

WCN4-0040SD-C12

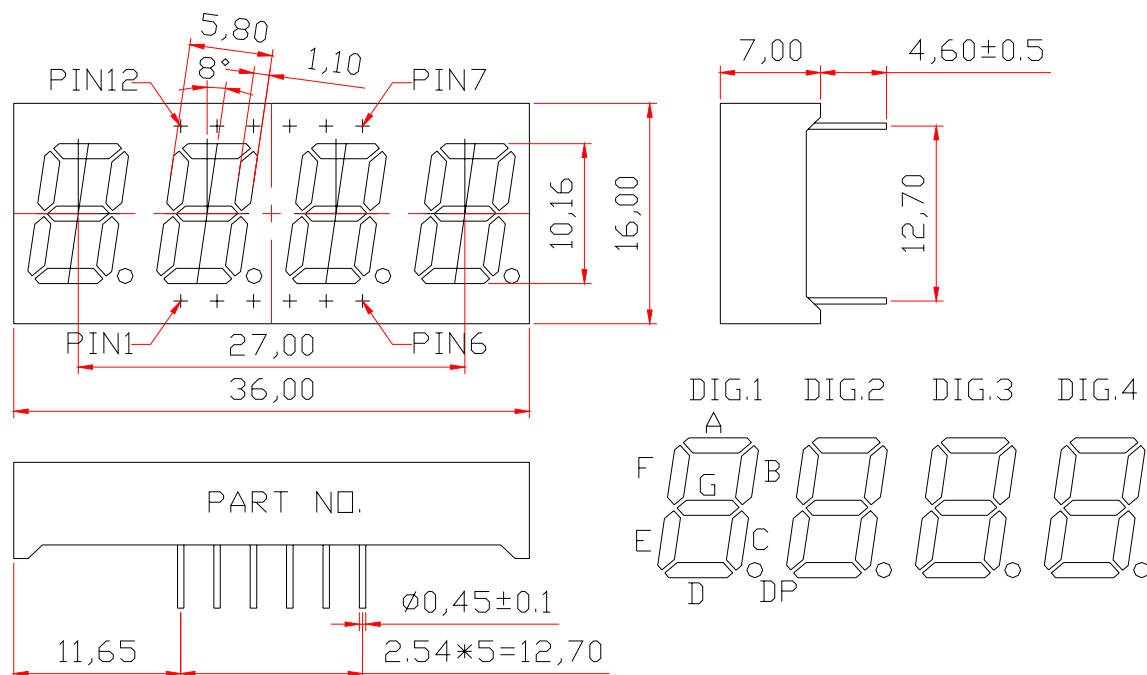
SPECIFICATION

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei 2016-4-18	Athena	William	
REVISION RECORD			



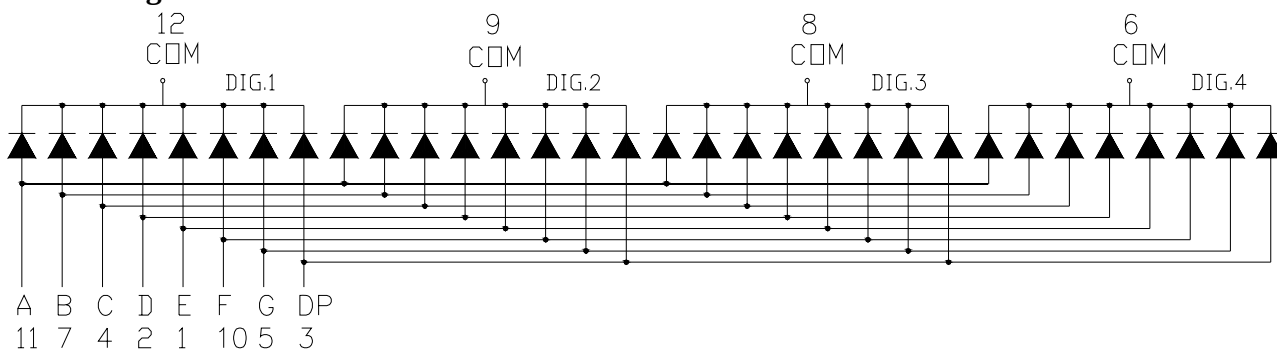
REVISION: A0

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 E	7	Anode B
2	Anode D	8	Common Cathode Dig.3
3	Anode Dp	9	Common Cathode Dig.2
4	Anode C	10	Anode F
5	Anode G	11	Anode A
6	Common Cathode Dig.4	12	Common Cathode Dig.1

■ Features:

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

■ Description:

- Four Digit Display
- Digit Height:10.16mm(0.40")
- Black Face and Milky Segment

■ Absolute Maximum Rating (Ta=25℃):

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	P _d	—	Red	65	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	T _{opr}	—	—	-35~+85	℃
Storage Temperature Range	T _{stg}	—	—	-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	6101	9500	—	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
N	N	I _F =10mA	6101	7200	μcd
O	O	I _F =10mA	7201	8500	μcd
P	P	I _F =10mA	8501	10500	μcd
Q	Q	I _F =10mA	10501	12800	μcd
R	R	I _F =10mA	12801	15250	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:

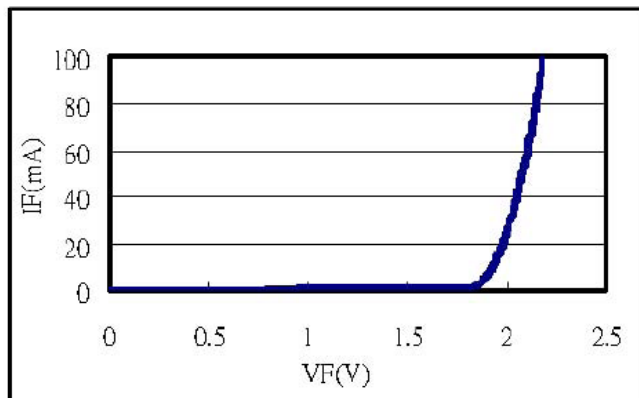


Fig2. Forward Current vs. Relative Intensity:

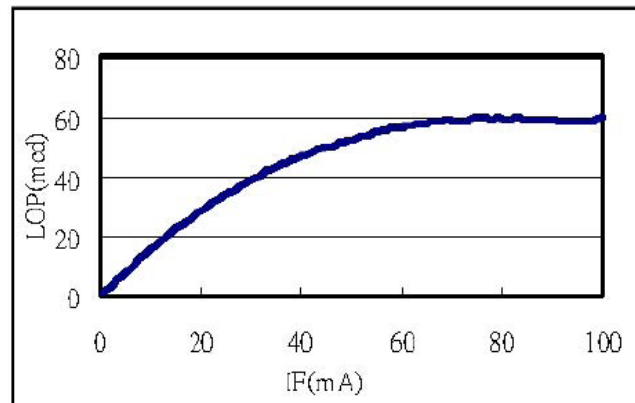


Fig3. Forward Current vs. Relative Wavelength:

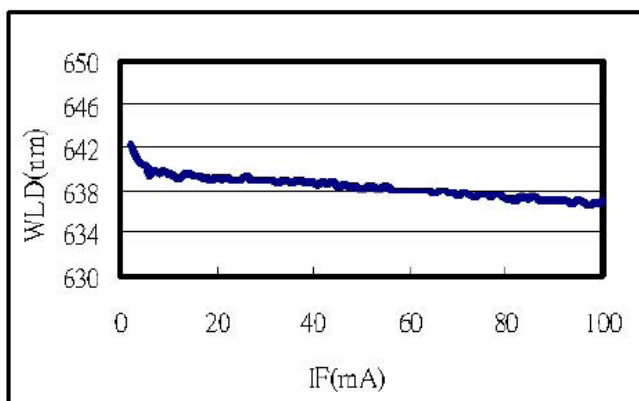


Fig4. Temperature vs. Relative Intensity:

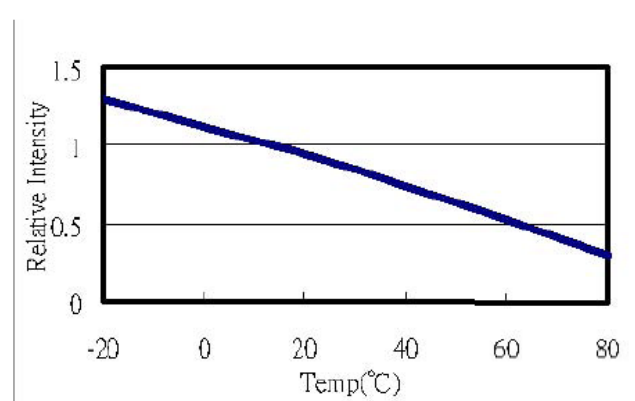


Fig5. Temperature vs. Relative Wavelength:

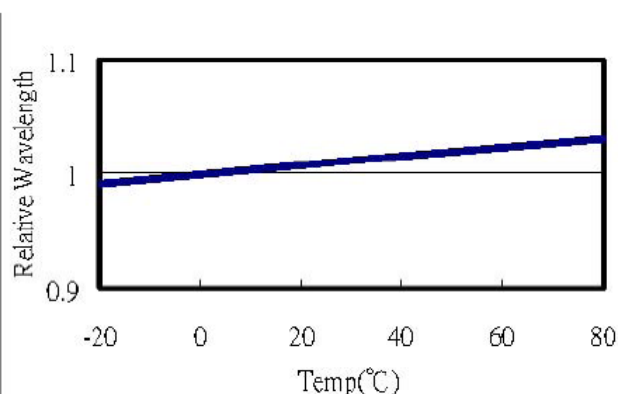
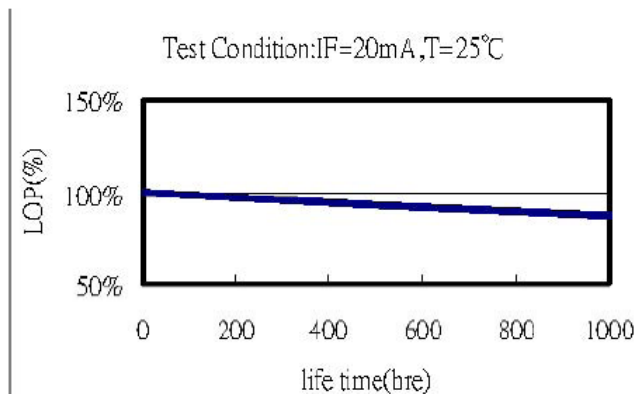


Fig6. Life Test at 20mA R.T. 1000hrs:



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 $\pm$ 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 $^\circ\text{C}$ ~ 25 $^\circ\text{C}$ ~ -35 $^\circ\text{C}$ ~ 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 $\pm 5^\circ\text{C}$ ~ -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:

80 pcs / Red Expandable Polyethylene.

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

3360 pcs / Carton(550*380*280mm).

Packing method B:

14 pcs / IC Tube.(525*17*16)

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

3528 pcs / Carton(550*380*280mm).