

WCN3-0052GU-A21

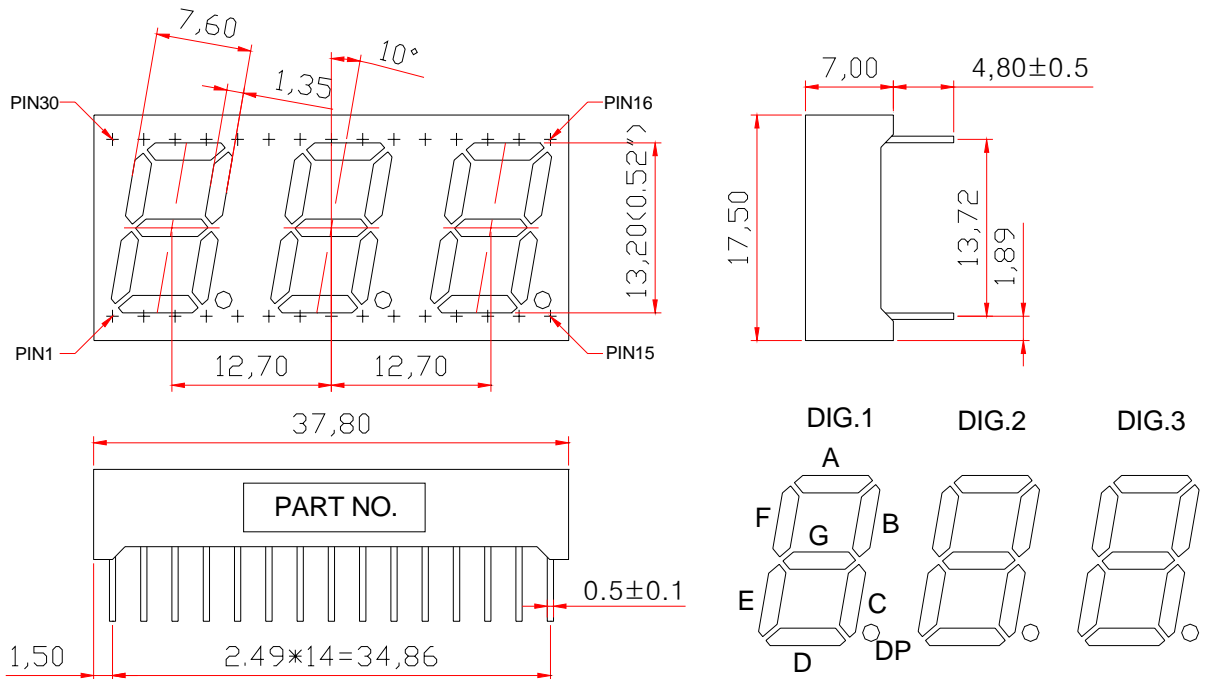
SPECIFICATION

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei 2016-7-7	Athena	William	
REVISION RECORD			



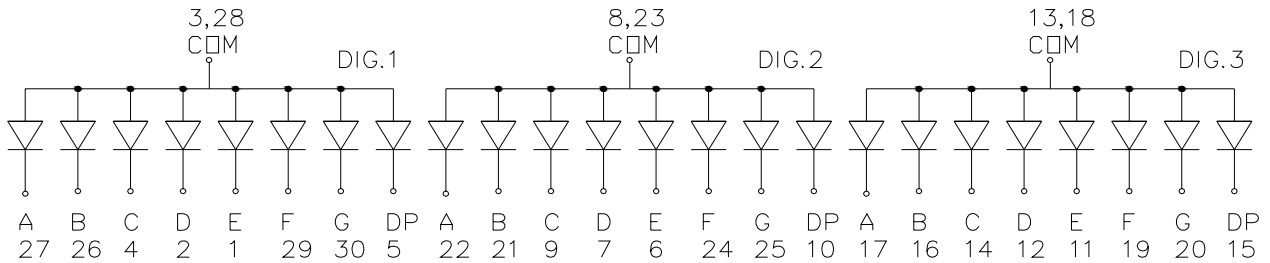
REVISION: A0

Outer Dimension:



Notes: Unless otherwise stated, The tolerance is ± 0.25 mm.

Circuit Diagram:



Pin Connection:

PIN NO.	CONNECTION	PIN NO.	CONNECTION	PIN NO.	CONNECTION
1	Cathode 1E	11	Cathode 3E	21	Cathode 2B
2	Cathode 1D	12	Cathode 3D	22	Cathode 2A
3	Common Anode DIG.1	13	Common Anode DIG.3	23	Common Anode DIG.2
4	Cathode 1C	14	Cathode 3C	24	Cathode 2F
5	Cathode DP1	15	Cathode DP3	25	Cathode 2G
6	Cathode 2E	16	Cathode 3B	26	Cathode 1B
7	Cathode 2D	17	Cathode 3A	27	Cathode 1A
8	Common Anode DIG.2	18	Common Anode DIG.3	28	Common Anode DIG.1
9	Cathode 2C	19	Cathode 3F	29	Cathode 1F
10	Cathode DP2	20	Cathode 3G	30	Cathode 1G

■ **Features:**

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

■ **Description:**

- Three Digit Display
- Digit Height: 13.2mm(0.52")
- Black Face and Milky Segment

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

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	°C
Storage Temperature Range	T _{stg}	—	—	-35~+85	°C

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

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	1751	3500	6100	μcd
Peak Emission Wave Length	λ _P	I _F =20mA	Per Segment	—	568	—	nm
	λ _D			—	571	—	
Spectral Line Half Width	△λ	I _F =20mA	Per Segment	—	20	—	nm
Luminous Intensity Matching Ratio (Segment to Segment)	I _{v-m}	I _F =10mA	—	—	—	1.2:1	

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

Rank	Symbol	Condition	Min	Max	Unit
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
M	M	I _F =10mA	5001	6100	μcd

■ **Hue Grade: I_F =10mA (Hue: +/-1nm)**

Rank	Symbol	Hue Range	Units
3	3	569.1~571.0	nm
4	4	571.1~573.0	nm

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

Typical Elector-Optical Characteristics Curve:

Fig 1. Forward Current vs. Forward Voltage

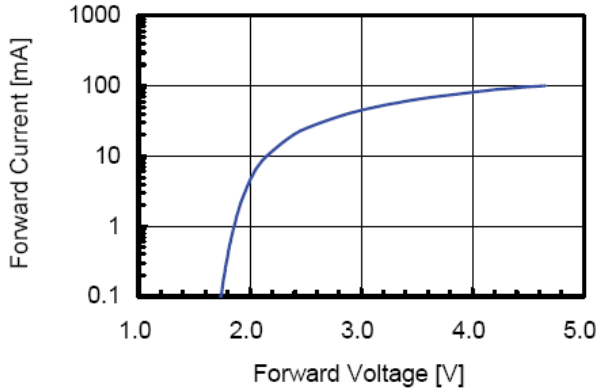


Fig 2. Relative Intensity vs. Forward Current

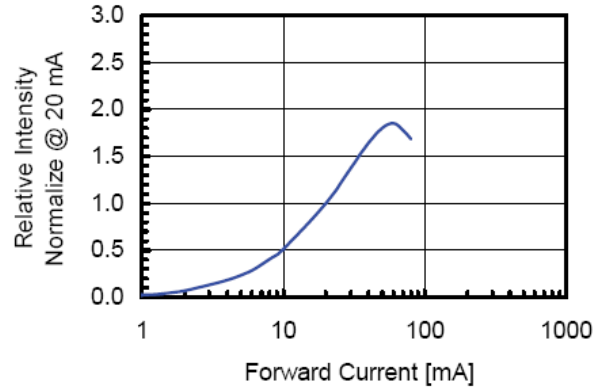


Fig 3. Forward Voltage vs. Temperature

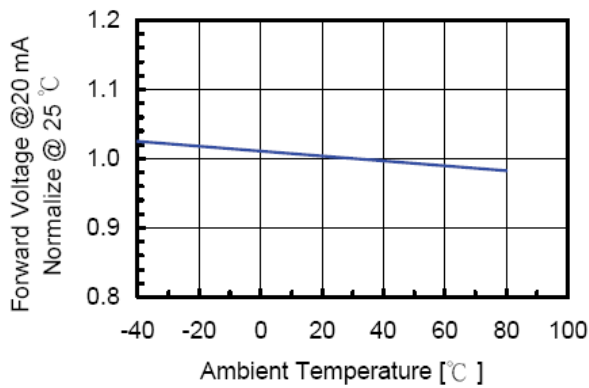


Fig 4. Relative Intensity vs. Temperature

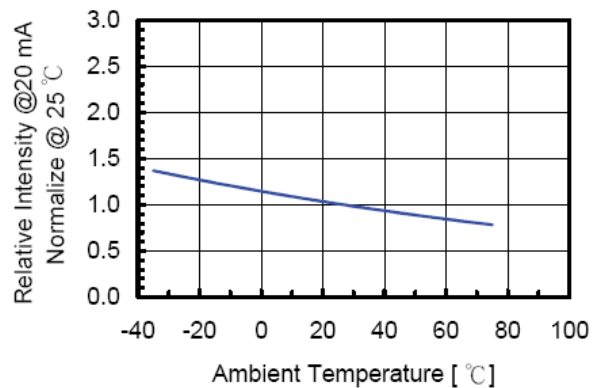
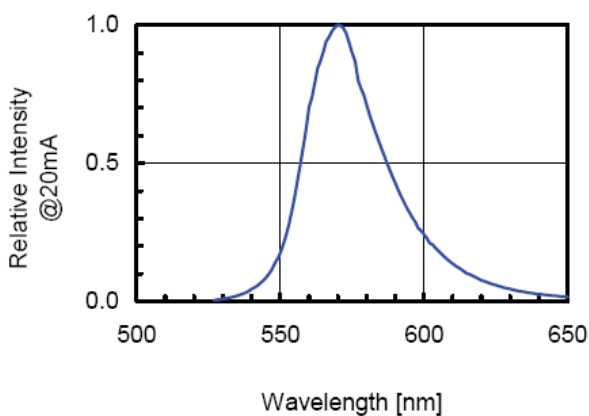


Fig 5. Relative Intensity vs. Wavelength



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 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: T _{hot} =65°C, T _{cold} =-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: T _{hot} =65°C, T _{cold} =-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.

■ Packing method A:

64 pcs / Red Expandable Polyethylene.

440 pcs / Box(360*175*130mm).

2640 pcs / Carton(550*380*280mm).

■ Packing method B:

13pcs / IC Tube.(520*19.5*18.6)

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

2808 pcs / Carton(550*380*280mm).