

# WCNLB4-R611

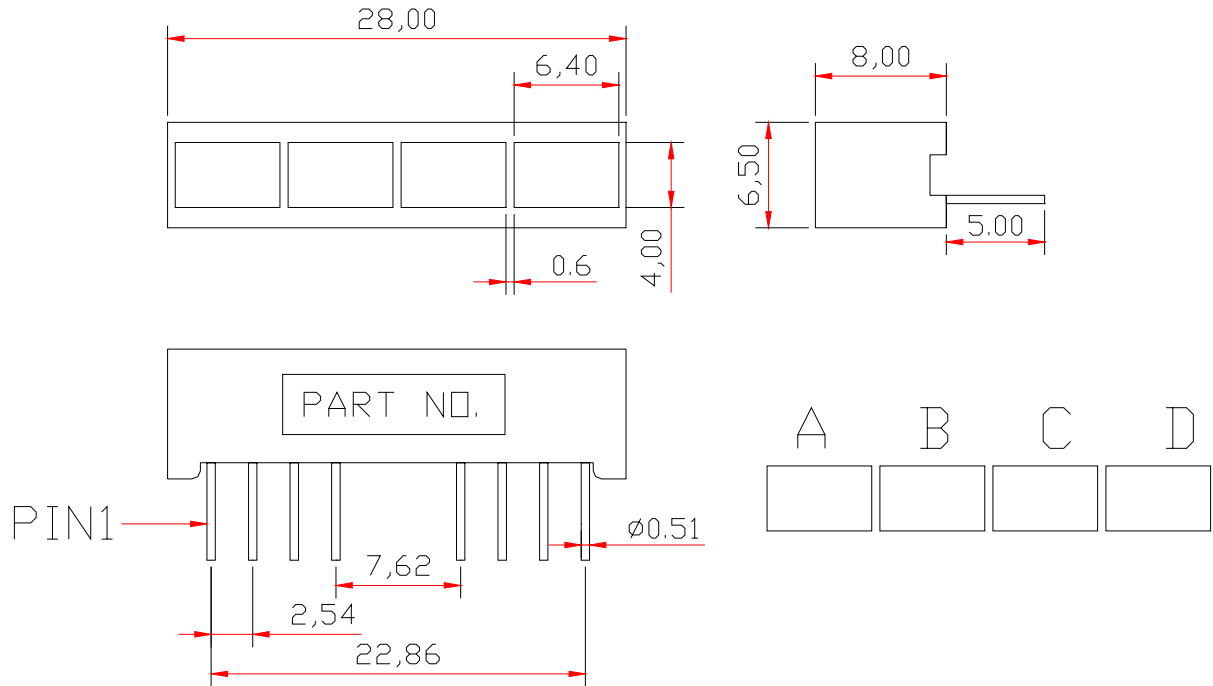
## SPECIFICATION

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei 2016-8-5	Athena	William	
REVISION RECORD			



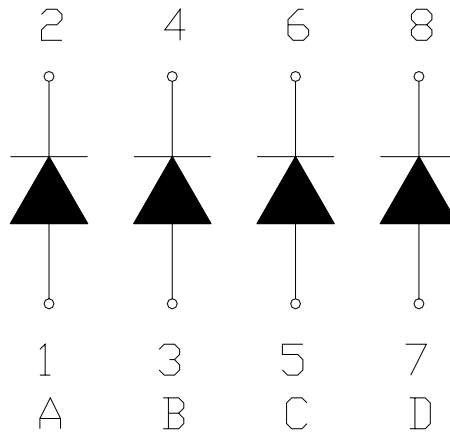
REVISION: A0

■ **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	Anode A	5	Anode C
2	Cathode A	6	Cathode C
3	Anode B	7	Anode D
4	Cathode B	8	Cathode D

■ **Features:**

- High Reliability
- Color: Super Bright Red.
- Low Power Requirement
- Easy Assembly

■ **Description:**

- Four Windows Display
- Digit Height 4.0mm(0.16" ) and Width 6.4mm(0.25" )
- Black Face and Milky Bar

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

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Bar	P <sub>d</sub>	—	Red	65	mW
Forward Current Per Bar	I <sub>F</sub>	—	Red	25	mA
Peak Forward Current Per Bar	I <sub>FP</sub>	1/10 Duty 10KHz	Red	100	mA
Reverse Voltage Per Bar	V <sub>R</sub>	—	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 <sub>F</sub>	I <sub>F</sub> =20mA	Per Bar	—	2.0	2.60	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	Per Bar	—	—	100	μA
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> =10mA	Per Bar	10501	16500	26000	μcd
Wave Length	λ <sub>P</sub>	I <sub>F</sub> =20mA	Per Bar	—	635	—	nm
	λ <sub>D</sub>				630		
Spectral Line Half Width	△λ	I <sub>F</sub> =20mA	Per Bar	—	30	—	nm
Luminous Intensity Matching Ratio (Bar to Bar)	I <sub>v-m</sub>	I <sub>F</sub> =10mA				1.2:1	

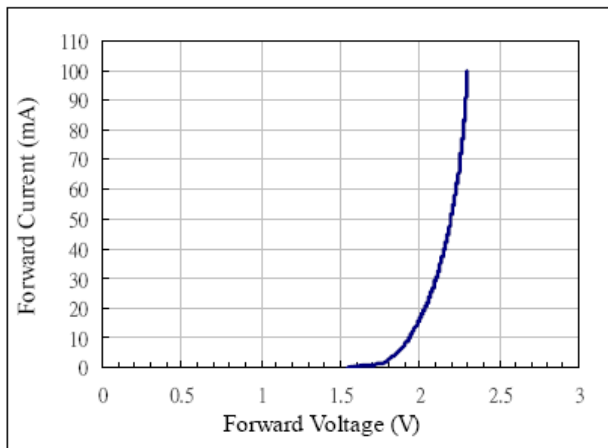
■ **Luminous Intensity Sorting: (Luminous Intensity Tolerance is +/-10%)**

Rank	Symbol	Condition	Min	Max	Unit
Q	Q	I <sub>F</sub> =10mA	10501	12800	μcd
R	R	I <sub>F</sub> =10mA	12801	15250	μcd
S	S	I <sub>F</sub> =10mA	15251	18000	μcd
T	T	I <sub>F</sub> =10mA	18001	21500	μcd
U	U	I <sub>F</sub> =10mA	21501	26000	μcd

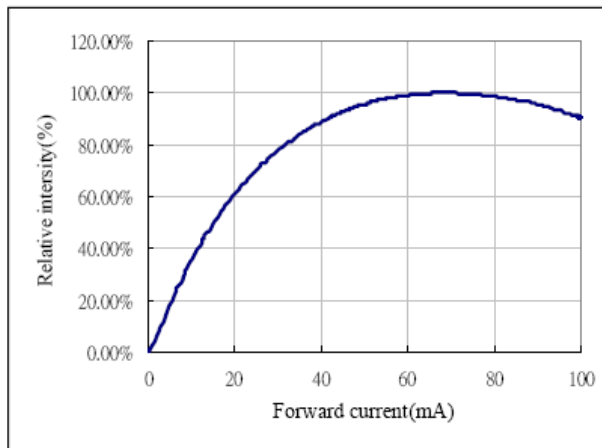
■ **Soldering Conditions: Soldering Temp. ≤ +260°C Soldering Time. ≤ 3sec.**  
 (at 2mm Distance from The Case of Reflector Edge).

■ Typical Elector-Optical Characteristics Curve:

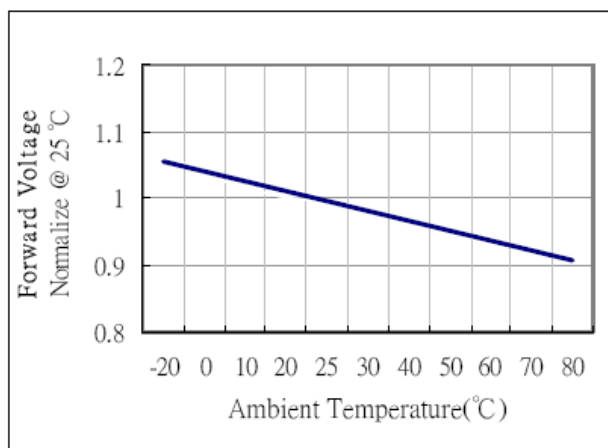
Forward current vs. Forward voltage



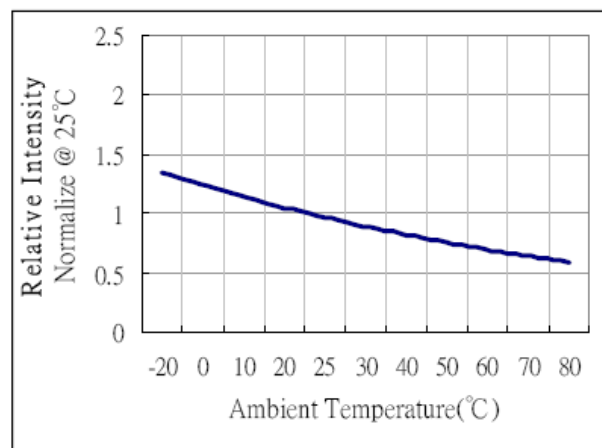
Relative intensity vs. Forward current



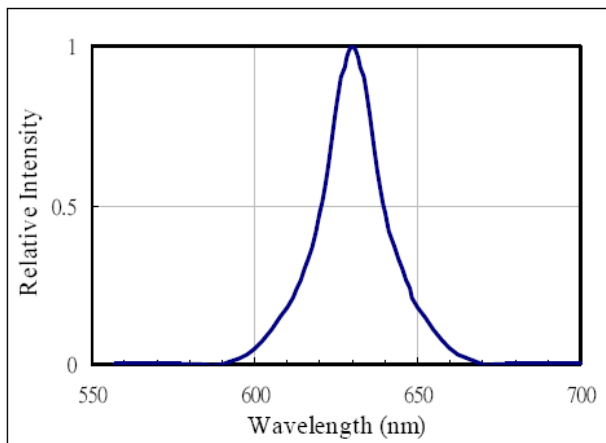
Forward voltage vs. Temperature



Relative intensity vs. Temperature



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 <sub>a</sub> = UNDER ROOM TEMPERATURE I <sub>F</sub> = I <sub>F</sub> max
	HIGH TEMPERATURE HIGH HUMIDITY STORAGE	EVALUATES MOISTURE RESISTANCE OF THE DEVICE WHEN STORED FOR A LONG TERM AT HIGH TEMPERATURE AND HUMIDITY T <sub>a</sub> = 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 <sub>a</sub> = 85±5°C(COB: T <sub>a</sub> =65±5°C) TEST TIME=1000Hrs(-24Hrs, +72Hrs)
	LOW TEMPERATURE STORAGE	EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN LOW TEMPERATURE T <sub>a</sub> = -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 <sub>hot</sub> =65°C, T <sub>cold</sub> =-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 <sub>hot</sub> =65°C, T <sub>cold</sub> =-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 :

250pcs / Red Expandable Polyethylene.

1500 pcs / Box(360\*175\*130mm).

9000 pcs / Catton(550\*380\*280mm).