

WCN1-00B2PG-A11S

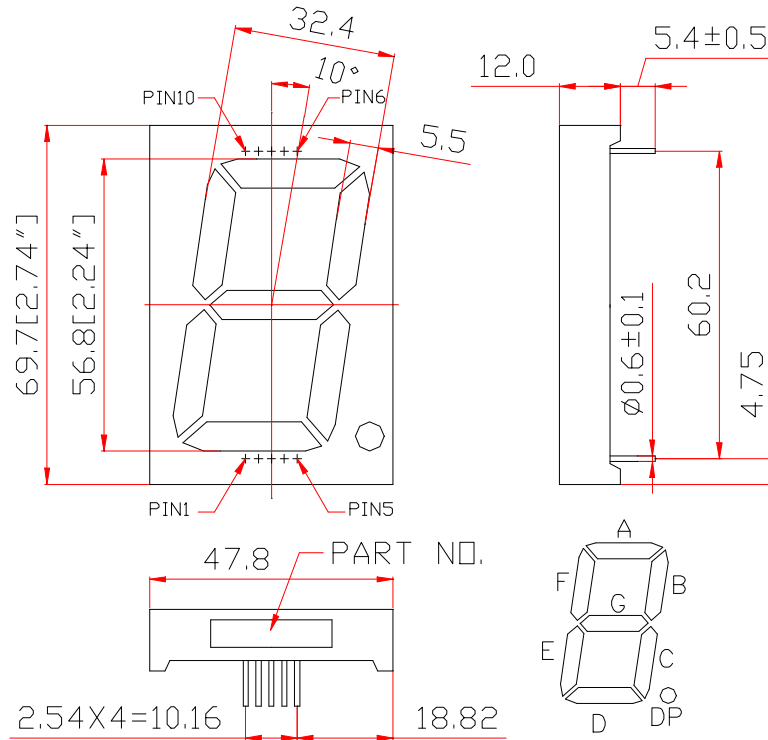
SPECIFICATION

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Liu 2023-10-25	Athena		
REVISION RECORD A1:New Version issued(2023-10-25)			



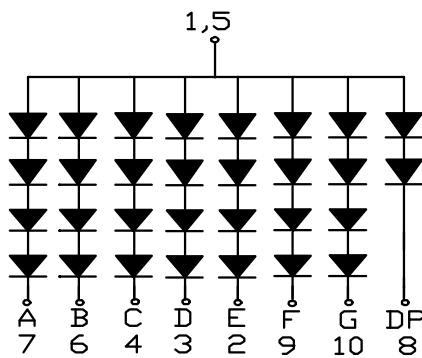
REVISION: A1

■ Outer Dimension:



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

■ Circuit Diagram:



■ Pin Connection:

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

■ **Features:**

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

■ **Description:**

- Single Digit LED Display
- Digit Height: 56.80mm(2.24")
- Black Face and Milky Segment

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

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	P _d	—	Pure Green	360/180	mW
Forward Current Per Segment	I _F	—	Pure Green	25/25	mA
Peak Forward Current Per Segment	I _{FP}	1/10 Duty 10KHz	Pure Green	100	mA
Reverse Voltage Per Segment	V _R	—	Pure Green	20/10	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	—	12.8	14.4	V
			DP	—	6.4	7.2	
Reverse Current	I _R	V _R =20/10V	Per Segment/DP	—	—	100	μA
Luminous Intensity	I _v	I _F =10mA	Per Segment	31	40	50	mcd
Wave Length	λ _P	I _F =20mA	Per Segment	—	515	—	nm
	λ _D				520		
Spectral Line Half Width	Δλ	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
W	W	I _F =10mA	31	37	mcd
X	X	I _F =10mA	37	43	mcd
Y	Y	I _F =10mA	43	50	mcd

■ **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-Relative Luminous Intensity vs. Forward Current

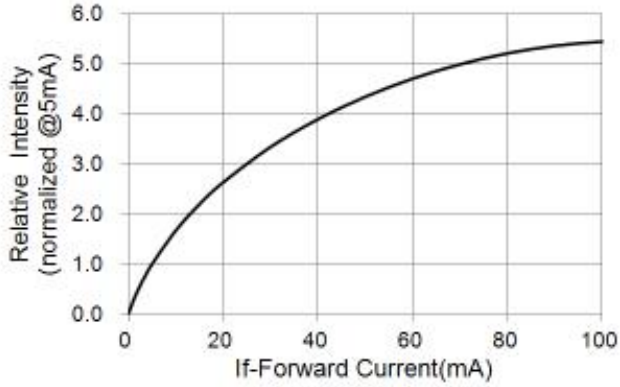


Fig.2-Forward Current vs. Forward Voltage

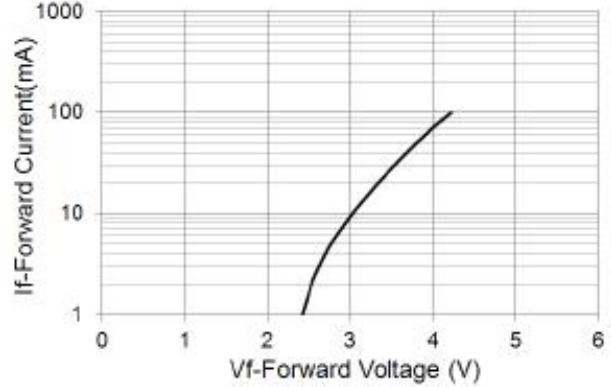


Fig.3-Relative Intensity(@5mA) vs. Ambient Temperature

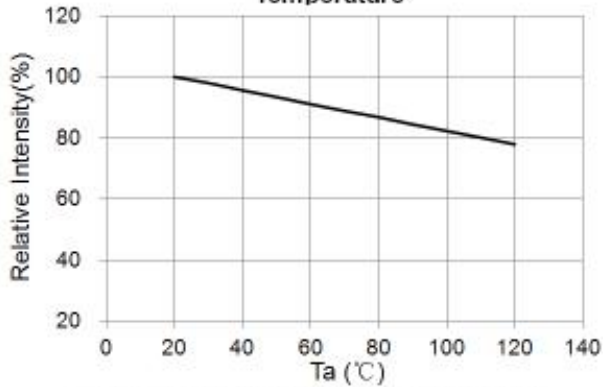


Fig.4- Forward Voltage (@5mA) vs. Ambient Temperature

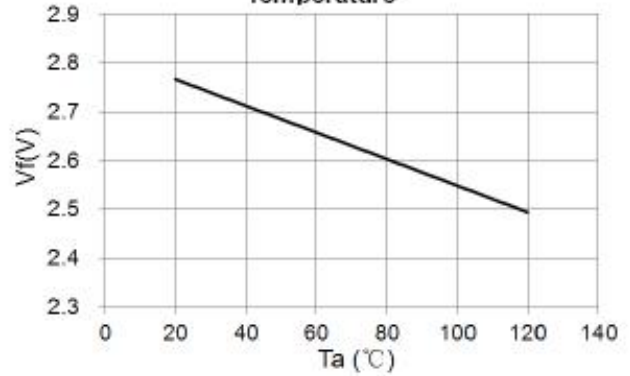


Fig.5- Dominant Wavelength (@5mA) vs. Ambient Temperature

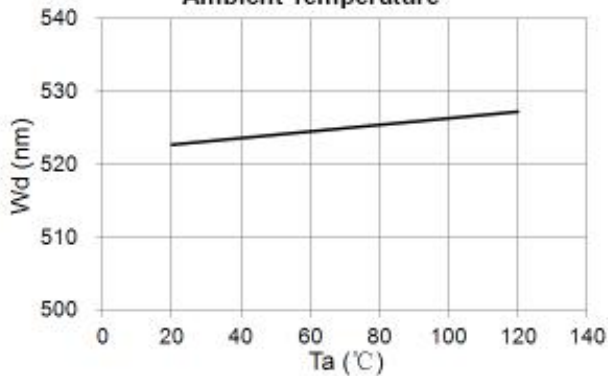
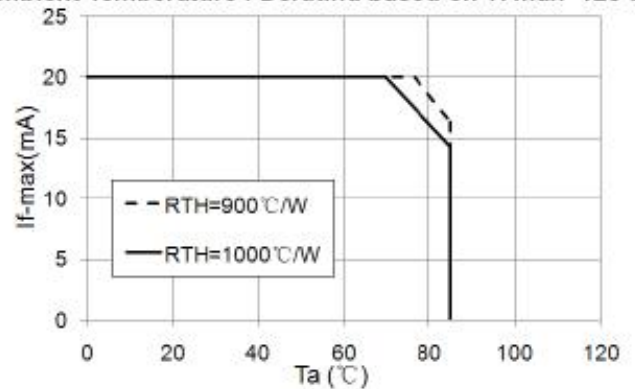


Fig.6-Maximum Driving Forward DC Current vs. Ambient Temperature (Derating based on Ti max=125°C)



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 $I_f = I_f \text{ max}$ TEST TIME=1000Hrs(-24Hrs, +72Hrs)
	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 \pm 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 \pm 1sec.
	SOLDER RESISTANCE	EVALUATES RESISTANCE TO THERMAL STRESS CAUSED BY SOLDERING $T_{\text{SOL}}=260 \pm 5^\circ\text{C}$ DWELL TIME=10 \pm 1sec.

Packing method :

21 pcs / Red Expandable Polyethylene.

210 pcs / Box(360*265*255mm).

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