

客户 (Customer) : \_\_\_\_\_

## 承认书

## Approval Sheet

谨致执事者：兹提供敝公司之有关详细规格及图面数据，敬请给予办理试认定手续。  
同时敬请送返一份附有贵公司签认之测试认定后之样品承认书。

We are pleased in sending you herewith on specification and drawings for your approval.  
Please return to us one copy "Approval sheet" with your approved signature.

型号 (Model No.) : A-IRM38G17SC9

发文日期 (Issue Date) : 2021/06/10 承认日期 (Approved Date) : \_\_\_\_\_

### Checking signature of Amicc

Designer	Checker	Approver
Money		

### Approval signature of customer

Designer	Checker	Approver

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## IRM Type

### A-IRM38G17SC9



#### Features

- High protection ability against EMI
- Circular lens for improved reception characteristics
- Low operating voltage and low power consumption
- High immunity against ambient light
- High sensitivity
- Long reception range

#### Description

The A-IRM38G17SC9 devices are DIP type infrared receivers which have been developed and designed by using the latest IC technology.

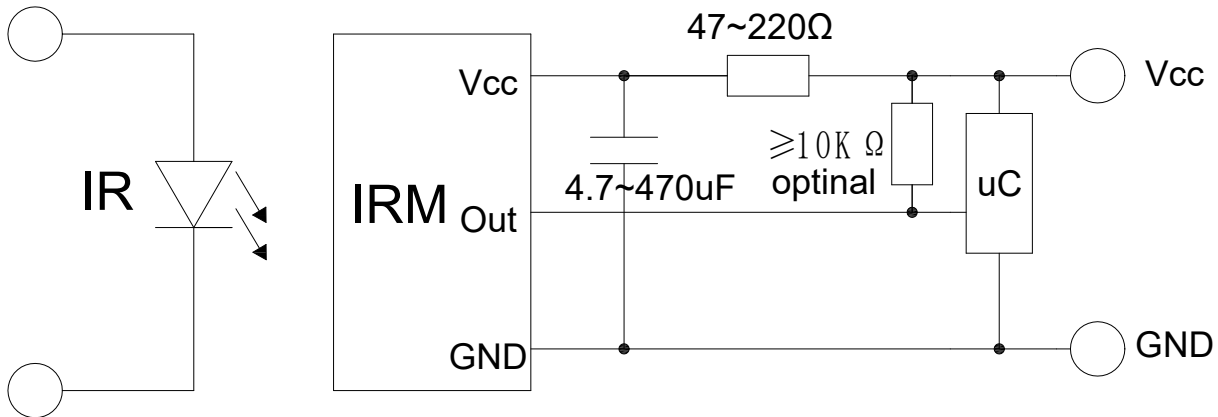
The PIN diode and preamplifier are assembled onto a lead frame and molded into a black epoxy package which operates as an IR filter.

The demodulated output signal can directly be decoded by a microprocessor.

#### Applications

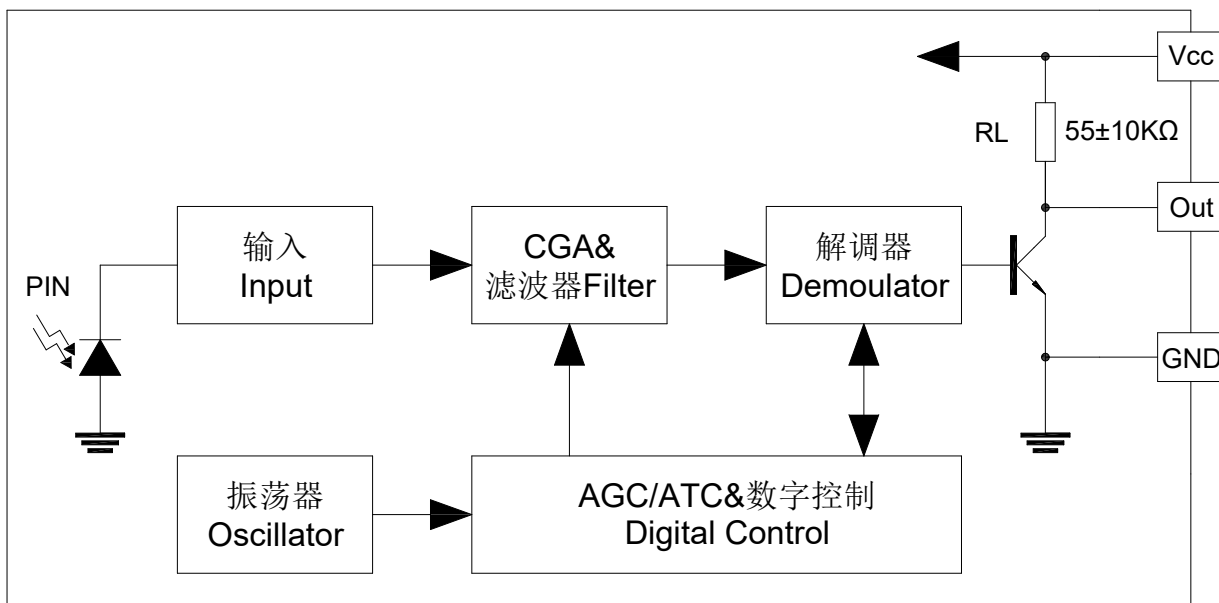
- AV equipment such as TV, VCR, DVD, CD, MD, etc.
- Short pause time protocols
- Toy applications
- CATV set top boxes
- Multi-media Equipment
- Other devices using IR remote control

**Application circuit**



The RC Filter must be connected as close as possible to Vcc and GND pins.

**BLOCK DIAGRAM**



**Absolute Maximum Ratings ( $T_a=25^{\circ}\text{C}$ )<sup>\*1</sup>**

Parameter	Symbol	Rating	Unit
Supply Voltage	$V_{cc}$	6	V
Operating Temperature	$T_{opr}$	-20 ~ +80	$^{\circ}\text{C}$
Storage Temperature	$T_{stg}$	-40~ +125	$^{\circ}\text{C}$
Soldering Temperature	$T_{so}$	260	$^{\circ}\text{C}$

<sup>\*1</sup> Stress above those listed under Absolute Maximum Rating may cause permanent damage of device.

**Electro-Optical Characteristics ( $T_a = 25^{\circ}\text{C}$ )**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Supply Voltage	$V_{cc}$	2.7	--	5.5	V	
Supply Current	$I_{cc}$	--	0.35	0.6	mA	$V_{cc}=3.0\text{V}$
		--	0.8	1.1	mA	$V_{cc}=5.0\text{V}$
Peak wavelength	$\lambda_p$	--	940	--	nm	
High Level Pulse Width	$T_{pwh}$	400	600	800	us	Test signal according to figure 1
Low Level Pulse Width	$T_{pwl}$	400	600	800	us	
High Level Output Voltage	$V_{oh}$	$V_{cc}-0.4$	$V_{cc}$	--	V	
Low Level Output Voltage	$V_{ol}$	--	0.2	0.4	V	
Half Angle	$\theta$	--	$\pm 45$	--	deg	
Reception range	L0	--	20	--	m	Ev=200±50Lx, test signal see fig.3, IR diode SED113, I <sub>F</sub> =400mA
	L45	--	10	--	m	
Center Carrier Frequency	$f_0$	--	37.9	--	KHz	

**Test method**

The specified electro-optical characteristic is satisfied under the following Conditions:

1. Measurement environment  
Indoor, without extreme light reflected.
2. External light  
Detecting surface illumination shall be  $200 \pm 50$  Lux under ordinary fluorescent lamp of no high Frequency lighting.
3. Standard transmitter  
The test transmitter is calibrated by using the circuit shown in figure 2. Burst wave of standard transmitter shall be arranged to  $50\text{mVp-p}$  under the measurement circuit.
4. The signal is according to figure 1.
5. Receive distanced incidence angle test is shown in figure 3.

Fig.1 Transmitter Wave Form

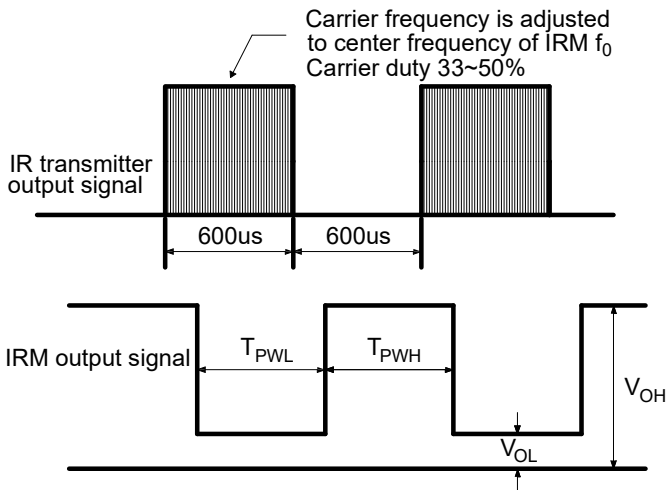


Fig.2 standard transmitter calibration

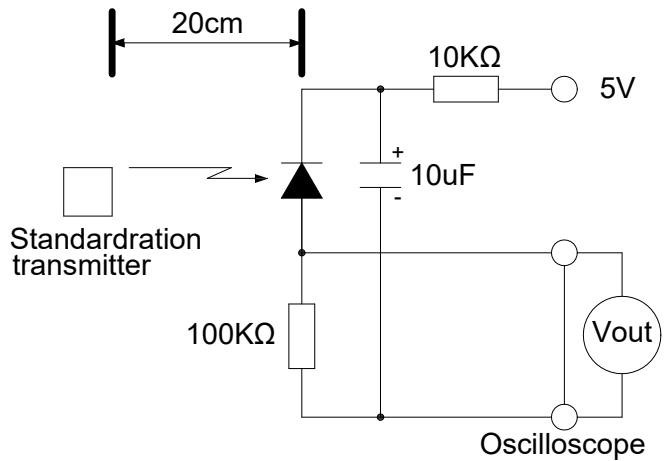
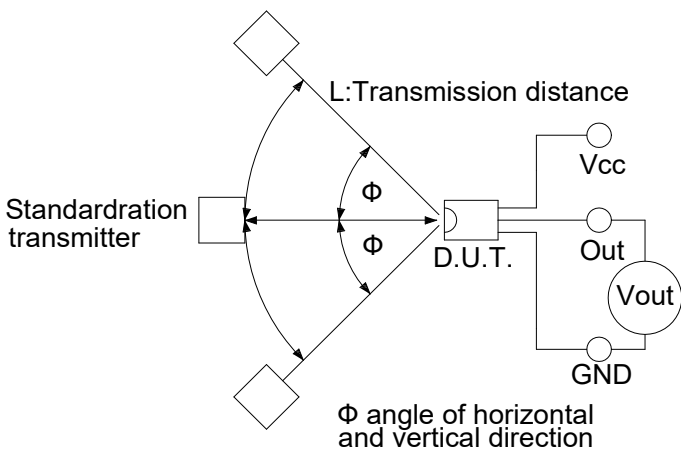


Fig.3 Receive distanced incidence angle test



**Typical Electro-Optical Characteristics Curves**

Fig.4 Relative spectril sensitivity

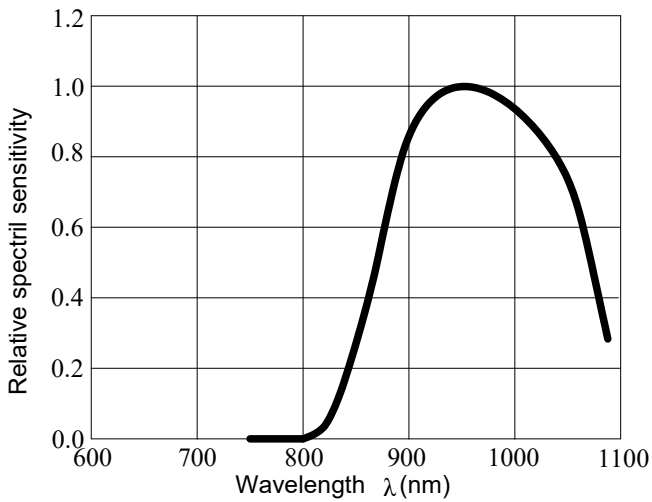


Fig.5 Incidence angle VS. Relative receiving distance

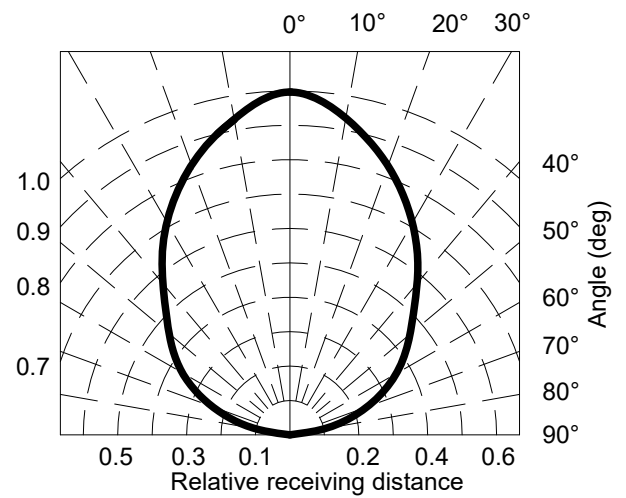


Fig.6 Variation output pulse width vs. Distance

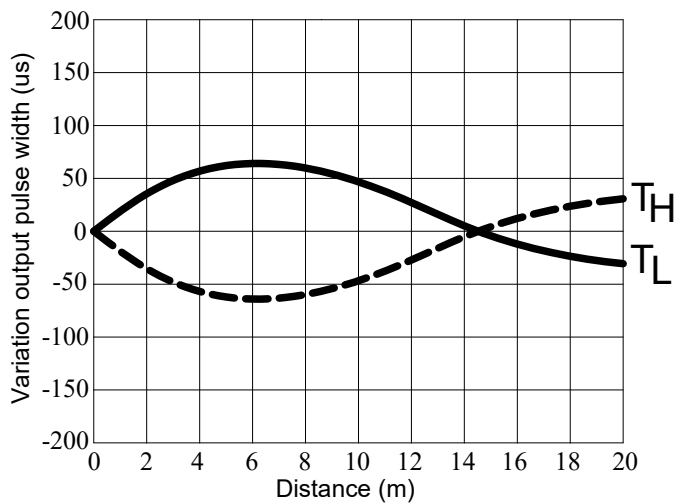
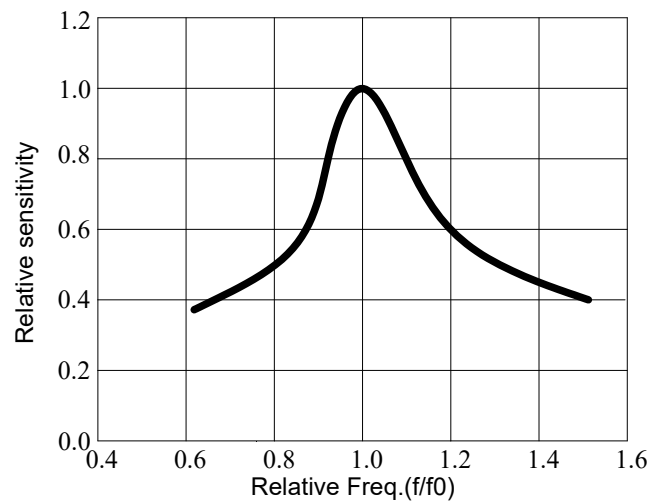


Fig.7 Relative sensitivity VS. Frequency



**SUITABLE DATA FORMAT**

Data Format	Suitable	Data Format	Suitable
NEC Code	YES	15Bit/20Bit Code	NO
RC5/RC6 Code	YES	Toshiba Code	YES
Sharp Code	YES	XMP Code	YES
Sony 12Bit Code	YES	RCMM Code	YES

**Package Dimension**

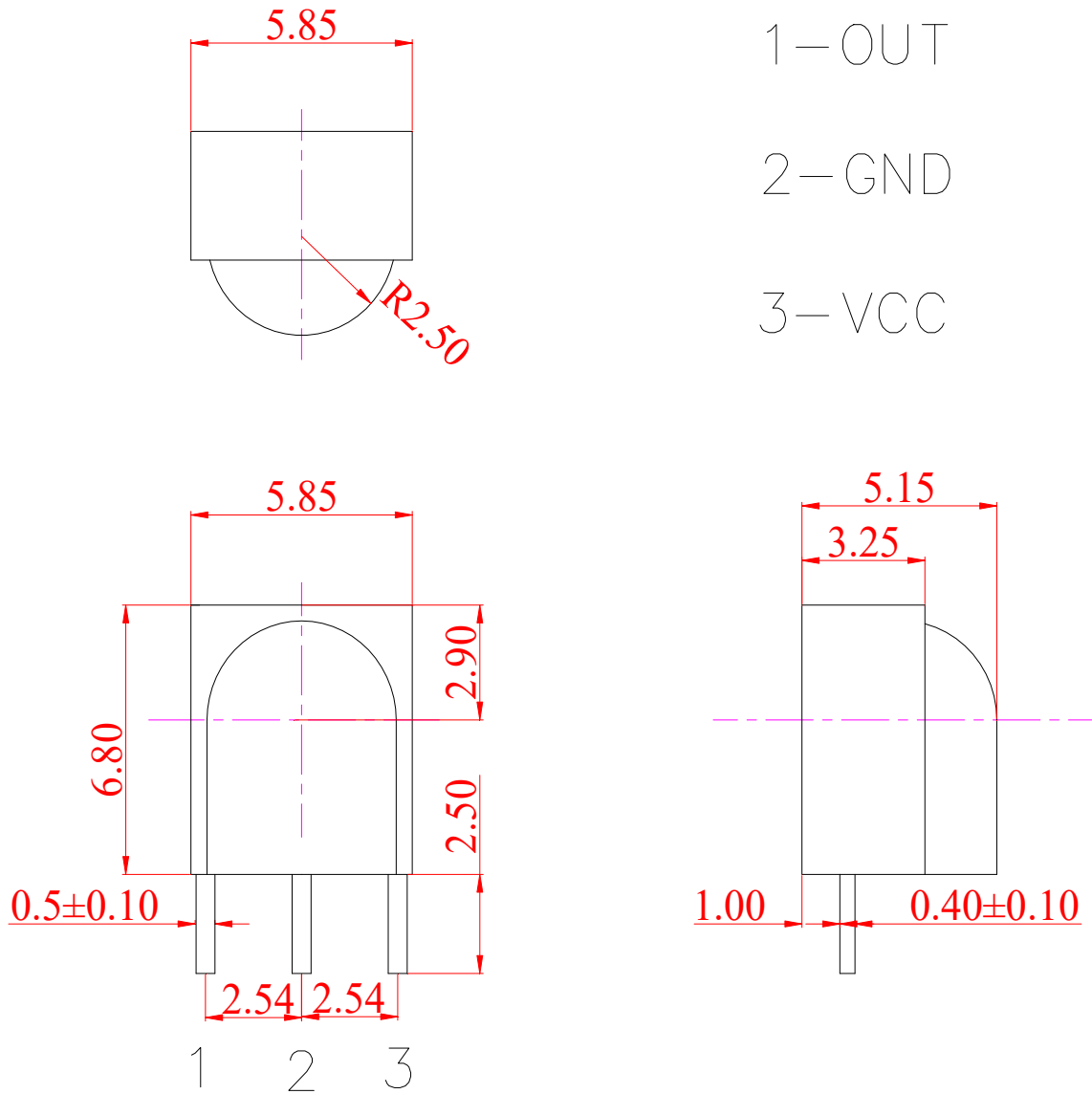
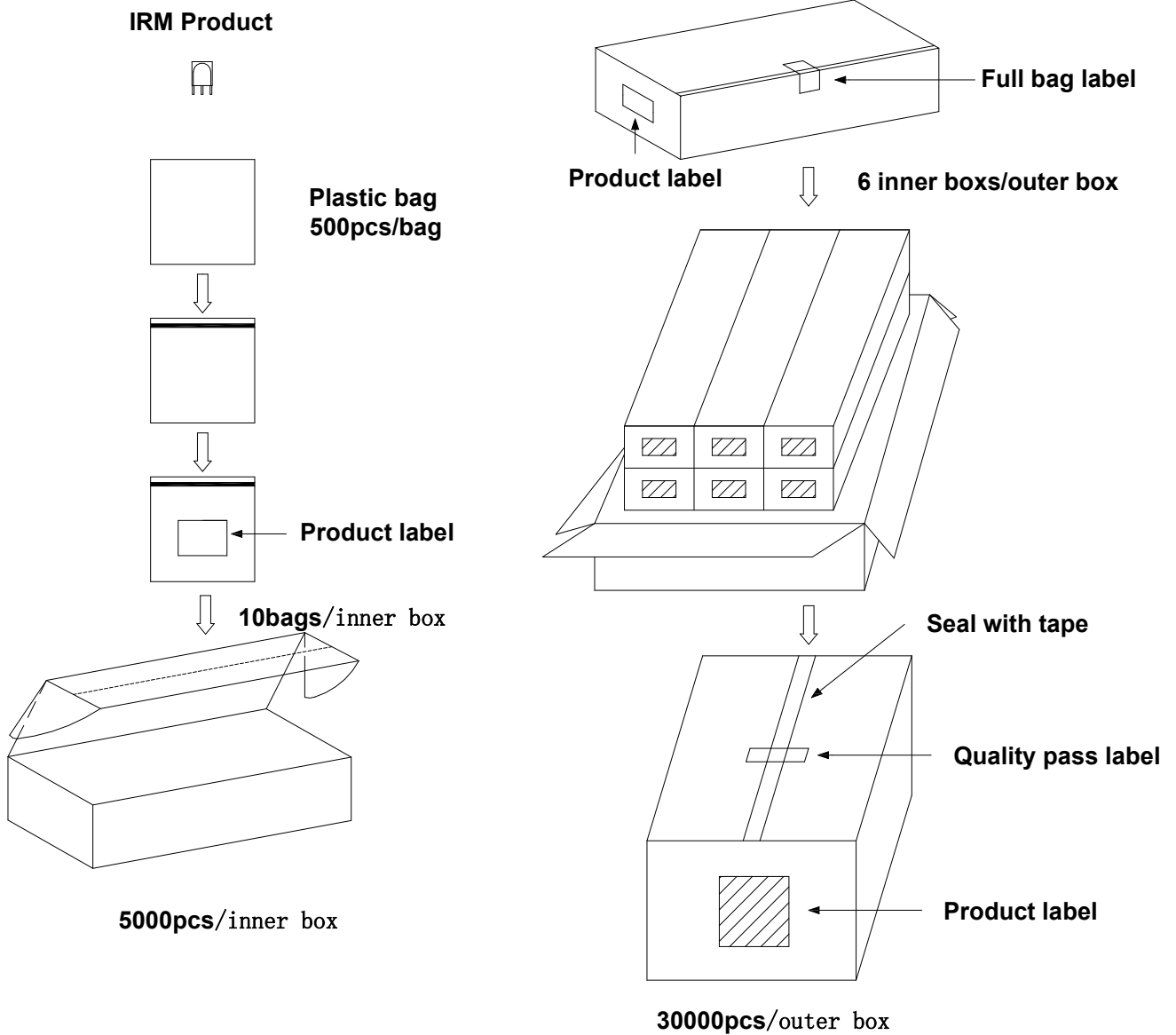


Fig.7

Note:  
Tolerance unless mentioned is  $\pm 0.5\text{mm}$ , Unit = mm.

**PACKAGING SPECIFICATION**

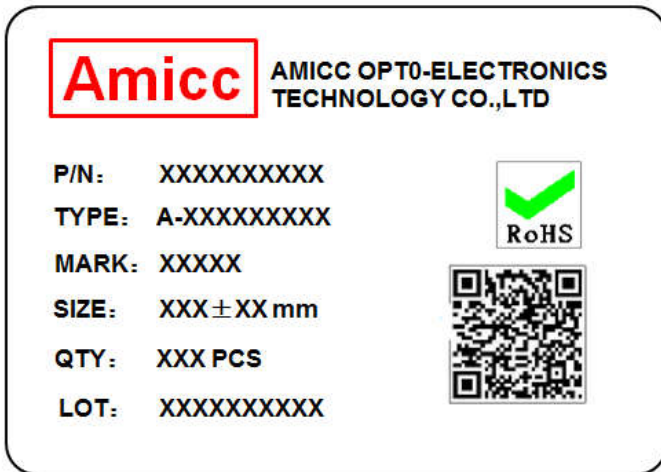


**NOTE:**

1. The size of inner box is 380×145×90 mm
2. The size of outer box is 460×400×215 mm



### Label Explanation



- ◆TYPE: Part No.
- ◆MARK: Production batch Number
- ◆SIZE: Product Size
- ◆QTY: Packing Quantity
- ◆LOT: Lot Number

### MOUNTING CONDITION

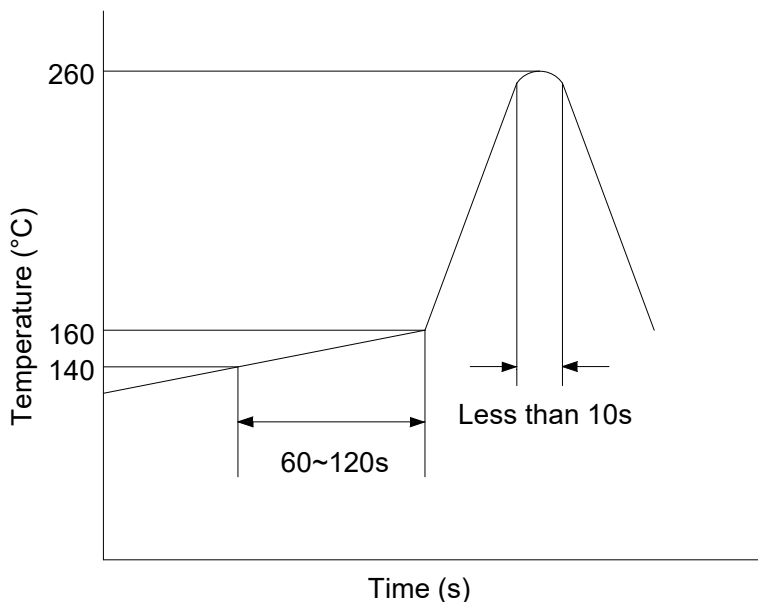
\*WAVE SOLDERING CONDITION (SUGGESTION)

Max. Temperature (Surface) :  $\leq 260^{\circ}\text{C}$

Max. Temperature Duration :  $\leq 10\text{s}$

Pre-heat Temperature :  $140^{\circ}\text{C}$

Soldering Times : 2 Times



\*HAND SOLDERING CONDITION (SUGGESTION)

Max. Temperature (surface) :  $\leq 350^{\circ}\text{C}$

Max. Temperature Duration :  $\leq 5\text{s}$

Soldering Times : 2 Times

## DISCLAIMER

1. Above specification may be changed without notice. Amicc will reserve authority on material change for above specification.
2. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
3. When using this product, please observe the absolute maximum ratings and the instructions for use outlined in these specification sheets. Amicc assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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