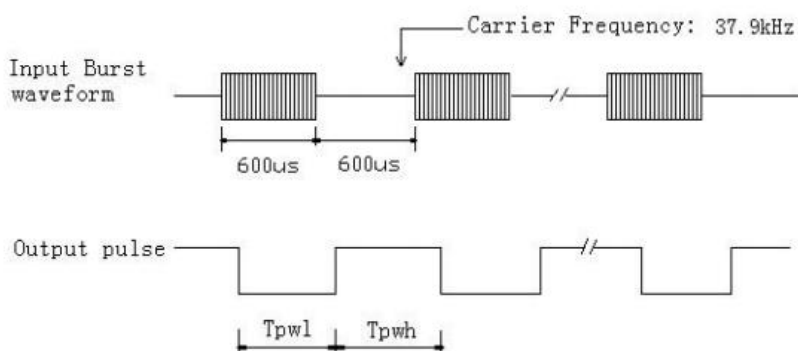
2、Max.Envelope Duty Cycle vs.Burstlength



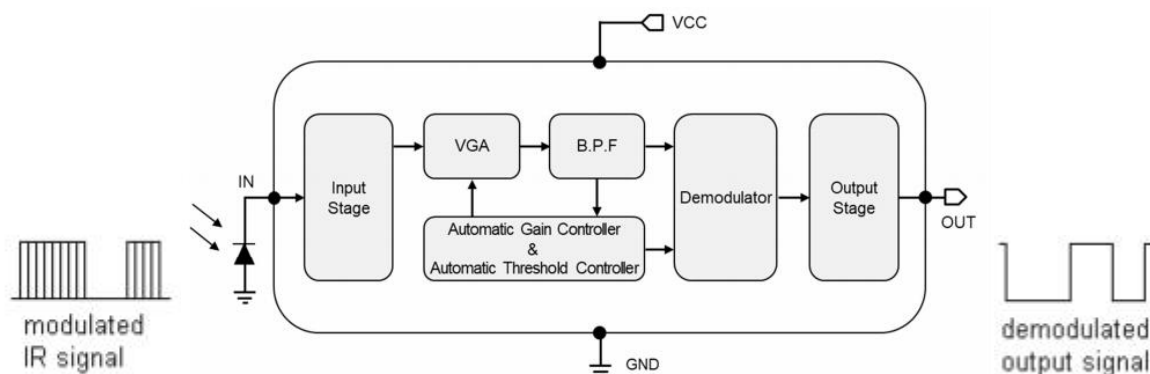
3、Relative Sensitivity vs.Direction

4、Relative Transmission Distance VS. Ambient Temperature

8. Test Method:

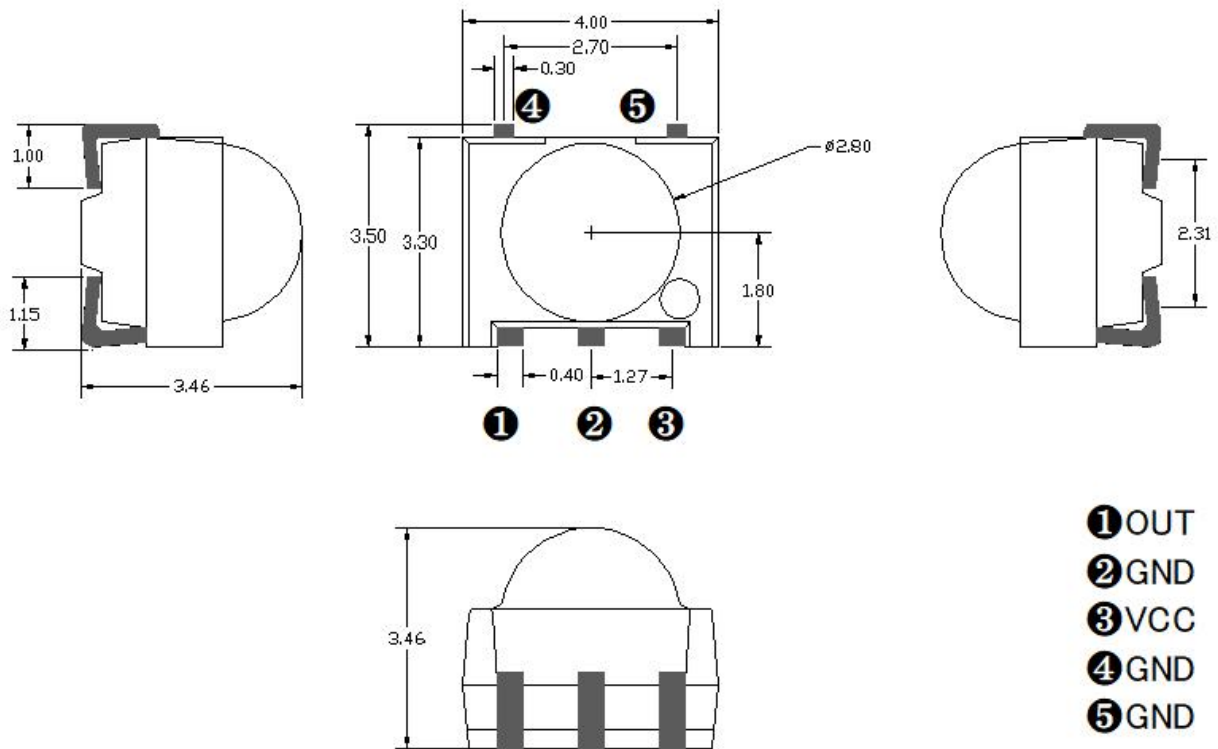


9. Block Diagram:

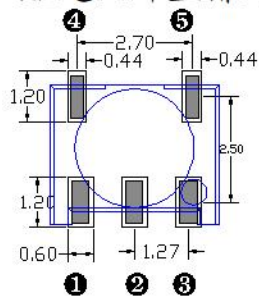


**10、Electro-optical characteristics:**

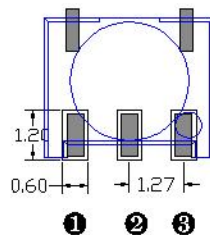
Parameter	Symbol	Min	Typ	Max	Unit	Conditions	
Supply Voltage 供电电压	Vcc	2.4		5.5	V		
Consumption Current 消耗电流	Icc	0.036	0.05	0.077	mA	No Input Signal	
Peak Wavelength 峰值波长	λ p	-	940	-	nm		
High level Output voltage 高电平输出电压	Voh	4.5	5.5	-	V	Vcc=5V	光 轴 以 上 30cm
		2.4	3.0	-	V	Vcc=3V	
Low Level Output voltage 低电平输出电压	Vol		0.2	0.5	V		
High Level Output Pulse Width 高电平输出脉冲宽度	Twh	460	560	720	μ s		
Low Level Output Pulse Width 低电平输出脉冲宽度	Twl	460	560	720	μ s		
B.P.F Center Frequency B.P.F 中心频率		-	37.9	-	KHz		
Arrival Distance 接收距离	D		20		M	$\pm 0^{\circ}$	
			15		M	$\pm 45^{\circ}$	
Output Form 输出方式	Active Low output 低电平有效输出						

**11. Dimensions in mm :**

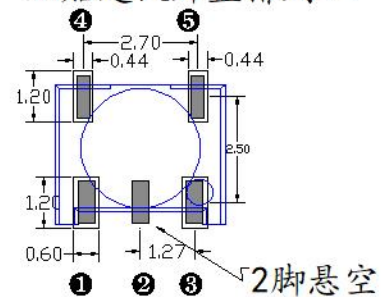
正贴建议焊盘排列一



正贴建议焊盘排列二



正贴建议焊盘排列三



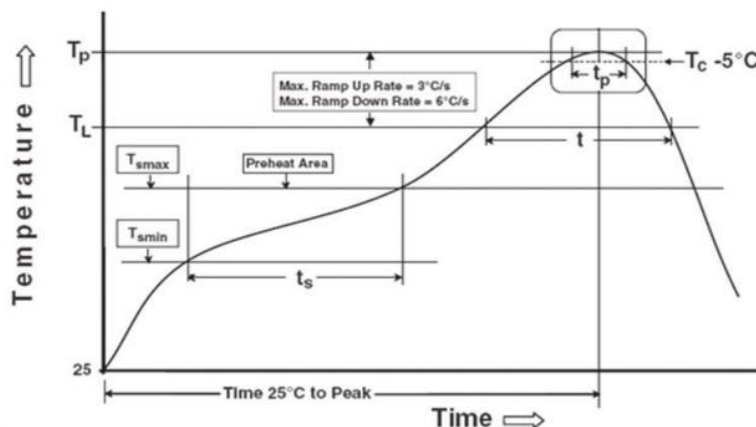
Notes: 1. All dimensions are in millimeters
2. Tolerance is ± 0.10 mm unless otherwise noted



12、Code information;

Data format	Code acceptable
NEC	Yes
RC5/RC6 philips	Yes
Sharp	Yes
Sony 12bit	Yes
Sony 15bit/20bit	NO
XMP/RCMM	NO

13、Solder Reflow Temperature Profile:



Note:

Reference: IPC/JEDEC J-STD-020D

Preheat

Temperature min (T_{smin})	150 °C
Temperature max (T_{smax})	200°C
Time (T_{smin} to T_{smax}) (t_s)	60-120 seconds
Average ramp-up rate (T_{smax} to T_p)	3 °C/second max

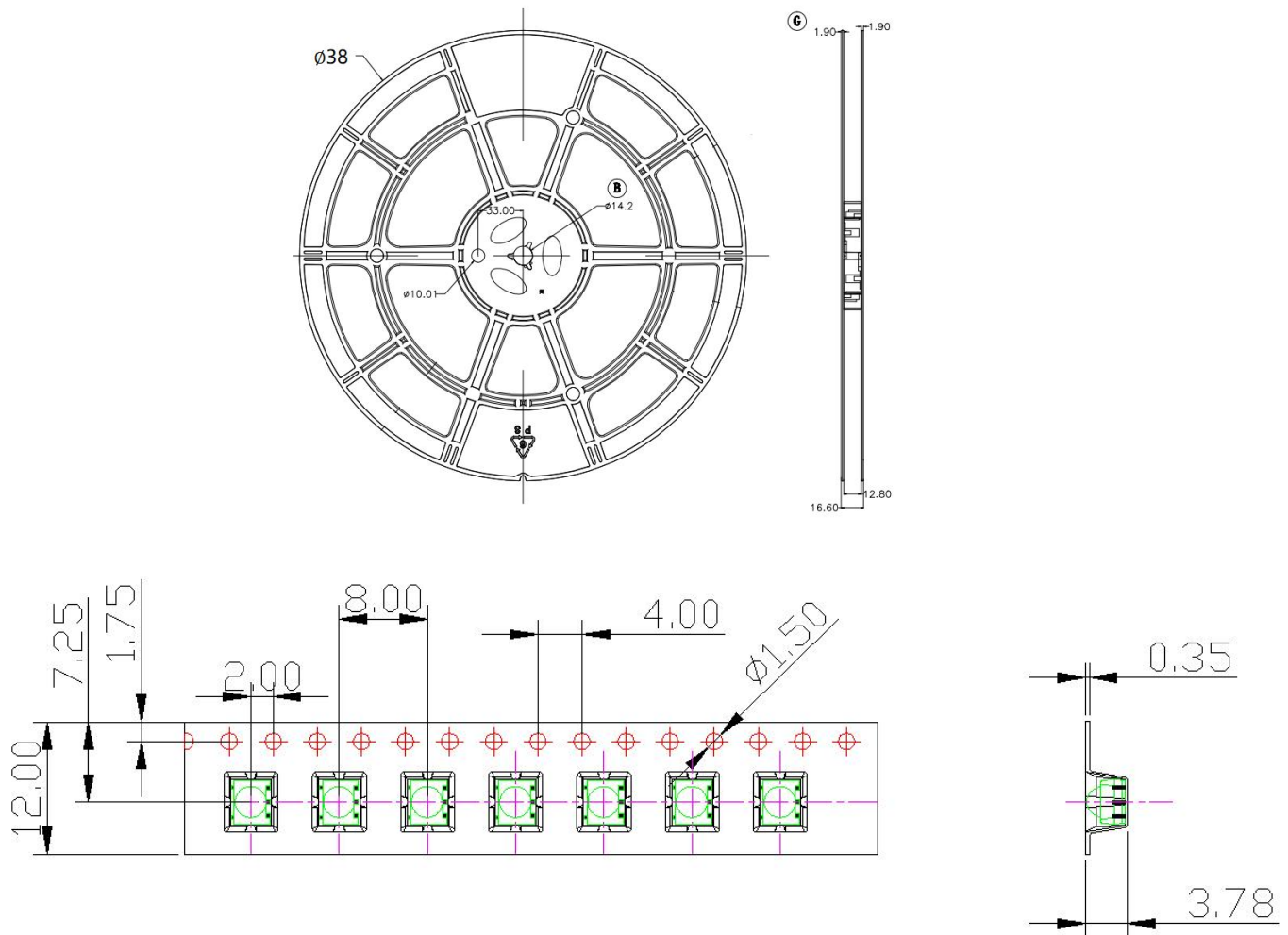
Other

Liquidus Temperature (T_L)	217 °C
Time above Liquidus Temperature (t_L)	60-100 sec
Peak Temperature (T_P)	260°C
Time within 5 °C of Actual Peak Temperature: $T_P - 5^\circ\text{C}$	30 s
Ramp- Down Rate from Peak Temperature	6°C /second max.
Time 25°C to peak temperature	8 minutes max.
Reflow times	2 times



14、Tape & Reel Packing Specifications;

Packing Quantity: 2000 pcs/reel



- Notes: 1. All dimensions are in millimeters.
2. Tolerance is ± 0.1 mm unless otherwise noted.

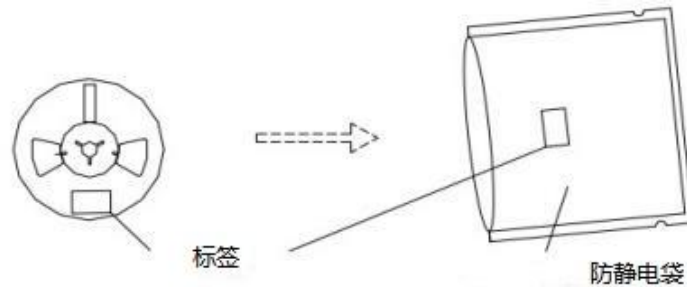
15、Recommended method of storage

The following are general recommendations for moisture sensitive level (MSL) 4 storage and use:

1. Shelf life in sealed bag from the bag seal date: 12 months at $< 40^\circ\text{C}$ and $< 80\%$ relative humidity (RH)
2. After bag is opened, devices that will be subjected to reflow solder or other high temperature process must be mounted within 48 hours of factory conditions $< 30^\circ\text{C}/60\%\text{RH}$.
3. If the moisture absorbent material (silica gel) has faded away or the IRM has exceeded the storage time. Baking treatment is required, refer to IPC/JEDEC J-STD-033 for bake procedure or recommend the conditions: $50\pm 5^\circ\text{C}$ for 24 hours.



16、 Labeling and identification:



17、 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 reduce 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 .

18、 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 .