WCN Opto Group Co., Limited

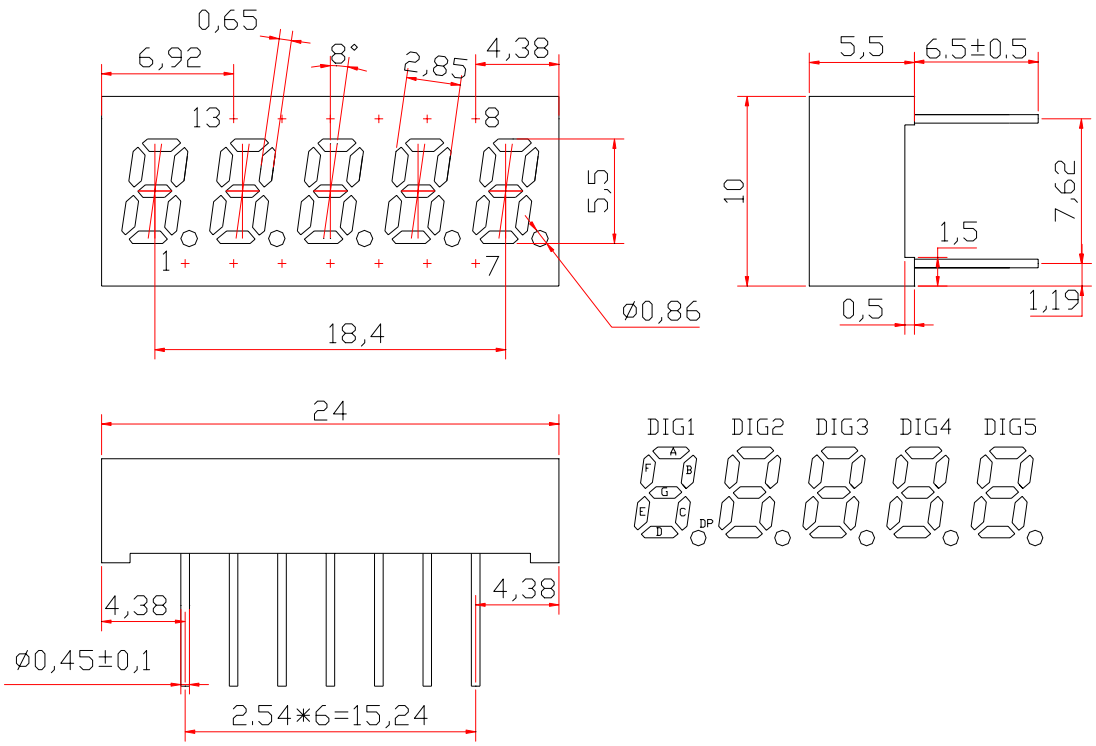
WCN5-0022SD-C12

SPECIFICATION

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei 2016-3-29	Athena	William	
REVISION RECORD			

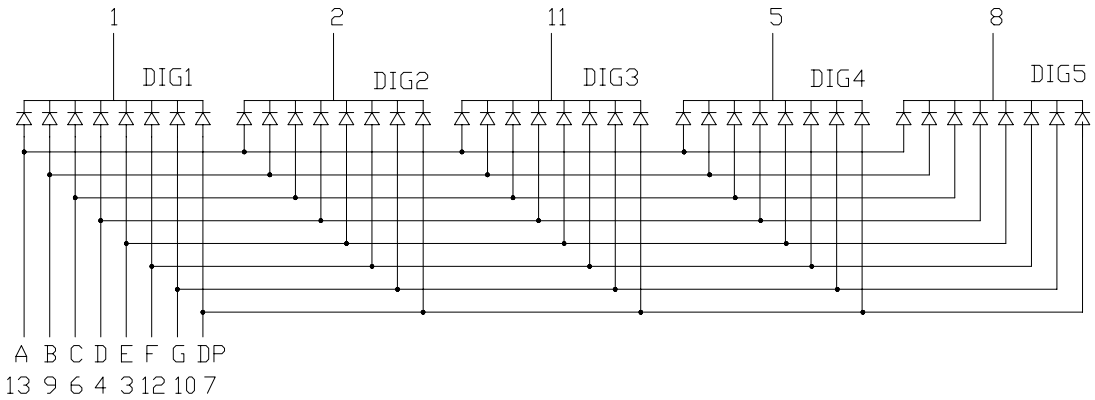
REVISION: A0

■ Outer Dimension:



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

■ Circuit Diagram:



■ Pin Connection:

PIN NO.	CONNECTION	PIN NO.	CONNECTION
1	Common Cathode DIG.1	8	Common Cathode DIG.5
2	Common Cathode DIG.2	9	Anode B
3	Anode E	10	Anode G
4	Anode D	11	Common Cathode DIG.3
5	Common Cathode DIG.4	12	Anode F
6	Anode C	13	Anode A
7	Anode DP		

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■ Features:

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

■ Description:

- . Five Digit Display
- . Digit Height:5.5mm(0.22″)
- . Black Face and Milky Segment

■ Absolute Maximum Rating (Ta=25℃):

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	P_d	—	Red	62.5	mW
Forward Current Per Segment	I_F	—	Red	25	mA
Peak Forward Current Per Segment	I_{FP}	1/10 Duty 10KHz	Red	100	mA
Reverse Voltage Per Segment	V_R	—	Red	5	V
Operating Temperature Range	Topr	—	—	-35～+85	℃
Storage Temperature Range	Tstg	—	—	-35～+85	℃

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

Item	Symbol	Test conditions	Location	Rating			Units
				Min.	Typ.	Max.	
Forward Voltage	V_F	I_F=20mA	Per Segment	—	2.00	2.50	V
Reverse Current	I_R	V_R=5V	Per Segment	—	—	100	μA
Luminous Intensity	I_V	I_F=10mA	Per Segment	4001	6500	—	μcd
Peak Emission Wave Length	λ_P	I_F=20mA	Per Segment	—	660	—	nm
	λ_D				640		
Spectral Line Half Width	△λ	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
L	L	I_F=10mA	4001	5000	μcd
M	M	I_F=10mA	5001	6100	μcd
N	N	I_F=10mA	6101	7200	μcd
O	O	I_F=10mA	7201	8500	μcd
P	P	I_F=10mA	8501	10500	μcd

■ Soldering Conditions: Soldering Temp. ≦+260℃, Soldering Time. ≦3sec.

(at 2mm Distance from The Case of Reflector Edge)

■ Typical Elector-Optical Characteristics Curve:

Fig1. Forward Current vs. Forward Voltage:

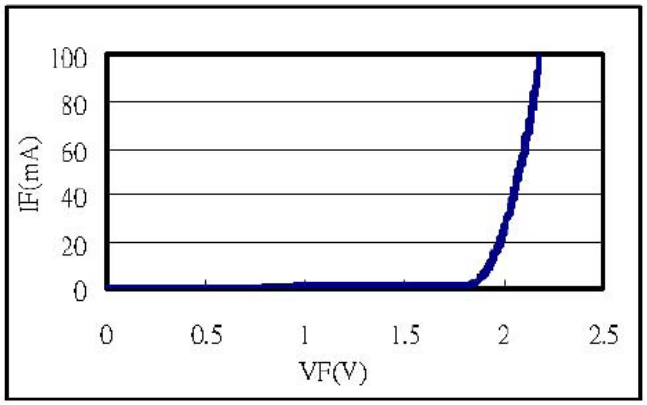


Fig2. Forward Current vs. Relative Intensity:

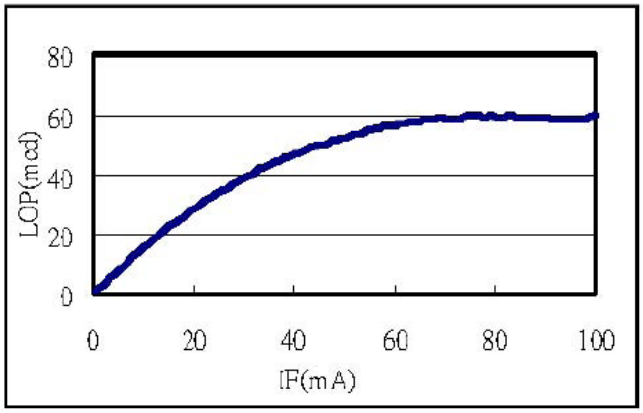


Fig3. Forward Current vs. Relative Wavelength:

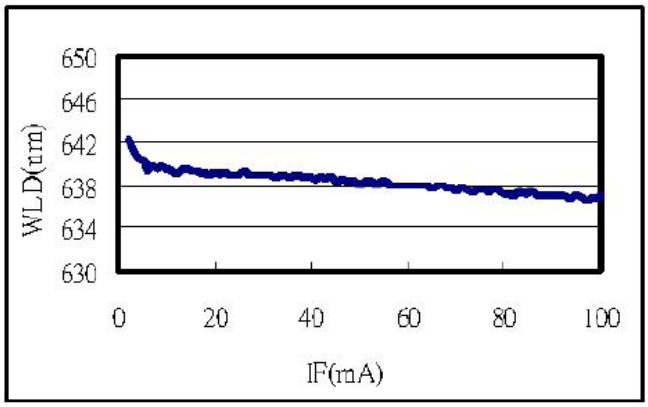


Fig4. Temperature vs. Relative Intensity:

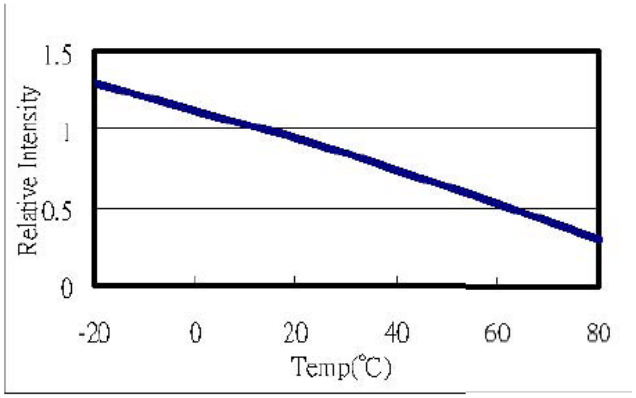


Fig5. Temperature vs. Relative Wavelength:

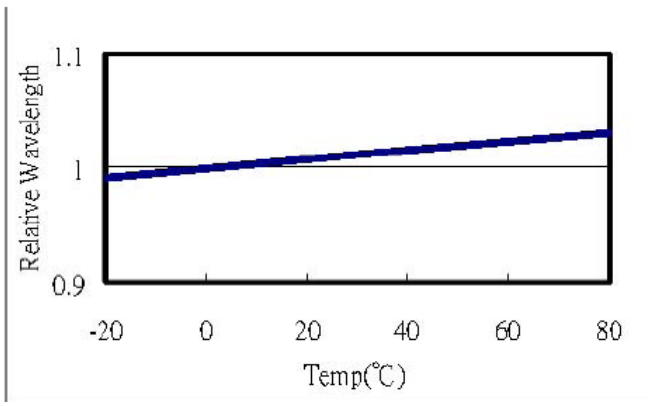
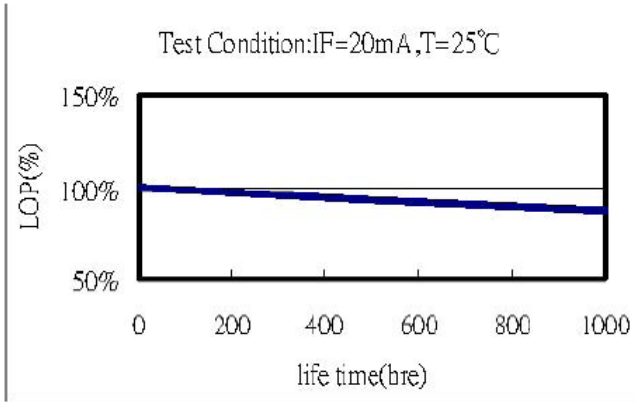


Fig6. Life Test at 20mA R.T. 1000hrs:



■ 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:

192 pcs / Red Expandable Polyethylene.

1150 pcs / Box(360*175*130mm).

6900 pcs / Carton(550*380*280mm).

■ Packing method B:

21 pcs / IC Tube.(530*14.5*15.5)

1617 pcs / Box(537*175*125mm).

6468 pcs / Carton(550*380*280mm).