

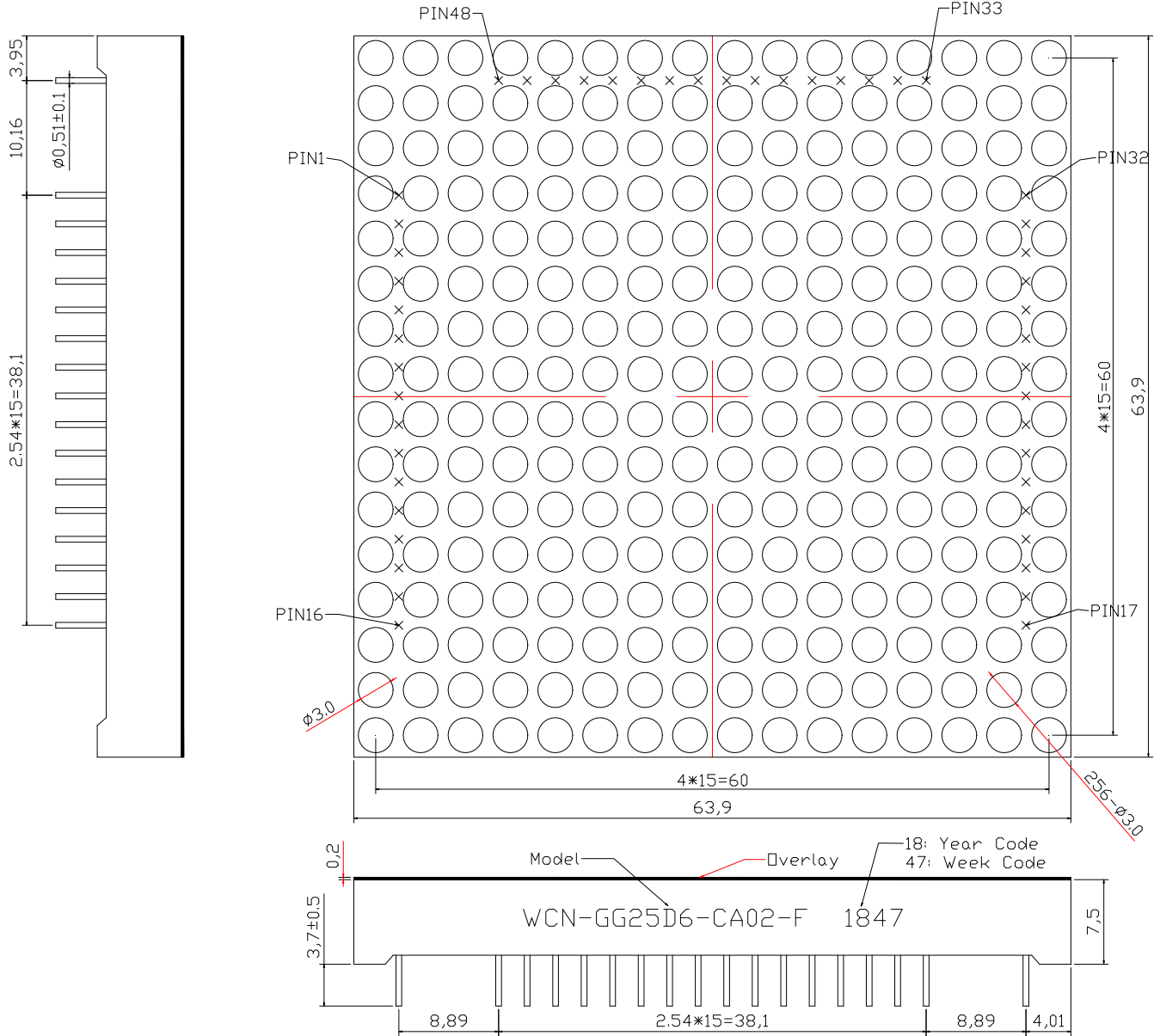
WCN-GG25D6-CA02-F

SPECIFICATION

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Zhang 2018-12-4	Athena	William	
Note	A1: Change Printing Position and Operating Condition (2018-12-4) A2: Correct Electrical and Optical Characteristics describe, Add Graph and Packaging Data. (2018-12-11)		

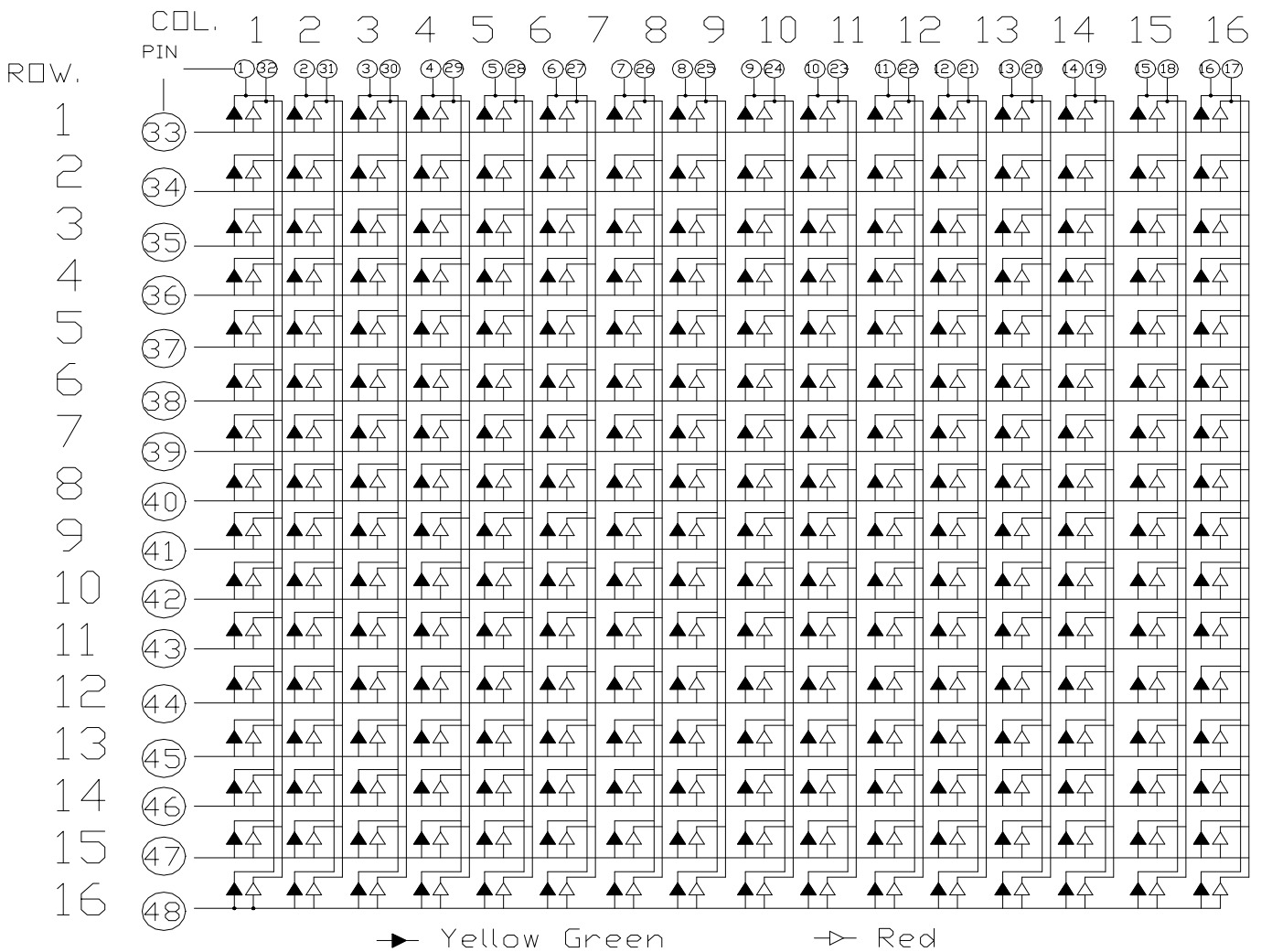
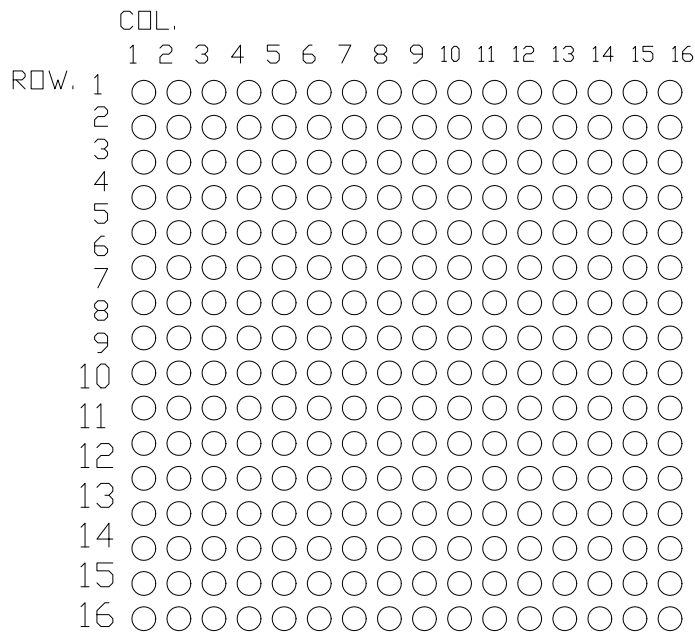
**REVISION: A2**

Outer Dimension:



Notes: Unless otherwise stated, the tolerance is $\pm 0.25\text{mm}$.

■ Circuit Diagram:



■ **Features:**

- High Reliability
- Color: Dual Color (Red and Yellow Green)
- Low Power Requirement
- Easy Assembly

■ **Description:**

- 16*16 Dot Matrix Anode Row
- Φ3.0 mm Dot and Pitch 4 mm
- Black Face with Water Clear Overlay

■ **Absolute Maximum Rating (Ta=25°C):**

Parameter	Symbol	Condition	Color	Rating	Units
Maximal Power Dissipation (When completely Lighting) Per Dot	P _d	—	Yellow Green	26	mW
			Red	26	
Maximal Forward Current (When completely Lighting) Per Dot	I _F	—	Yellow Green	10	mA
			Red	10	
Peak Forward Current Per Dot	I _{FP}	1/16Duty 1kHz	Yellow Green	160	mA
			Red	160	
Reverse Voltage Per Dot	V _R	—	Yellow Green	5	V
			Red	5	
Operating Temperature Range	Topr	—	—	-35~+85	°C
Storage Temperature Range	Tstg	—	—	-35~+85	°C

■ **Electrical/Optical Characteristics Rating (Ta=25°C)**

Item	Symbol	Test conditions	Location	Color	Rating			Unit
					Min.	Typ.	Max.	
Forward Voltage	V _F	I _F =10mA	Per Dot	Yellow Green	—	2.6	3.0	V
				Red	—	2.0	2.3	
Reverse Current	I _R	V _R =5V	Per Dot	Yellow Green	—	—	100	μA
				Red	—	—	100	
Luminance	I _v	I _F =10mA	Per Dot	Yellow Green	—	30	—	mcd
				Red	—	40	—	
Peak Emission Wave Length	λ _D	I _F =10mA	Per Dot	Yellow Green	—	570	—	nm
				Red	—	623	—	
Spectral Line Half Width	Δλ	I _F =10mA	Per Dot	Yellow Green	—	20	—	nm
				Red	—	20	—	

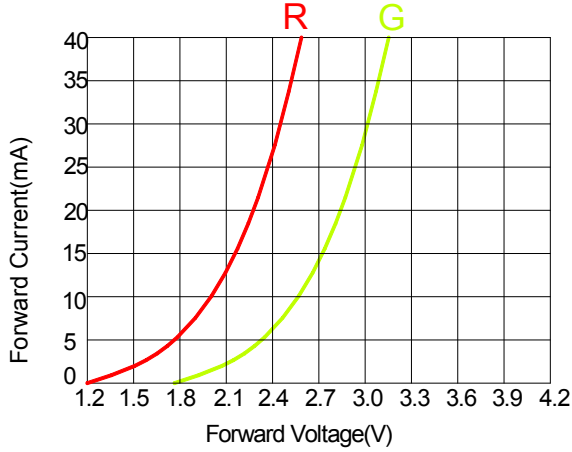
■ **Wave-Soldering Conditions:** Soldering Temp. ≤+260°C, Soldering Time. ≤3sec.

Handmade Conditions: Soldering Temp. ≤+320°C, Soldering Time. ≤3sec.

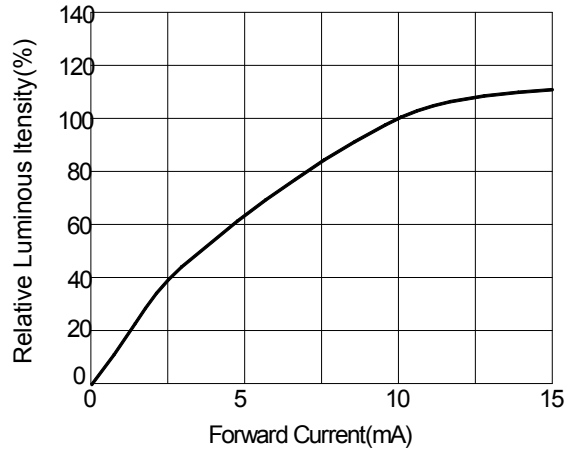
■ **Electrostatic Discharge Threshold:** HBM 1500V

■ Typical Elector-Optical Characteristics Curve:

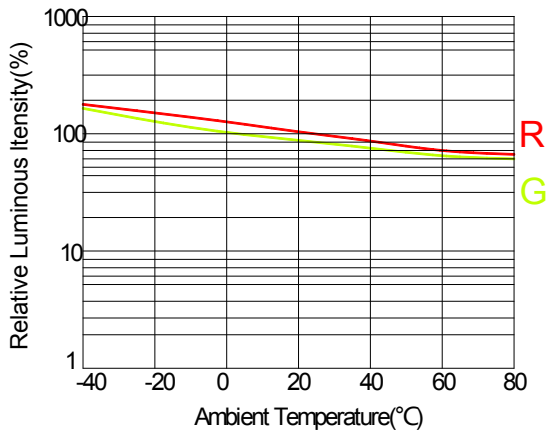
Forward Current VS Forward Voltage



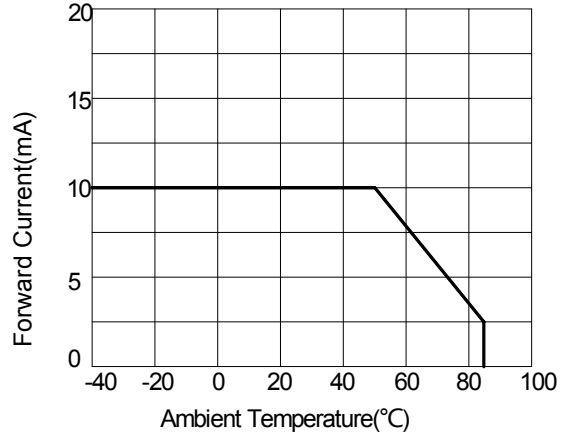
Relative Flux VS Forward Current



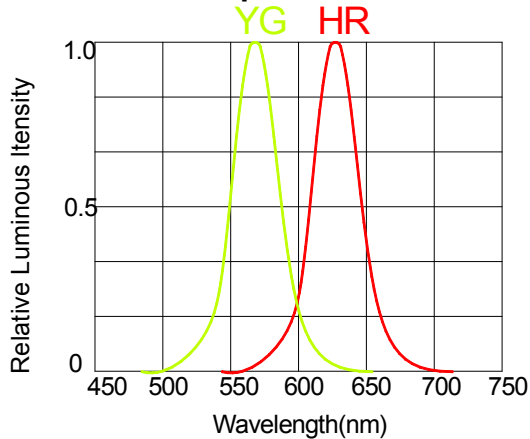
Relative Flux VS Ambient Temperature



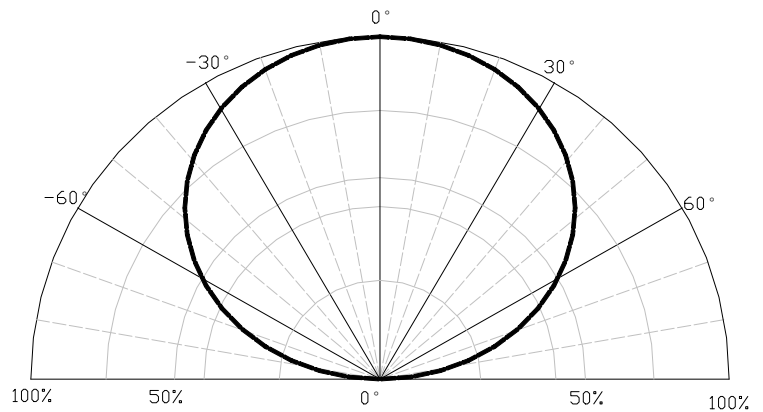
Forward Current VS Ambient Temperature



Relative Spectral Distribution



Typical Spectral Distribution

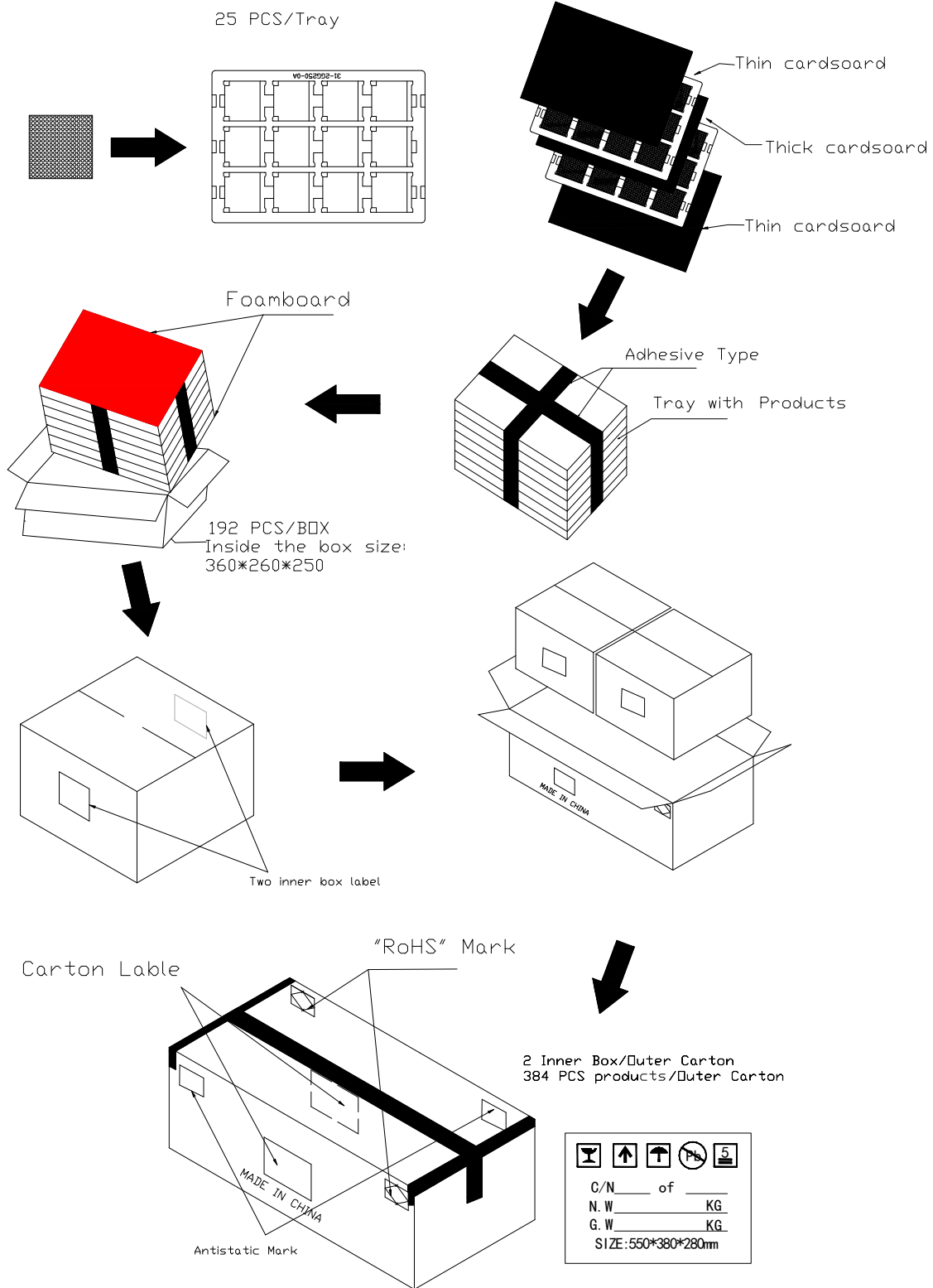


■ Packaging Data:

12 pcs / Tray

192 pcs / Box

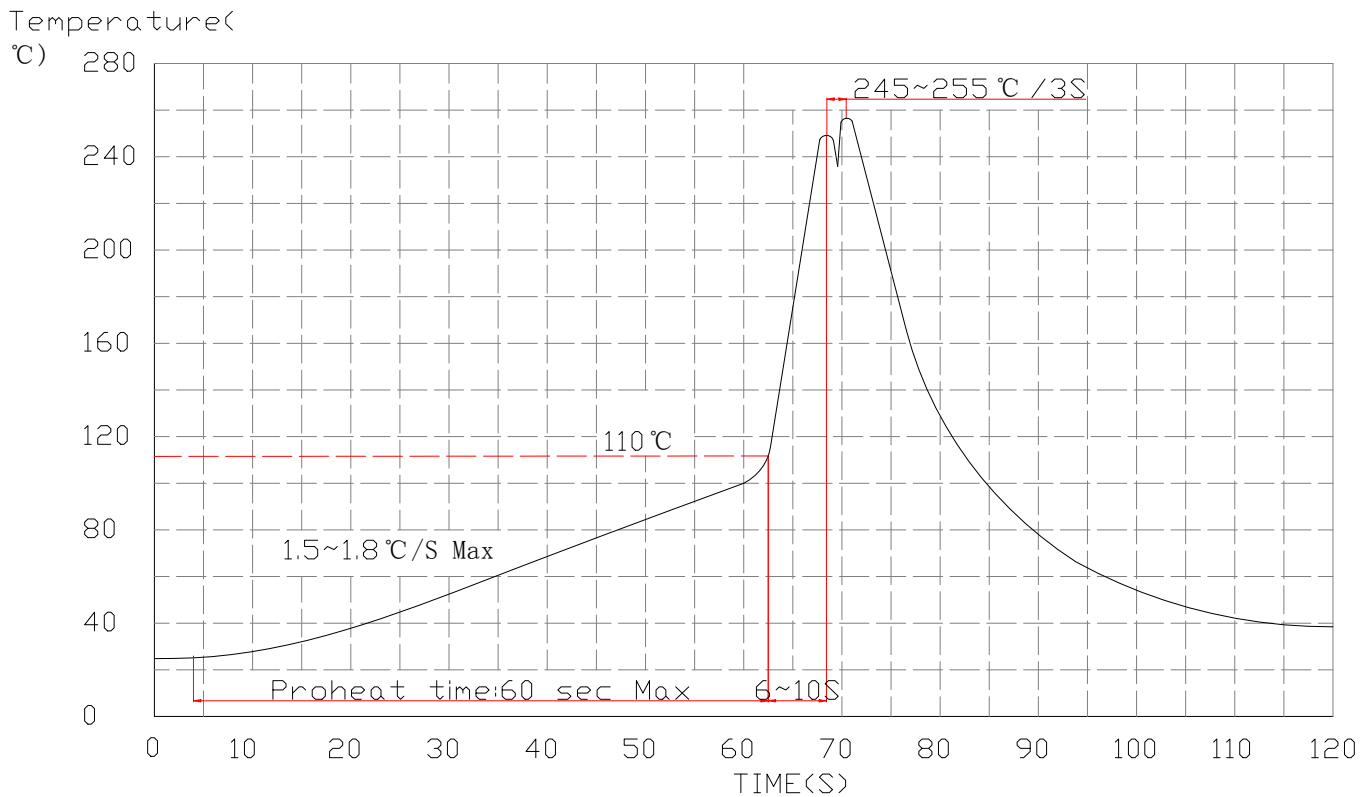
384 pcs / Carton(550*380*280mm)



WCN Opto Group Co., Limited

■ LED Displays Reliability Test:

CLASSIFICATION	TEST ITEM	DESCRIPTION AND TEST CONDITION
ENDURANCE TEST	OPERATION LIFE	EVALUATES RESISTANCE OF THE DEVICE WHEN OPERATED AT ELECTRICAL STRESS T_a = UNDER ROOM TEMPERATURE $I_f = I_f \text{ max}$
	HIGH TEMPERATURE HIGH HUMIDITY STORAGE	EVALUATES MOISTURE RESISTANCE OF THE DEVICE WHEN STORED FOR A LONG TERM AT HIGH TEMPERATURE AND HUMIDITY $T_a = 65 \pm 5^\circ\text{C}$ RH=90~95%RH TEST TIME=240± 2Hrs
	HIGH TEMPERATURE STORAGE	EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN HIGH TEMPERATURE $T_a = 85 \pm 5^\circ\text{C}$ (COB: $T_a = 65 \pm 5^\circ\text{C}$) TEST TIME=1000Hrs(-24Hrs, +72Hrs)
	LOW TEMPERATURE STORAGE	EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN LOW TEMPERATURE $T_a = -35 \pm 5^\circ\text{C}$ TEST TIME=1000Hrs(-24Hrs, +72Hrs)
ENVIRONMENTAL TEST	TEMPERATURE CYCLING	EVALUATES RESISTANCE OF DEVICE AT THERMAL STRESSES OR EXPANSION AND CONTRACTION $85^\circ\text{C} \sim 25^\circ\text{C} \sim -35^\circ\text{C} \sim 25^\circ\text{C}$ 30min 5min 30min 5min 10 CYCLES(COB: $T_{\text{hot}}=65^\circ\text{C}$, $T_{\text{cold}}=-25^\circ\text{C}$)
	THERMAL SHOCK	EVALUATES DEVICE STRUCTURE AND STRUCTURE AND MECHANICAL RESISTANCE WHEN SUDDENLY EXPOSED AT SERVE CHANGES $85 \pm 5^\circ\text{C} \sim -35 \pm 5^\circ\text{C}$ 10min 10min 10 CYCLES(COB: $T_{\text{hot}}=65^\circ\text{C}$, $T_{\text{cold}}=-25^\circ\text{C}$)
	SOLDERABILITY	EVALUATES SOLDERABILITY ON LEADS OF DEVICE $T_{\text{SOL}}=230 \pm 5^\circ\text{C}$ DWELL TIME=5±1sec.
	SOLDER RESISTANCE	EVALUATES RESISTANCE TO THERMAL STRESS CAUSED BY SOLDERING $T_{\text{SOL}}=260 \pm 5^\circ\text{C}$ DWELL TIME=10±1sec.

Recommended Wave Soldering Profiles:**Notes:**

1. Recommend pre-heat temperature of 110°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C.
2. Peak wave soldering temperature between 245°C~255°C for 3 sec .
3. Do not apply stress to the epoxy resin while the temperature is above 85°C.
4. Fixtures should not incur stress on the component when mounting and during soldering process.
5. SAC 305 solder alloy is recommended.
6. No more than one wave soldering pass.

Recommended Soldering Pad :