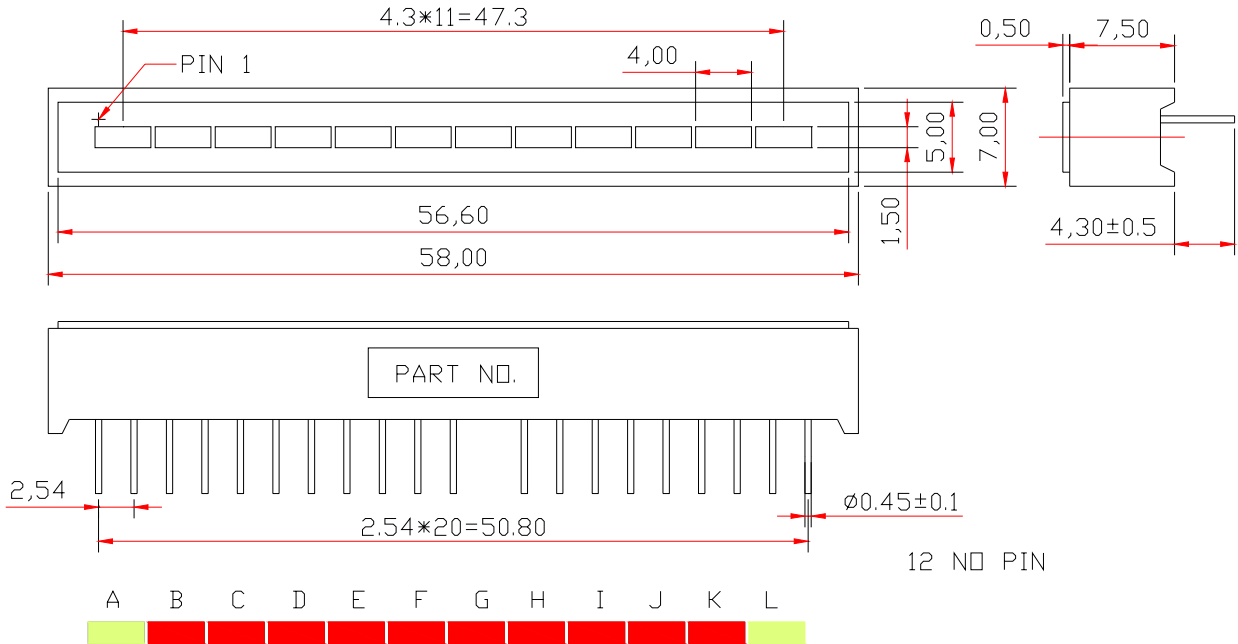


WCNLB12-D331**SPECIFICATION**

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei 2016-8-5	Athena		
REVISION RECORD A1:New Version issued (2016-8-5)			

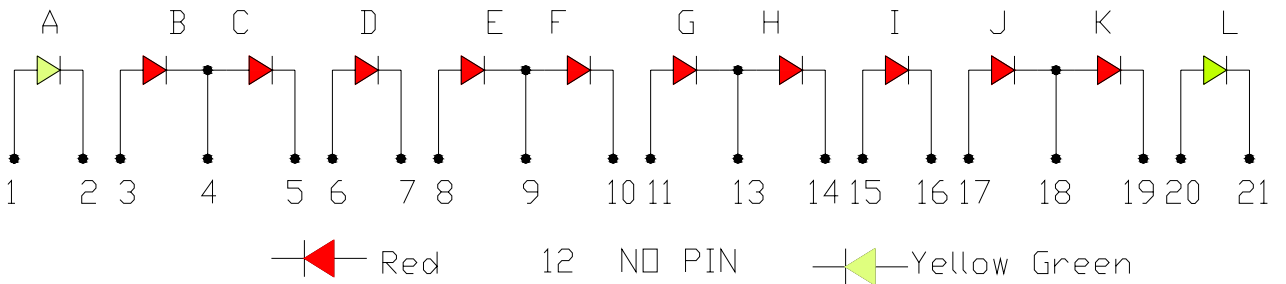


■ **Outer Dimension:**



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

■ **Circuit Diagram:**



■ **Pin Connection:**

PIN NO.	CONNECTION	PIN NO.	CONNECTION	PIN NO.	CONNECTION
1	Anode A	8	Cathode E	15	Anode I
2	Cathode A	9	Common E/F	16	Cathode I
3	Anode B	10	Cathode F	17	Anode J
4	Common B\C	11	Anode G	18	Cathode J/K
5	Anode C	12	ON PIN	19	Anode K
6	Cathode D	13	Common G/H	20	Cathode L
7	Anode D	14	Cathode H	21	Anode L

■ **Features:**

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

■ **Description:**

- Twelve Windows Display
- Digit Height 1.5mm(0.06") And Width 4.0mm(0.16")
- Black Face and Milky Bar

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

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Bar	Pd	—	Yellow Green	65	mW
			Red	65/130	
Forward Current Per Bar	IF	—	Yellow Green / Red	25/25	mA
Peak Forward Current Per Bar	IFP	1/10 Duty 10KHz	Yellow Green / Red	100	mA
Reverse Voltage Per Bar	VR	—	Yellow Green / 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	Color	Location	Rating			Units
					Min.	Typ.	Max.	
Forward Voltage	VF	IF=20mA	Red	Per Bar	—	2.0/4.0	2.6/5.4	V
			Yellow Green		—	2.20	2.60	V
Reverse Current	IR	VR=5V	—	Per Bar	—	—	100	μA
Luminous Intensity	IV	IF=10mA	Red	Per Bar	3201	6000	—	μ cd
			Yellow Green		1256	3500	—	μ cd
Wave Length	λ P/ λ D	IF=20mA	Red	Per Bar	633	638		nm
			Yellow Green		568	573		
Luminous Intensity Matching Ratio(Bar to Bar)	IV-m	IF=10mA	—				1.2:1	

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

■ Typical Elector-Optical Characteristics Curve of Yellow Green:

Fig 1. Forward Current vs. Forward Voltage

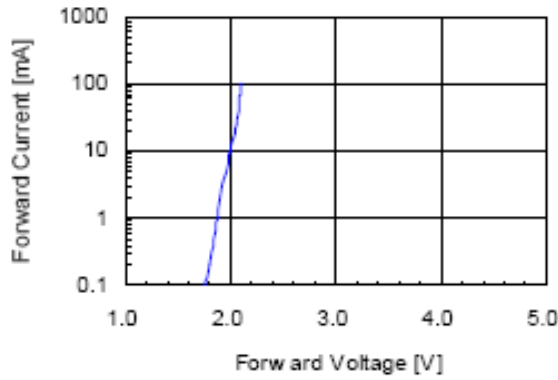


Fig 2. Relative Intensity vs. Forward Current

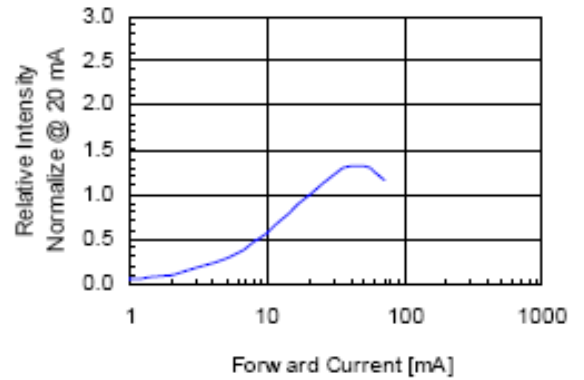


Fig 3. Forward Voltage vs. Temperature

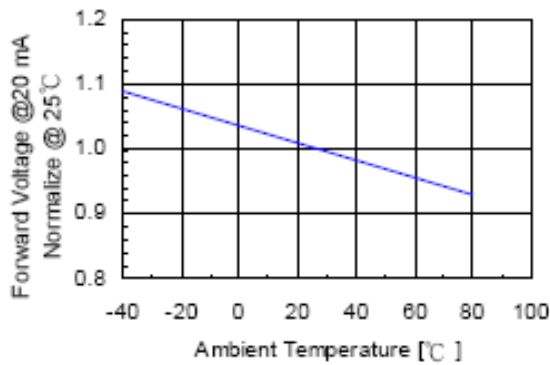


Fig 4. Relative Intensity vs. Temperature

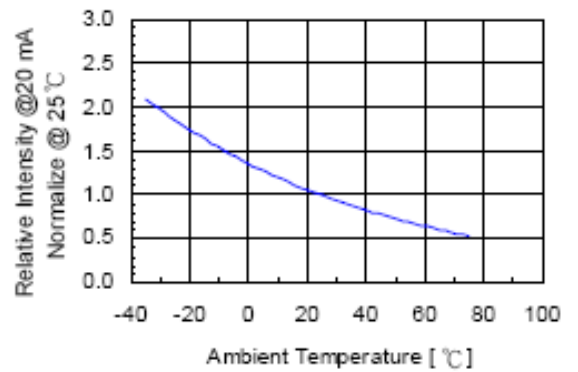
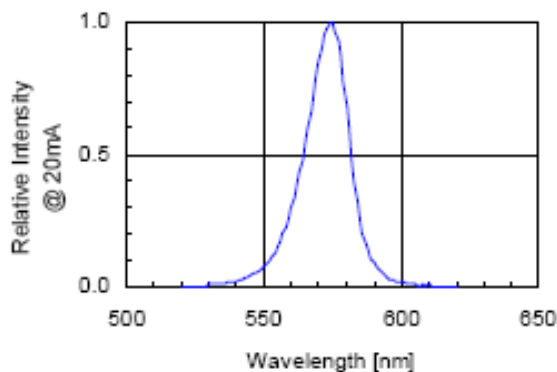


Fig 5. Relative Intensity vs. Wavelength



■ Typical Elector-Optical Characteristics Curve of Red:

Fig 1. Forward Current vs. Forward Voltage

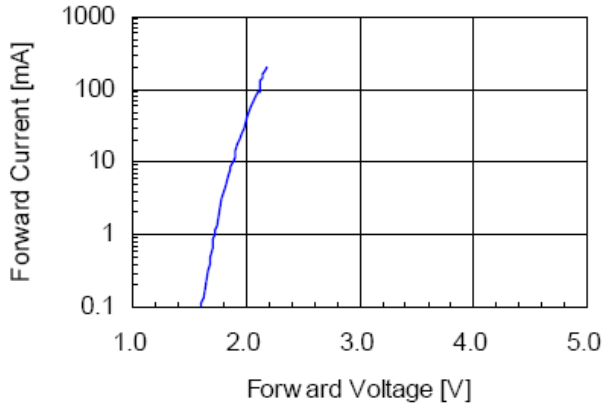


Fig 2. Relative Intensity vs. Forward Current

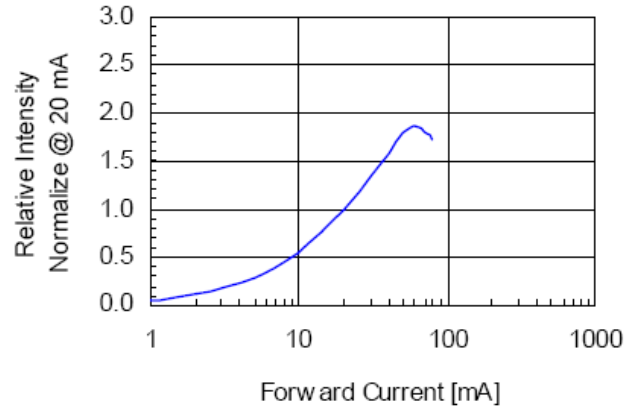


Fig 3. Forward Voltage vs. Temperature

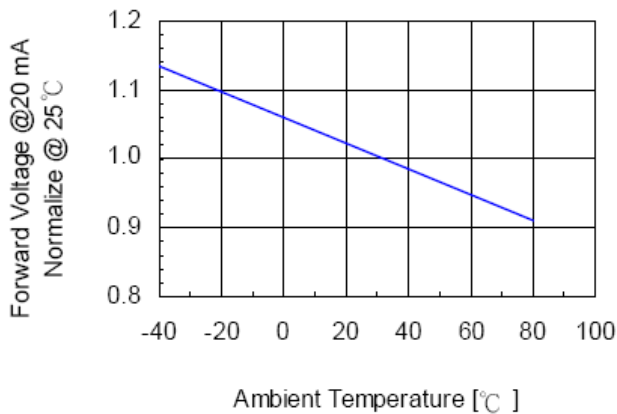


Fig 4. Relative Intensity vs. Temperature

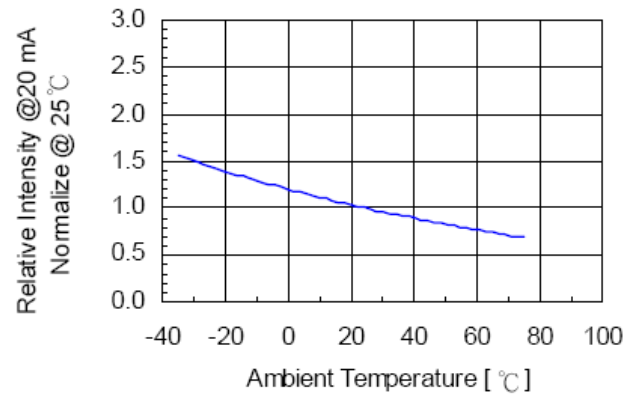
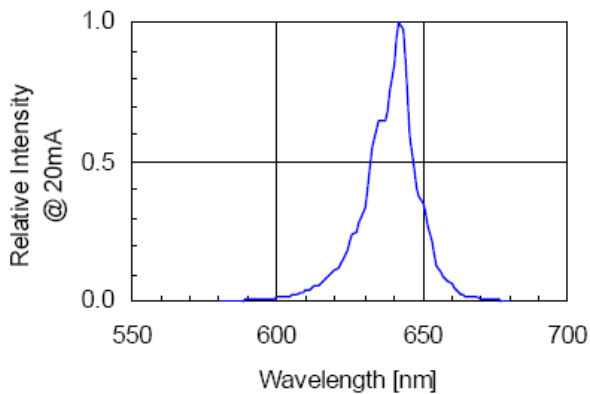


Fig 5. Relative Intensity vs. Wavelength



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 $I_f = I_f \text{ max}$
	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.

■ Packing method A:

- 90 pcs / Red Expandable Polyethylene.
- 540 pcs / Box(360*175*130mm).
- 3240 pcs / Carton(550*380*280mm).