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**LED ARRAY**



Lead-Free Parts

**LA110B/HG.YH.2HG-2-PF**

**DATA SHEET**

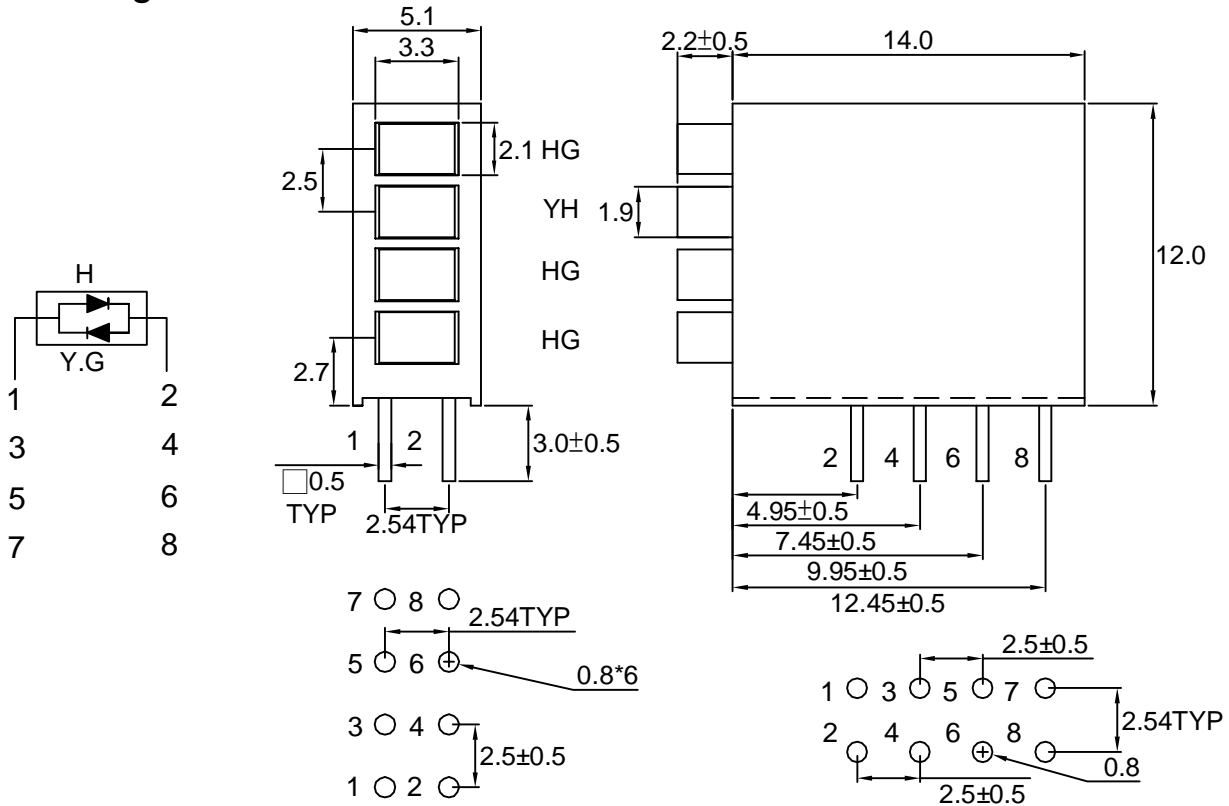
DOC. NO : QW0905-LA110B/HG.YH.2HG-2-PF

REV. : A

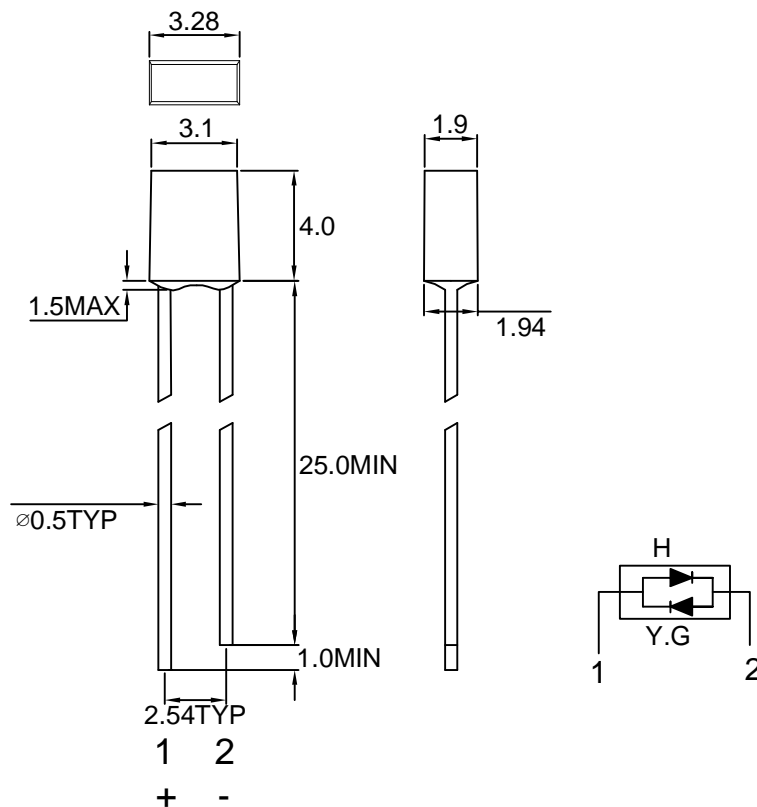
DATE : 19 - May. - 2017



Package Dimensions



LHG15262-PF  
LYH15262-PF



Note : 1.All dimension are in millimeter tolerance is  $\pm 0.25\text{mm}$  unless otherwise noted.  
2.Specifications are subject to change without notice.

### Absolute Maximum Ratings at Ta=25 °C

Parameter	Symbol	Ratings			UNIT
		H	Y	G	
Forward Current	IF	20	20	30	mA
Peak Forward Current Duty 1/10@10KHz	IFP	60	80	120	mA
Power Dissipation	PD	50	60	100	mW
Reverse Current @5V	Ir	10	10	10	μA
Electrostatic Discharge( * )	ESD	8000			V
Operating Temperature	Topr	-40 ~ +85			°C
Storage Temperature	Tstg	-40 ~ +100			°C

### Typical Electrical & Optical Characteristics (Ta=25 °C)

PART NO	MATERIAL	COLOR		Peak wave length λ Pnm	Spectral halfwidth Δ λ nm	Forward voltage @20mA(V)		Luminous intensity @10mA(mcd)		Viewing angle 2θ 1/2 (deg)
		Emitted	Lens			Min.	Max.	Min.	Typ.	
LA110B/HG.YH.2HG-2-PF	GaAsP/GaP	Yellow	White Diffused	585	35	1.7	2.6	3.0	12	160
	GaP	Green		565	30	1.7	2.6	3.0	12	160
	GaAsP/GaP	Yellow	White Diffused	585	35	1.7	2.6	3.0	12	160
	GaP	Red		697	90	1.7	2.6	1.8	8.0	160

Note : 1. The forward voltage data did not including ±0.1V testing tolerance.  
2. The luminous intensity data did not including ±15% testing tolerance.

**Brightness Code For Standard LED Lamps****Bin Code****Y.G CHIP**

Group	Luminous Intensity(mcd) at 10 mA	
	Min.	Max.
7	3.0	4.5
8	4.5	8.0
9	8	12
10	12	20
11	20	30
12	30	45

**H CHIP**

Group	Luminous Intensity(mcd) at 10 mA	
	Min.	Max.
A6	1.8	3.0
A7	3.0	4.5
A8	4.5	8.0
A9	8.0	12
A10	12	20
A11	20	30

**Brightness Code For Standard LED Lamps****Color Code****Y CHIP**

Group	Wave length(nm) at 10 mA	
	Min.	Max.
15	585	587
16	587	589
17	589	592

**G CHIP**

Group	Wave length(nm) at 10 mA	
	Min.	Max.
7	564	565
8	565	566
9	566	567

## Typical Electro-Optical Characteristics Curve

H CHIP

Fig.1 Forward current vs. Forward Voltage

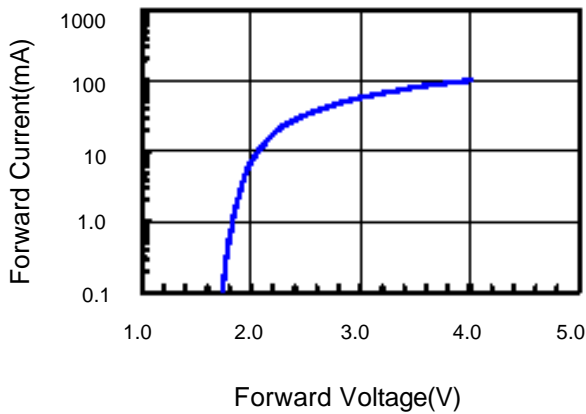


Fig.2 Relative Intensity vs. Forward Current

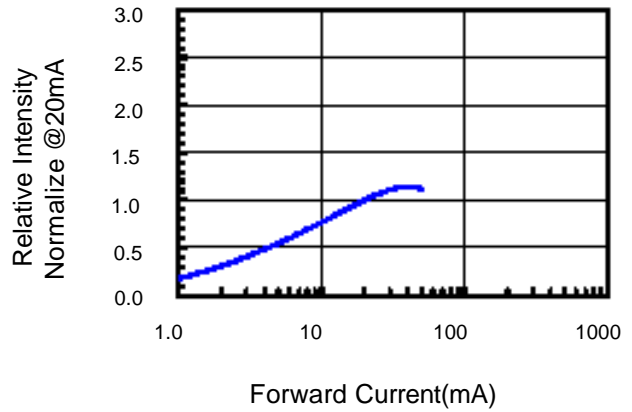


Fig.3 Forward Voltage vs. Temperature

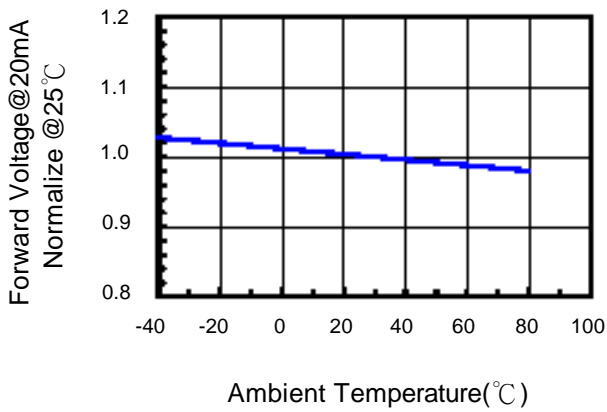


Fig.4 Relative Intensity vs. Temperature

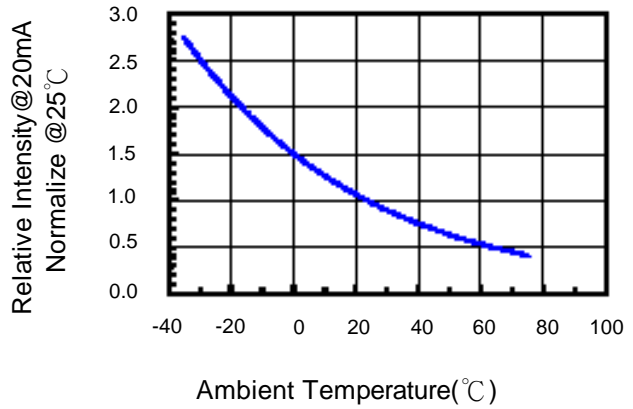
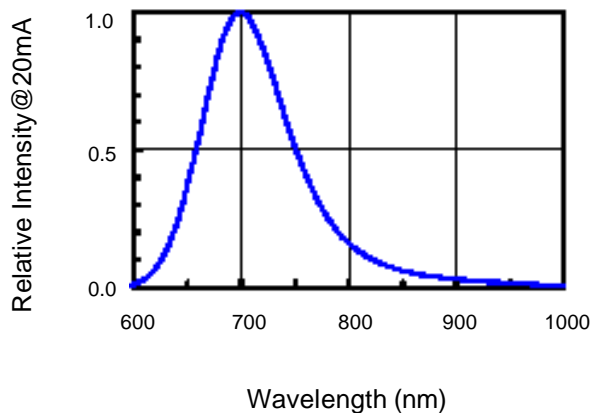


Fig.5 Relative Intensity vs. Wavelength



## Typical Electro-Optical Characteristics Curve

Y CHIP

Fig.1 Forward current vs. Forward Voltage

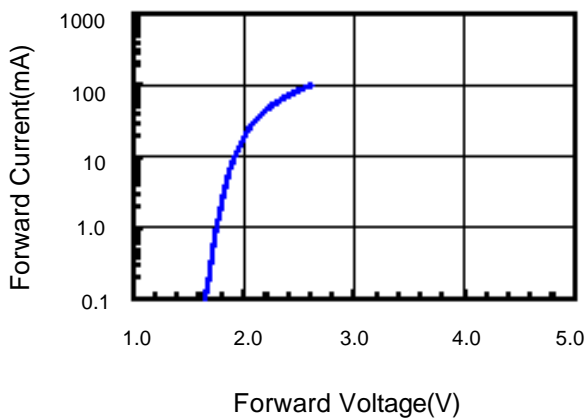


Fig.2 Relative Intensity vs. Forward Current

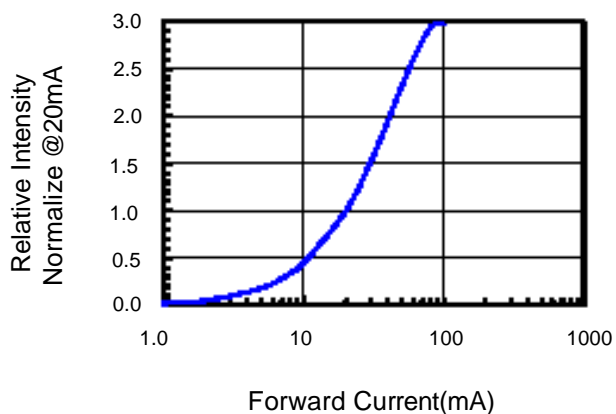


Fig.3 Forward Voltage vs. Temperature

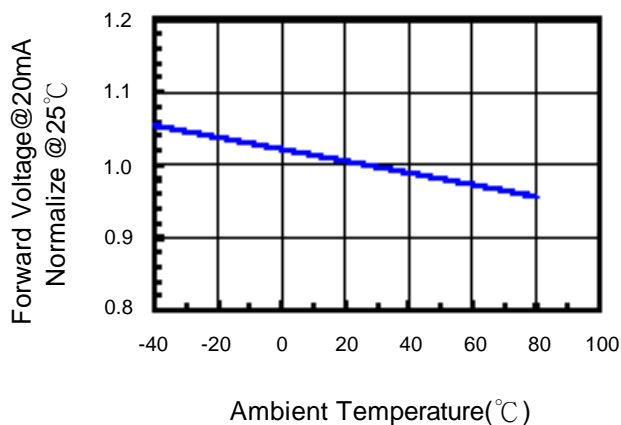


Fig.4 Relative Intensity vs. Temperature

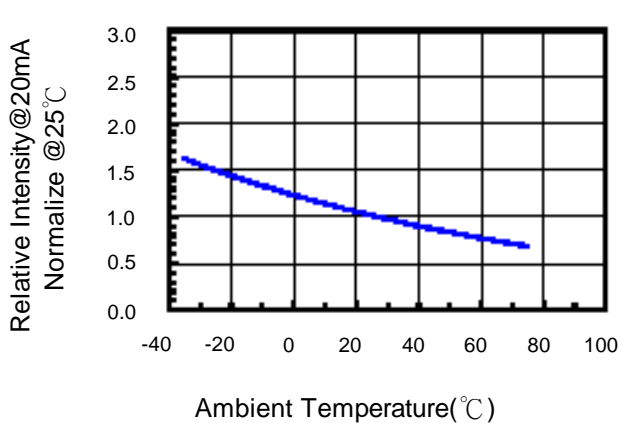
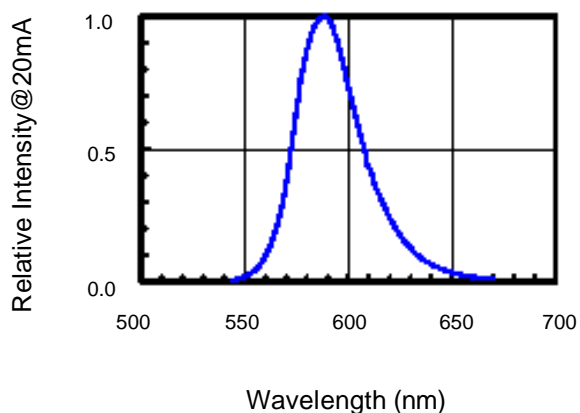


Fig.5 Relative Intensity vs. Wavelength



## Typical Electro-Optical Characteristics Curve

### G CHIP

Fig.1 Forward current vs. Forward Voltage

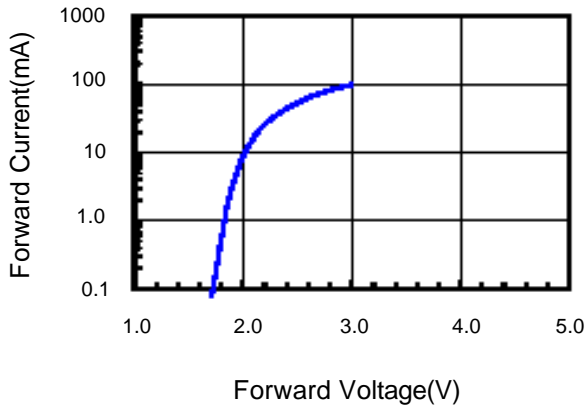


Fig.2 Relative Intensity vs. Forward Current

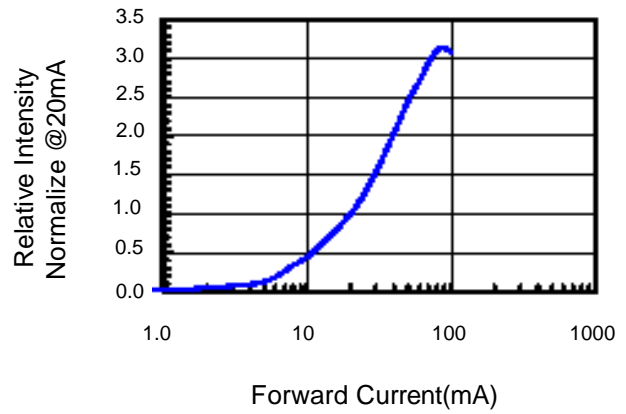


Fig.3 Forward Voltage vs. Temperature

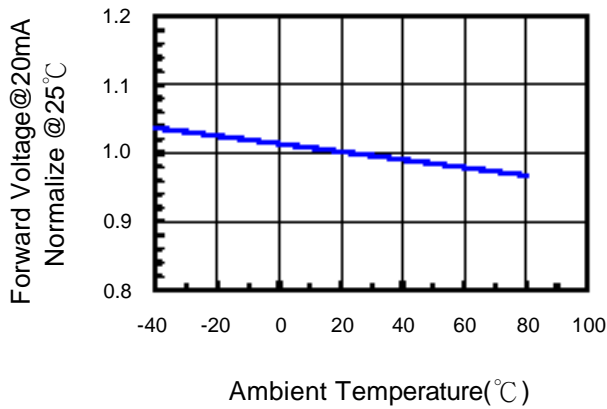


Fig.4 Relative Intensity vs. Temperature

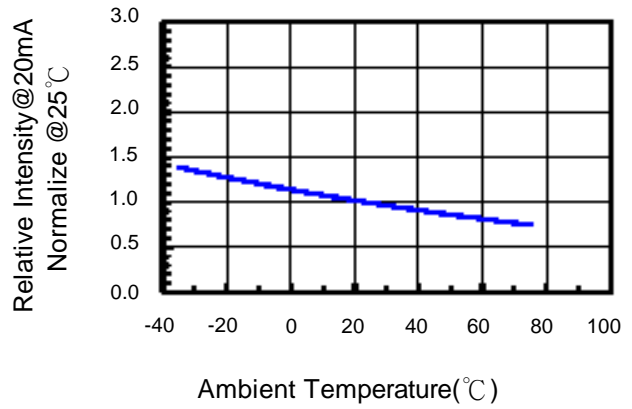
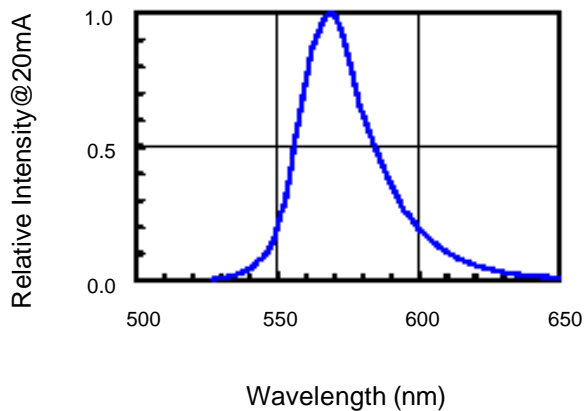


Fig.5 Relative Intensity vs. Wavelength





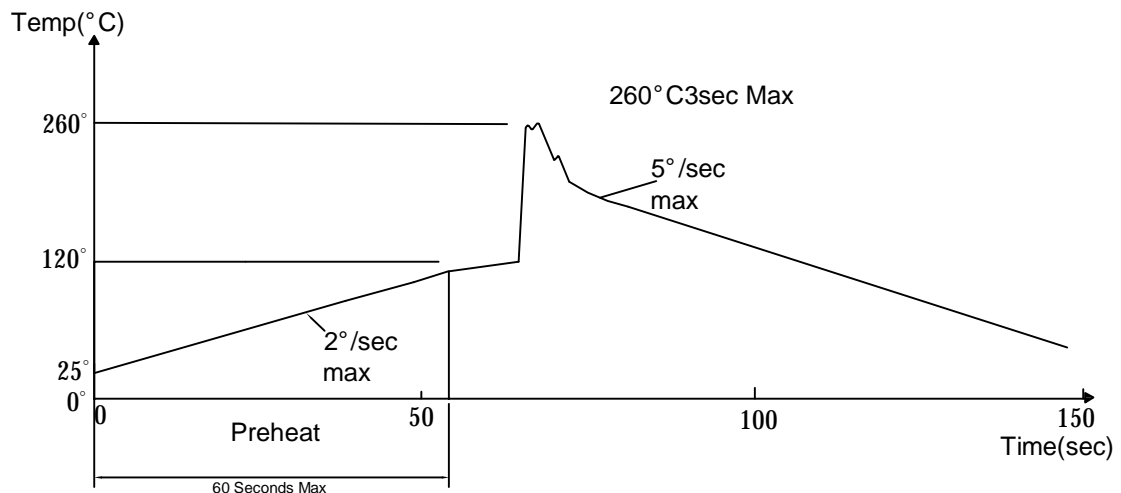
**Soldering Condition(Pb-Free)**

## 1.Iron:

Soldering Iron:30W Max  
Temperature 350° C Max  
Soldering Time:3 Seconds Max(One Time)  
Distance:2mm Min(From solder joint to case)

## 2.Wave Soldering Profile

Dip Soldering  
Preheat: 120° C Max  
Preheat time: 60seconds Max  
Ramp-up  
2° C/sec(max)  
Ramp-Down:-5° C/sec(max)  
Solder Bath:260° C Max  
Dipping Time:3 seconds Max  
Distance:2mm Min(From solder joint to case)

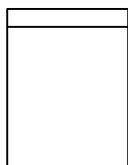


### Reliability Test:

Test Item	Test Condition	Description	Reference Standard
Operating Life Test	1.Under Room Temperature 2.If=20mA 3.t=1000 hrs (-24hrs, +72hrs)	This test is conducted for the purpose of determining the resistance of a part in electrical and thermal stressed.	MIL-STD-750: 1026 MIL-STD-883: 1005 JIS C 7021: B-1
High Temperature Storage Test	1.Ta=105 °C ±5°C 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of high temperature for hours.	MIL-STD-883:1008 JIS C 7021: B-10
Low Temperature Storage Test	1.Ta=-40 °C ±5°C 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of low temperature for hours.	JIS C 7021: B-12
High Temperature High Humidity Test	1.Ta=65 °C ±5°C 2.RH=90 %~95% 3.t=240hrs ±2hrs	The purpose of this test is the resistance of the device under tropical for hours.	MIL-STD-202:103B JIS C 7021: B-11
Thermal Shock Test	1.Ta=105 °C ±5°C & -40 °C ±5°C (10min) (10min) 2.total 10 cycles	The purpose of this is the resistance of the device to sudden extreme changes in high and low temperature.	MIL-STD-202: 107D MIL-STD-750: 1051 MIL-STD-883: 1011
Solder Resistance Test	1.T.Sol=260 °C ±5°C 2.Dwell time= 10 ±1sec.	This test intended to determine the thermal characteristic resistance of the device to sudden exposures at extreme changes in temperature when soldering the lead wire.	MIL-STD-202: 210A MIL-STD-750: 2031 JIS C 7021: A-1
Solderability Test	1.T.Sol=245 °C ±5°C 2.Dwell time=5 ±1sec	This test intended to see soldering well performed or not.	MIL-STD-202: 208D MIL-STD-750: 2026 MIL-STD-883: 2003 JIS C 7021: A-2

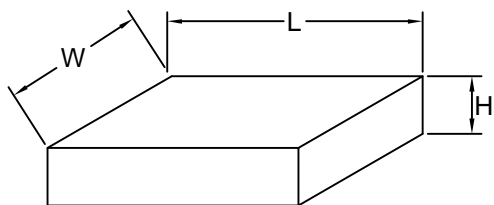
## PACKING SPECIFICATION

1.200 PCS / BAG



2. 8 BAG / INNER BOX

SIZE : L X W X H 33.5cm X 19cm X 7.5cm



3. 12 INNER BOXES / CARTON

SIZE : L X W X H 58.5cm X 34cm X 34cm

