

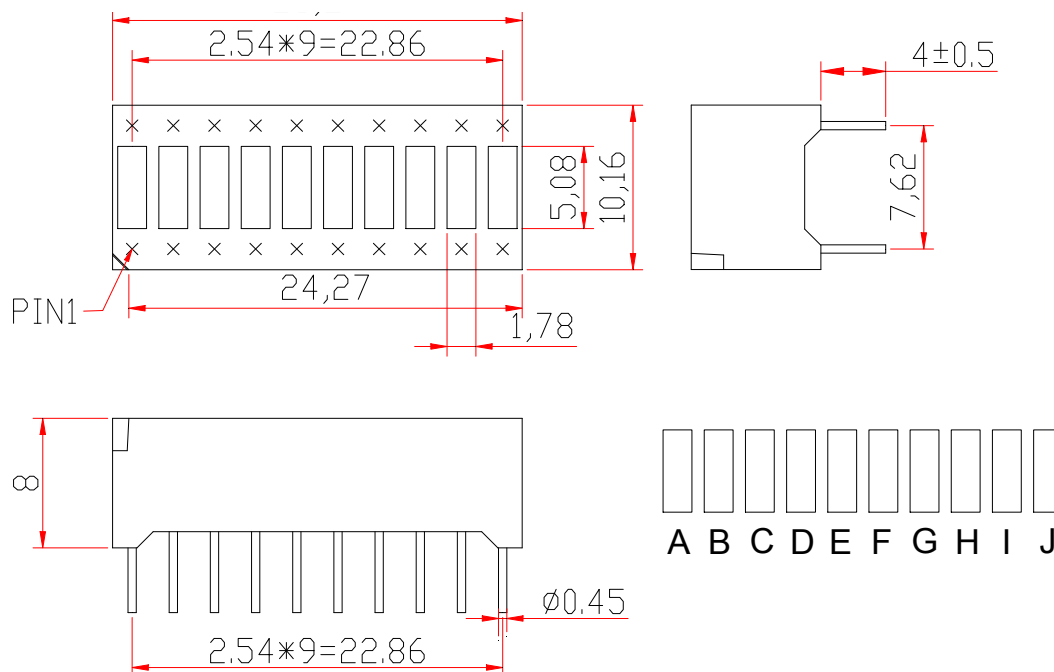
WCNLBA-SR12

SPECIFICATION

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Wei 2021-5-17	Athena	William	
REVISION RECORD A1:Change PIN Dimensions(2016-1-23) A2:New Version issued (2016-5-26) A3: Change Outer Dimension(2021-5-17)			

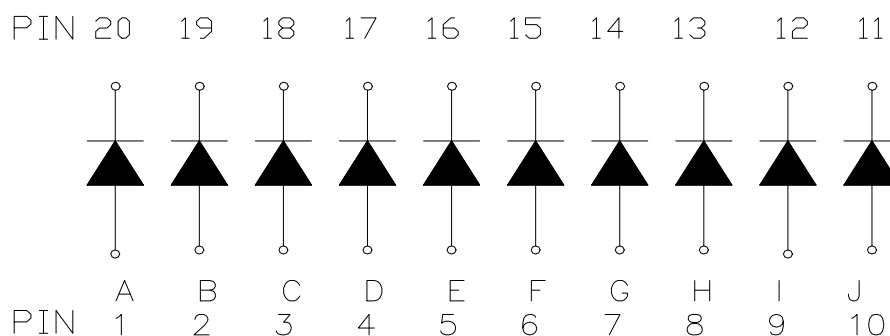
**REVISION: A3**

Outer Dimension:



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

Circuit Diagram:



Pin Connection:

PIN NO.	CONNECTION	PIN NO.	CONNECTION		
1	Anode A	8	Anode H	15	Cathode F
2	Anode B	9	Anode I	16	Cathode E
3	Anode C	10	Anode J	17	Cathode D
4	Anode D	11	Cathode J	18	Cathode C
5	Anode E	12	Cathode I	19	Cathode B
6	Anode F	13	Cathode H	20	Cathode A
7	Anode G	14	Cathode G		

■ Features:

- High Reliability
- Color:Red
- Low Power Requirement
- Easy Assembly

■ Description:

- Ten Windows Display
- Digit Height 5.00mm(0.20") and Width 1.75mm(0.07")
- Black Face and Milky Bar

■ Absolute Maximum Rating (Ta=25°C):

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Bar	P _d	—	Red	65	mW
Forward Current Per Bar	I _F	—	Red	25	mA
Peak Forward Current Per Bar	I _{FP}	1/10 Duty 10KHz	Red	100	mA
Reverse Voltage Per Bar	V _R	—	Red	5	V
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	Rating			Units
				Min.	Typ.	Max.	
Forward Voltage	V _F	I _F =20mA	Per Bar	—	2.00	2.60	V
Reverse Current	I _R	V _R =5V	Per Bar	—	—	100	μA
Luminous Intensity	I _V	I _F =10mA	Per Bar	4.001	6.600	—	mcd
Wave Length	λ _P	I _F =20mA	Per Bar	—	638	—	nm
	λ _D				633		
Spectral Line Half Width	△λ	I _F =20mA	Per Bar	—	30	—	nm
Luminous Intensity Matching Ratio (Bar to Bar)	I _{v-m}	I _F =10mA				1.2:1	

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

Rank	Symbol	Condition	Min	Max	Unit
L	L	I _F =10mA	4.001	5.000	mcd
M	M	I _F =10mA	5.001	6.100	mcd
N	N	I _F =10mA	6.101	7.200	mcd
O	O	I _F =10mA	7.201	8.500	mcd
P	P	I _F =10mA	8.501	10.500	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. Forward Current vs. Forward Voltage

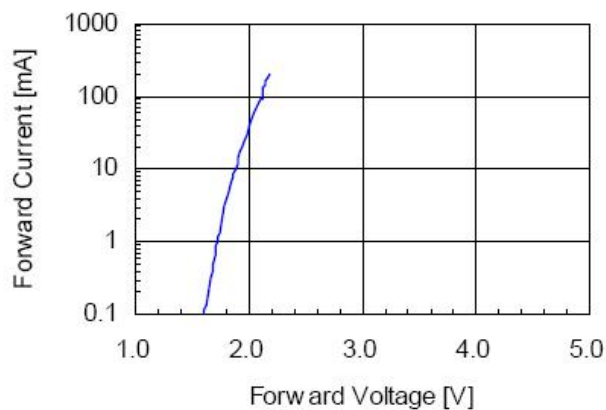


Fig 2. Relative Intensity vs. Forward Current

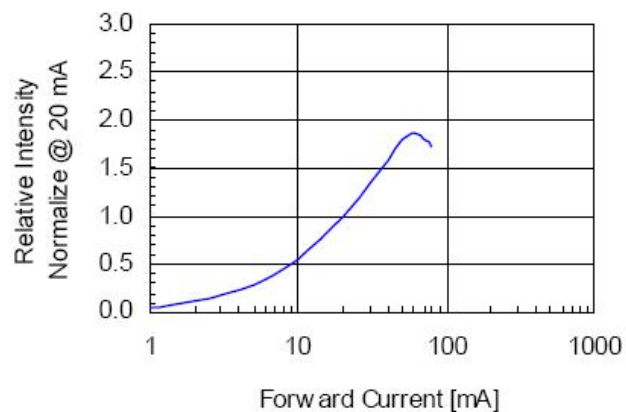


Fig 3. Forward Voltage vs. Temperature

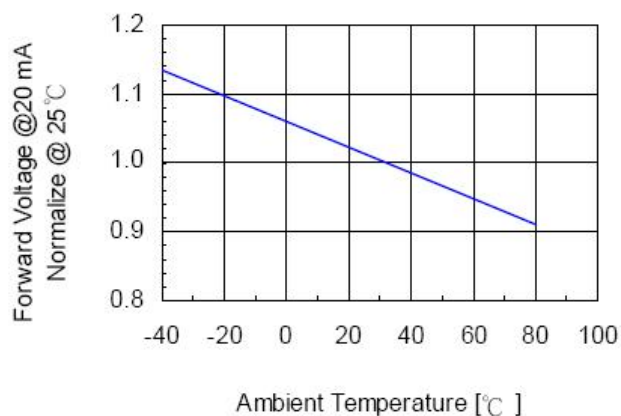


Fig 4. Relative Intensity vs. Temperature

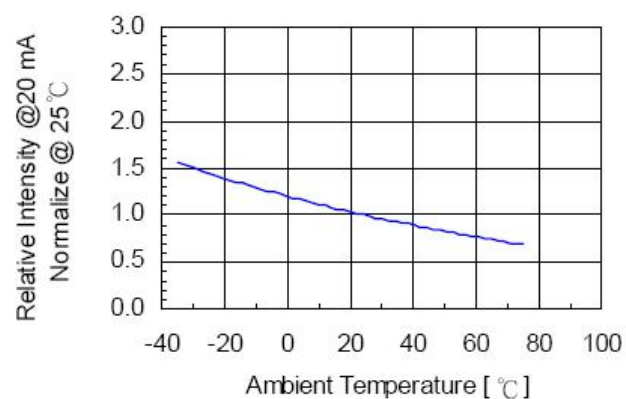
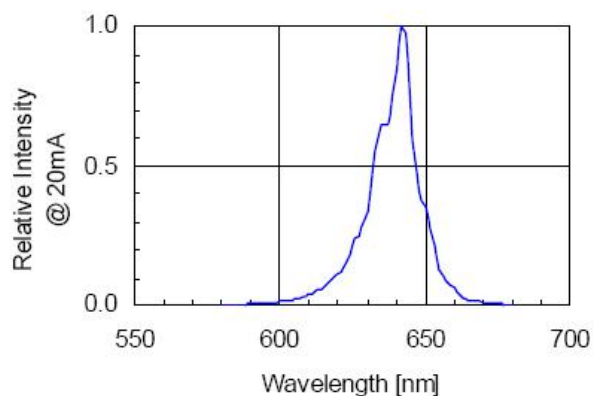


Fig 5. Relative Intensity vs. Wavelength



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 $\pm$ 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 A:

168 pcs / Red Expandable Polyethylene.

1000 pcs / Box(360*175*130mm).

6000 pcs / Catton(550*380*280mm).

Packing method B:

20 pcs / IC Tube.

1540 pcs / Box(537*175*125mm).

6160 pcs / Catton(550*380*280mm).