

WCN4-0040GU-A52

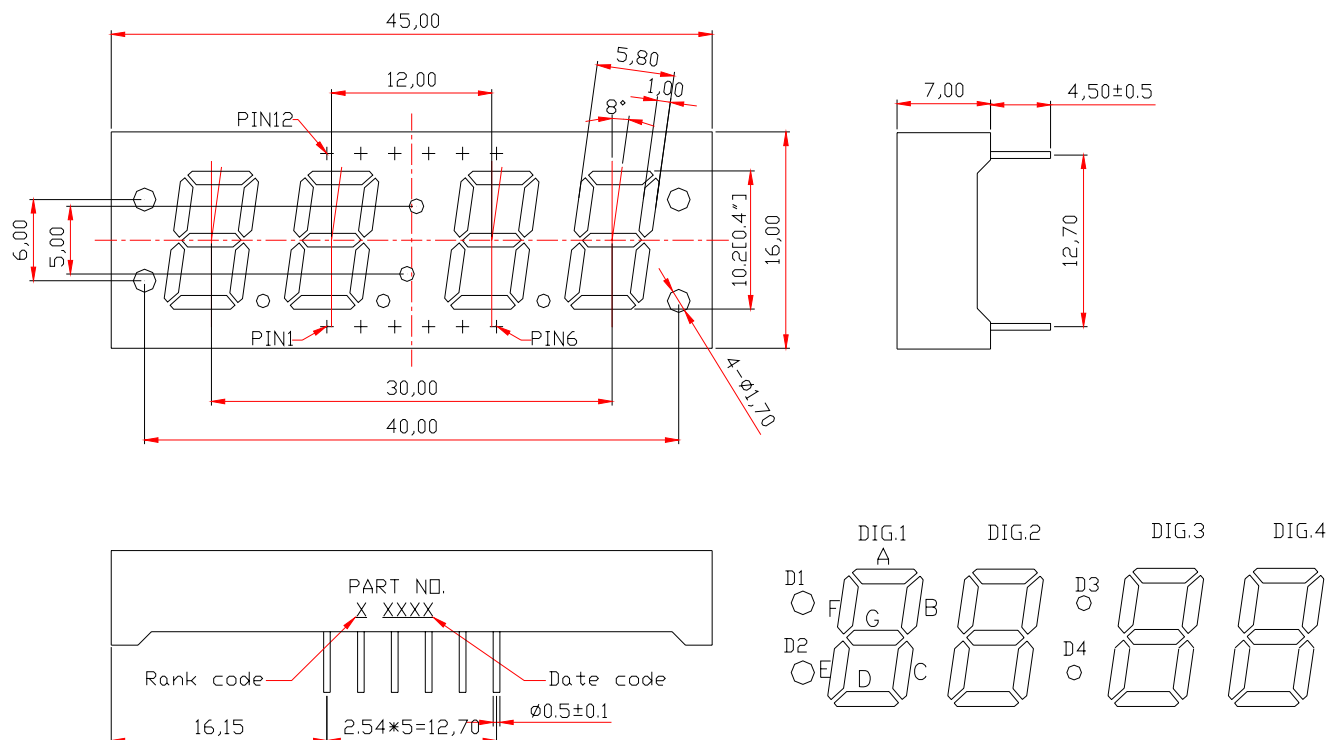
SPECIFICATION

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Zhang 2018-7-12	Athena	William	
REVISION RECORD			



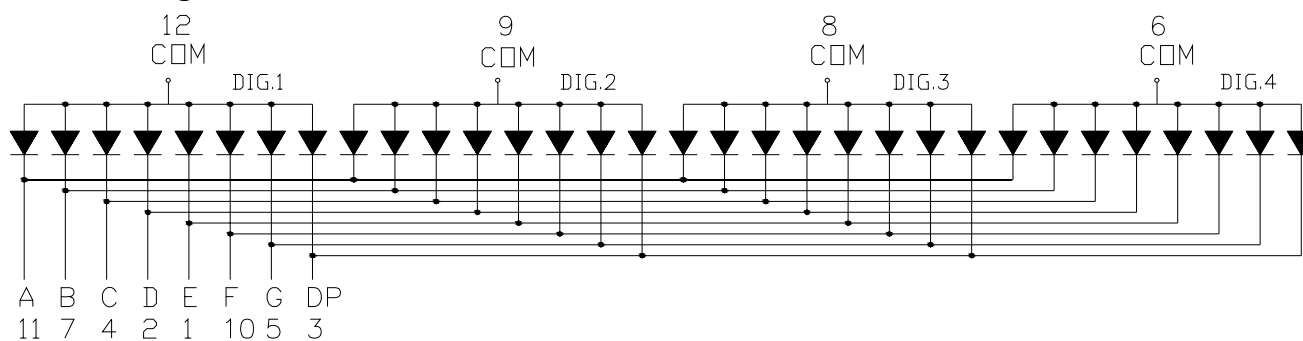
REVISION: A0

Outer Dimension:



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

Circuit Diagram:



Pin Connection:

PIN NO.	CONNECTION	PIN NO.	CONNECTION
1	Cathode E	7	Cathode B
2	Cathode D	8	Common Anode Dig.3
3	Cathode Dp	9	Common Anode Dig.2
4	Cathode C	10	Cathode F
5	Cathode G	11	Cathode A
6	Common Anode Dig.4	12	Common Anode Dig.1

■ Features:

- High Reliability
- Color: Yellow Green
- Low Power Requirement
- Easy Assembly

■ Description:

- Four Digit Display
- Digit Height:10.16mm(0.40")
- Black Face and Milky Segment

■ Absolute Maximum Rating (Ta=25℃):

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	P _d	—	Yellow Green	65	mW
Forward Current Per Segment	I _F	—	Yellow Green	25	mA
Peak Forward Current Per Segment	I _{FP}	1/10 Duty 10KHz	Yellow Green	100	mA
Reverse Voltage Per Segment	V _R	—	Yellow Green	5	V
Operating Temperature Range	T _{opr}	—	—	-35~+85	℃
Storage Temperature Range	T _{stg}	—	—	-35~+85	℃

■ Electrical/Optical Characteristics Rating(Ta=25℃)

Item	Symbol	Test conditions	Location	Rating			Units
				Min.	Typ.	Max.	
Forward Voltage	V _F	I _F =20mA	Per Segment	—	2.25	2.60	V
Reverse Current	I _R	V _R =5V	Per Segment	—	—	100	μA
Luminous Intensity	I _V	I _F =10mA	Per Segment	1351	2650	—	μcd
Peak Emission Wave Length	λ _p	I _F =20mA	Per Segment	—	568	—	nm
	λ _d			—	570	—	
Spectral Line Half Width	△λ	I _F =20mA	Per Segment	—	20	—	nm

■ Luminous Intensity Sorting: (Luminous Intensity Tolerance is +/-10%)

Rank	Symbol	Condition	Min	Max	Unit
H	H	I _F =10mA	1351	1750	μcd
I	I	I _F =10mA	1751	2350	μcd
J	J	I _F =10mA	2351	3050	μcd
K	K	I _F =10mA	3051	4000	μcd
L	L	I _F =10mA	4001	5000	μcd

■ Hue Grade: I_F =10mA (Hue:+/-1nm)

Rank	Symbol	Hue Range	Units
3	3	568.1~570.0	nm
4	4	570.1~572.0	nm

■ Soldering Conditions: Soldering Temp. ≤+260℃, Soldering Time. ≤3sec. (at 2mm Distance from The Case of Reflector Edge)s

Typical Elector-Optical Characteristics Curve:

Fig 1. Forward Current vs. Forward Voltage

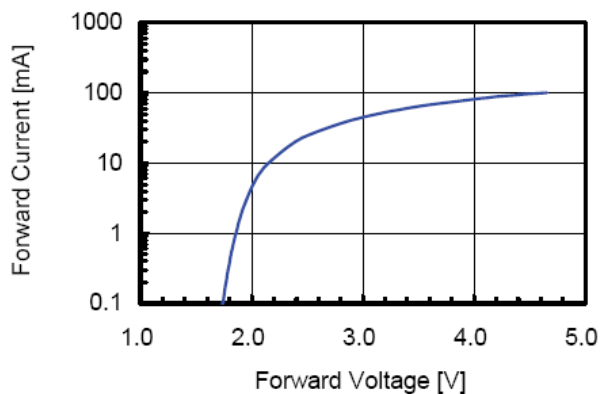


Fig 2. Relative Intensity vs. Forward Current

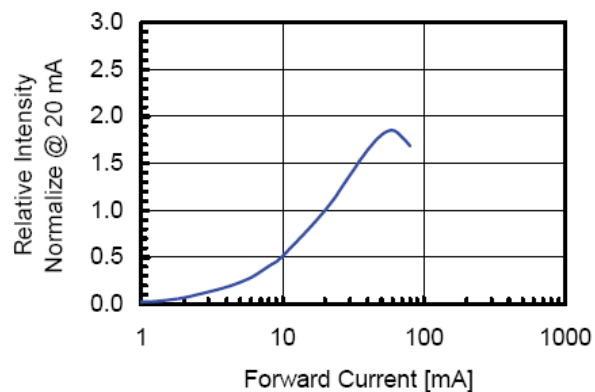


Fig 3. Forward Voltage vs. Temperature

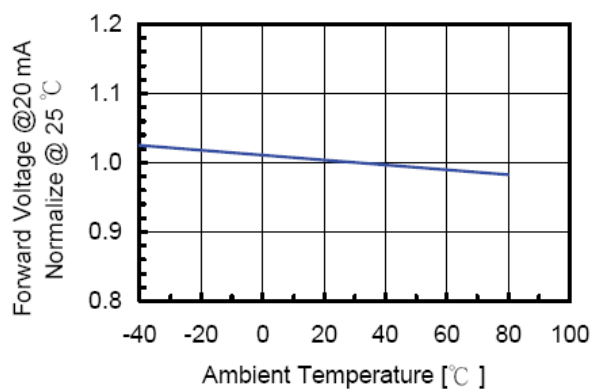


Fig 4. Relative Intensity vs. Temperature

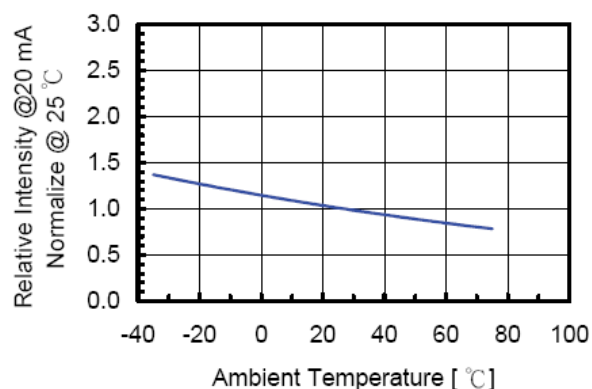
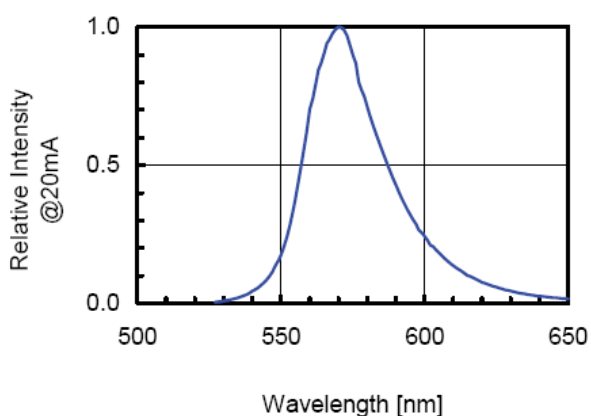


Fig 5. Relative Intensity vs. Wavelength



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LED Displays Reliability Test:

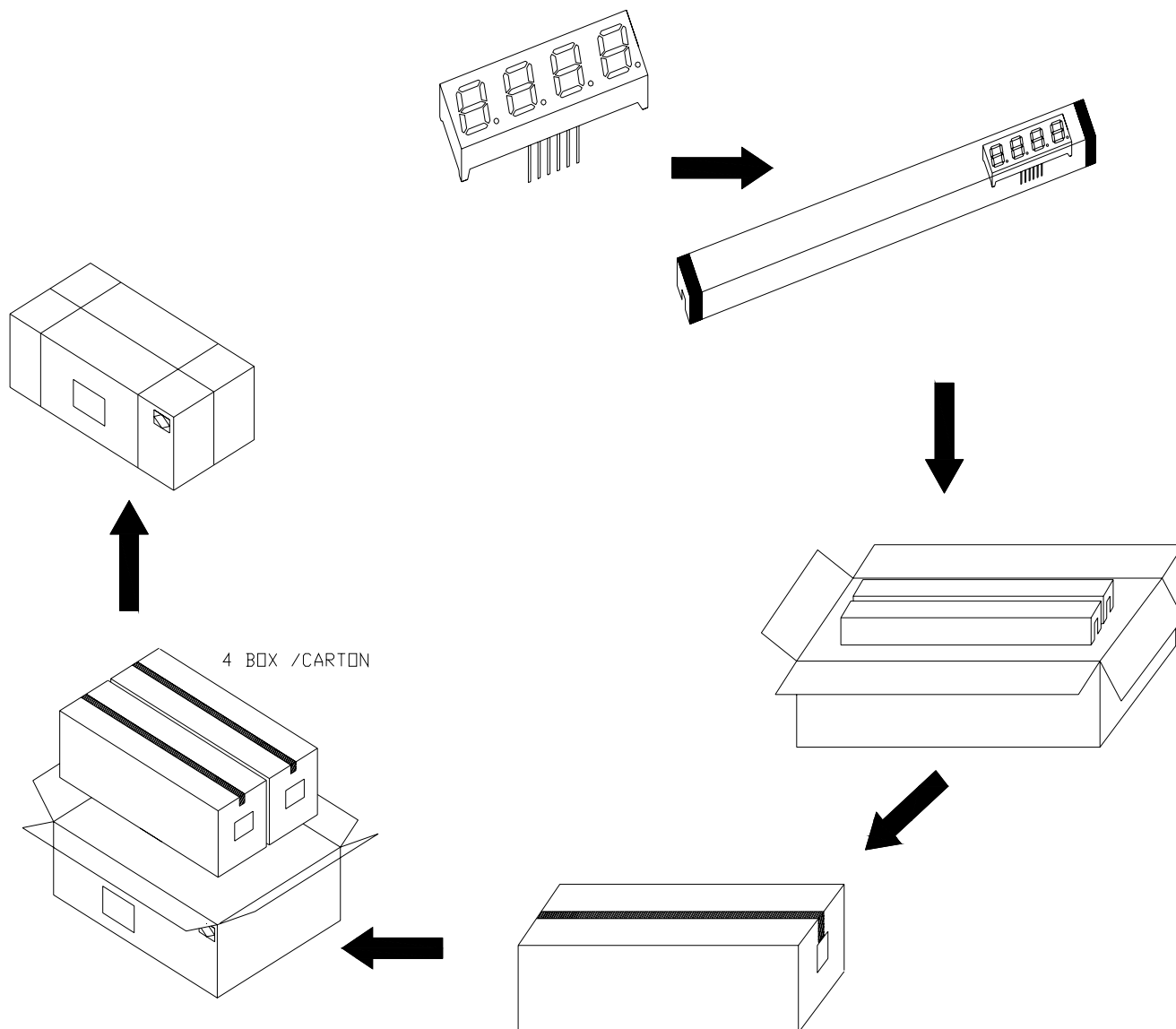
CLASSIFICATION	TEST ITEM	DESCRIPTION AND TEST CONDITION
ENDURANCE TEST	OPERATION LIFE	EVALUATES RESISTANCE OF THE DEVICE WHEN OPERATED AT ELECTRICAL STRESS T _a = UNDER ROOM TEMPERATURE I _F = I _F max
	HIGH TEMPERATURE HIGH HUMIDITY STORAGE	EVALUATES MOISTURE RESISTANCE OF THE DEVICE WHEN STORED FOR A LONG TERM AT HIGH TEMPERATURE AND HUMIDITY T _a = 65±5°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±5°C(COB: T _a =65±5°C) TEST TIME=1000Hrs(-24Hrs, +72Hrs)
	LOW TEMPERATURE STORAGE	EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN LOW TEMPERATURE T _a = -35±5°C TEST TIME=1000Hrs(-24Hrs, +72Hrs)
ENVIRONMENTAL TEST	TEMPERATURE CYCLING	EVALUATES RESISTANCE OF DEVICE AT THERMAL STRESSES OR EXPANSION AND CONTRACTION 85°C ~ 25°C ~ -35°C ~ 25°C 30min 5min 30min 5min 10 CYCLES(COB: Thot=65°C, Tcold=-25°C)
	THERMAL SHOCK	EVALUATES DEVICE STRUCTURE AND STRUCTURE AND MECHANICAL RESISTANCE WHEN SUDDENLY EXPOSED AT SERVE CHANGES 85±5°C ~ -35±5°C 10min 10min 10 CYCLES(COB: Thot=65°C, Tcold=-25°C)
	SOLDERABILITY	EVALUATES SOLDERABILITY ON LEADS OF DEVICE T.SOL=230±5°C DWELL TIME=5±1sec.
	SOLDER RESISTANCE	EVALUATES RESISTANCE TO THERMAL STRESS CAUSED BY SOLDERING T.SOL=260±5°C DWELL TIME=10±1sec.

■ Package Pattern :

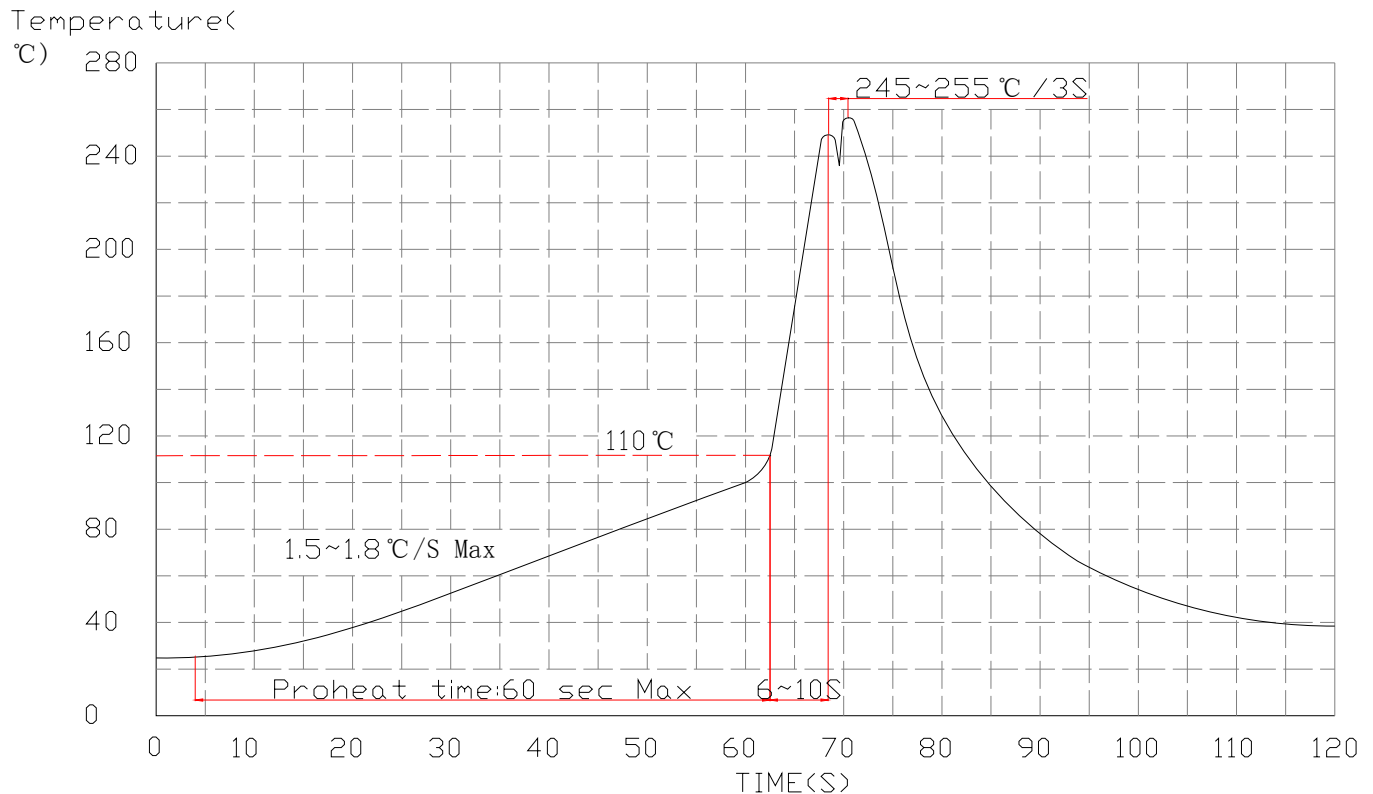
12 pcs / IC Tube.

756 pcs / Box (537*175*125mm).

3024 pcs / Carton (550*380*280mm).



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 :

