WCN

WCN Opto Group Co., Limited

WCNLB12-RYG41

SPECIFICATION

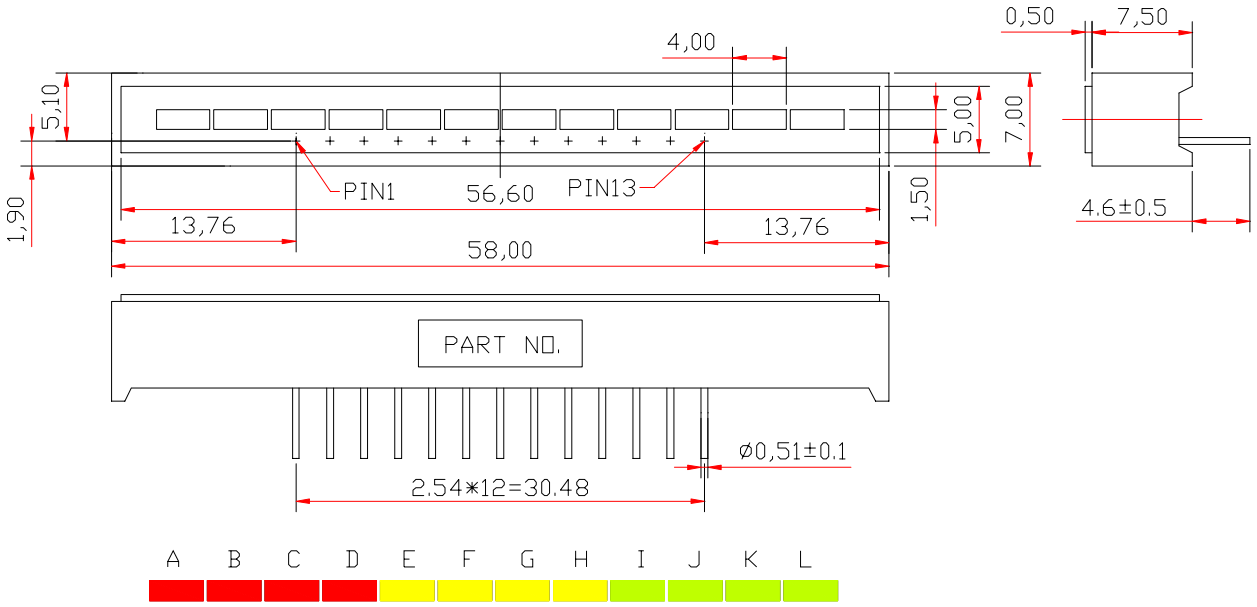
WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei 2016-8-5	Athena		
REVISION RECORD A1:New Version issued (2016-8-5)			

RoHS

恒盛源光电科技(深圳)有限公司 开发部 WCN

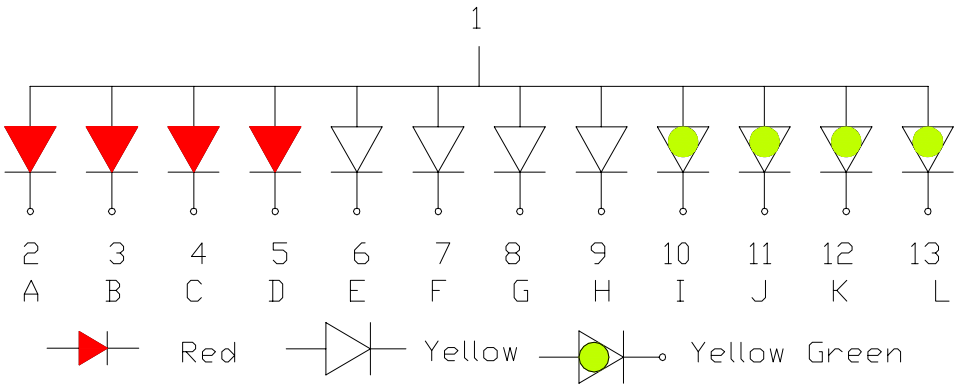
REVISION: A1

■ Outer Dimension:



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

■ Circuit Diagram:



■ Pin Connection:

PIN NO.	CONNECTION	PIN NO.	CONNECTION
1	Common	7	Cathode F
2	Cathode A	8	Cathode G
3	Cathode B	9	Cathode H
4	Cathode C	10	Cathode I
5	Cathode D	11	Cathode J
6	Cathode E	12	Cathode K
		13	Cathode L

■Features:

- **High Reliability**
- **Color: Red and Yellow and Yellow Green**
- **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℃):

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Bar	P_d	—	Red/Yellow /YellowGreen	65/65/65	mW
Forward Current Per Bar	I_F	—	Red/Yellow /YellowGreen	25/25/25	mA
Peak Forward Current Per Bar	I_{FP}	1/10 Duty 10KHz	Red/Yellow /YellowGreen	100	mA
Reverse Voltage Per Bar	V_R	—	Red/Yellow /YellowGreen	5	V
Operating Temperature Range	Topr	—	—	-35～+85	℃
Storage Temperature Range	Tstg	—	—	-35～+85	℃

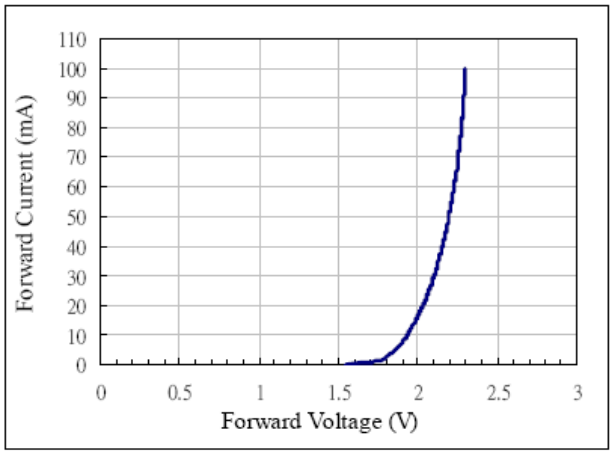
■Electrical/Optical Characteristics Rating(Ta=25℃)

Item	Symbol	Test conditions	Color	Location	Rating			Units
					Min.	Typ.	Max.	
Forward Voltage	V_F	I_F=20mA	Red	Per Bar	—	2.00	2.60	V
			Yellow		—	2.00	2.60	
			Yellow Green		—	2.20	2.60	
Reverse Current	I_R	V_R=5V	—	Per Bar	—	—	100	μA
Luminous Intensity	I_V	I_F=10mA	Red	Per Bar	25.0	30.0	40.0	mcd
			Yellow		30.0	40.0	50.0	
			Yellow Green		30.0	40.0	50.0	
Wave Length	$\lambda_{P/}$ λ_D	I_F=20mA	Red	Per Bar	625	630	635	nm
			Yellow		585	588	590	
			Yellow Green		568	571	573	
Luminous Intensity Matching Ratio(Bar to Bar)	I_{v-m}	I_F=10mA	—				1.5:1	

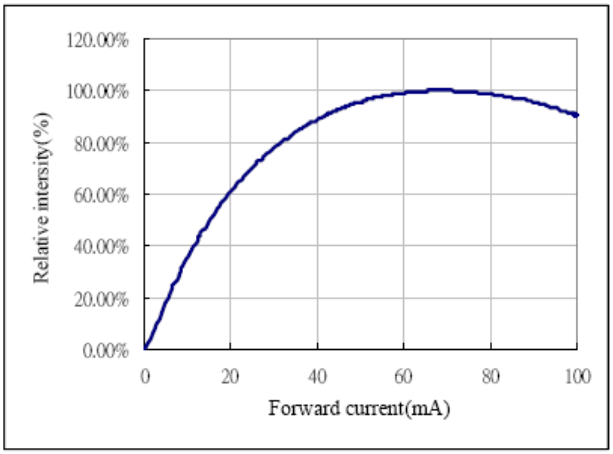
■Soldering Conditions: Soldering Temp. ≦+260℃Soldering Time. ≦3sec.
(at 2mm Distance from The Case of Reflector Edge)

Typical Elector-Optical Characteristics Curve of Red:

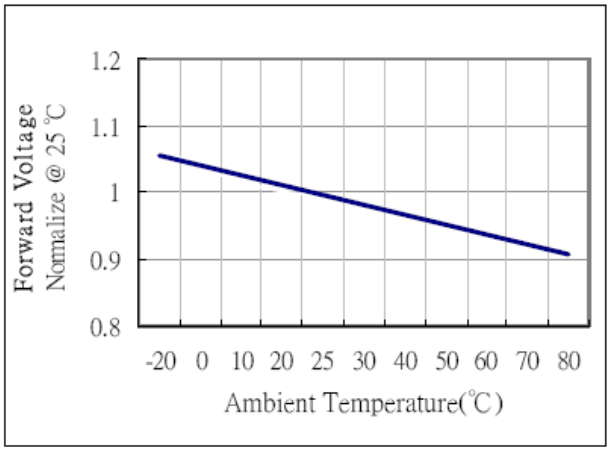
Forward current vs. Forward voltage



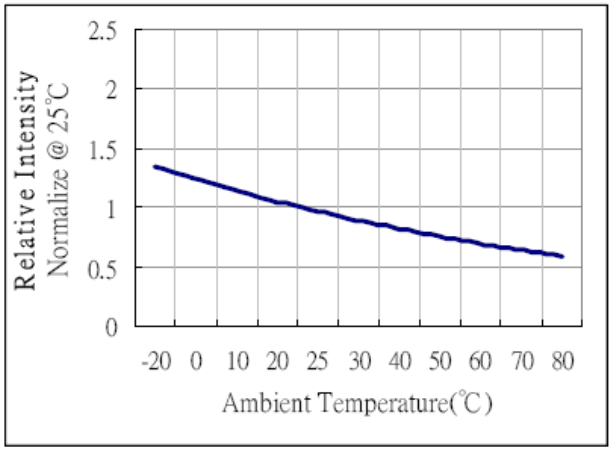
Relative intensity vs. Forward current



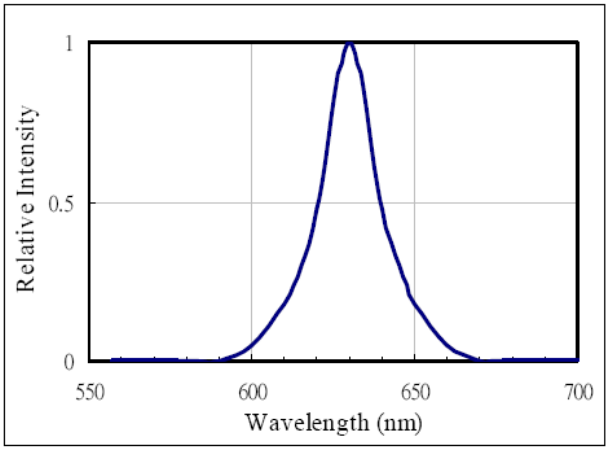
Forward voltage vs. Temperature



Relative intensity vs. Temperature



Relative intensity vs. Wavelength



■ Typical Elector-Optical Characteristics Curve of Yellow :

Fig 1. Forward Current vs. Forward Voltage

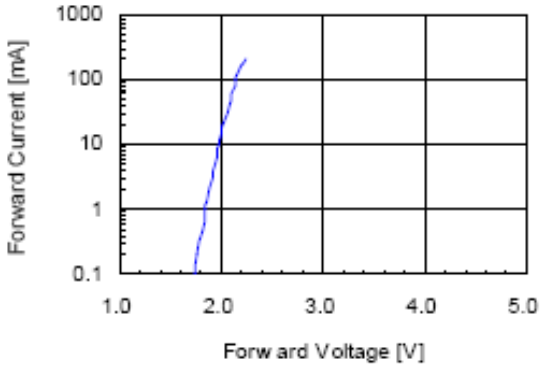


Fig 2. Relative Intensity vs. Forward Current

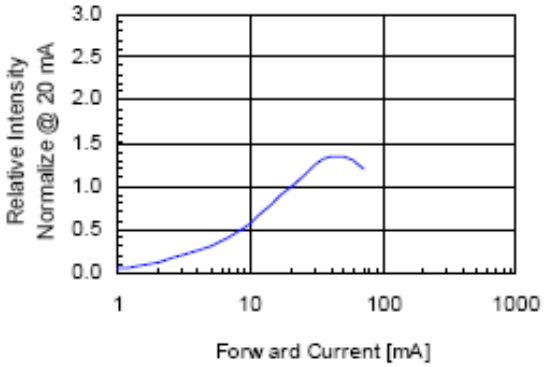


Fig 3. Forward Voltage vs. Temperature

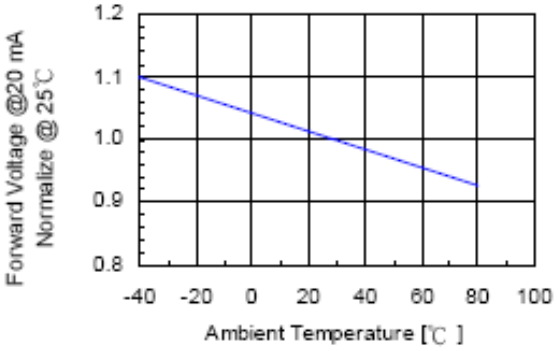


Fig 4. Relative Intensity vs. Temperature

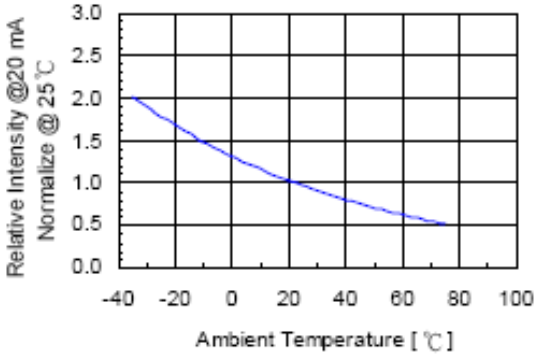
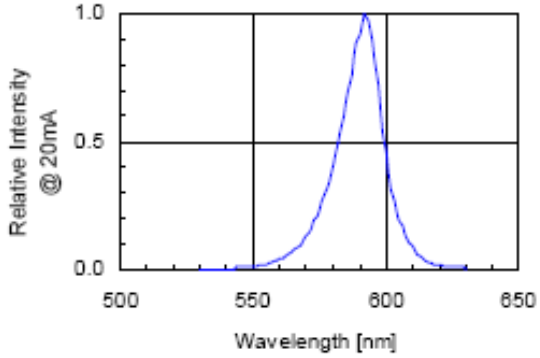


Fig 5. Relative Intensity vs. Wavelength



Typical Elector-Optical Characteristics Curve of Yellow Green:

Fig 1. Forward Current vs. Forward Voltage

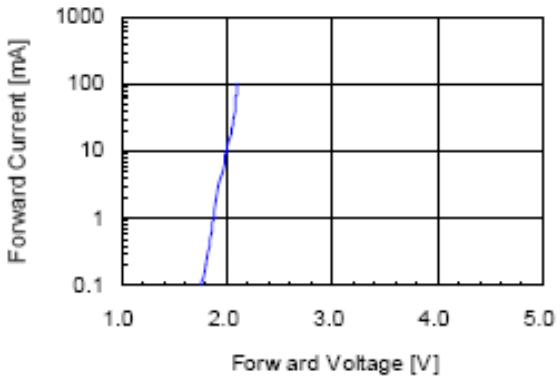


Fig 2. Relative Intensity vs. Forward Current

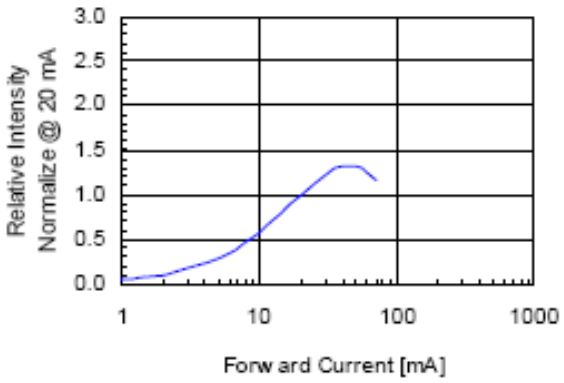


Fig 3. Forward Voltage vs. Temperature

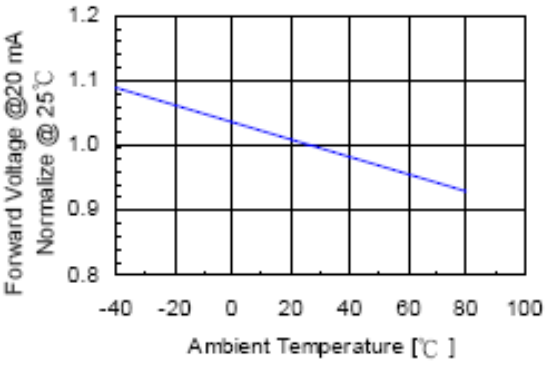


Fig 4. Relative Intensity vs. Temperature

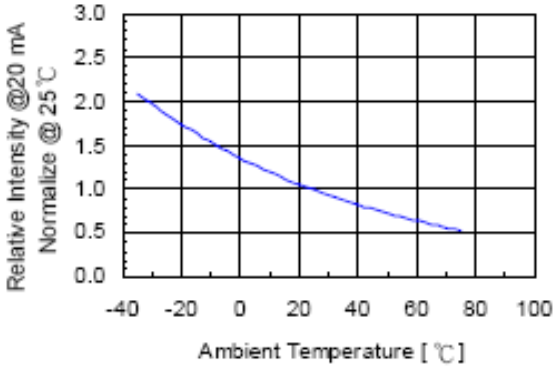
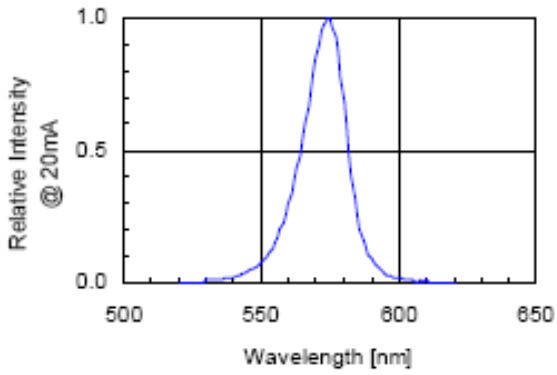


Fig 5. Relative Intensity vs. Wavelength



■ 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: Ta=65±5°C) TEST TIME=1000Hrs(-24Hrs, +72Hrs)
	IOW 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: Thot=65°C, Tcold=-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: Thot=65°C,Tcold=-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:

90 pcs / Red Expandable Polyethylene.

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

3240 pcs / Carton(550*380*280mm).