

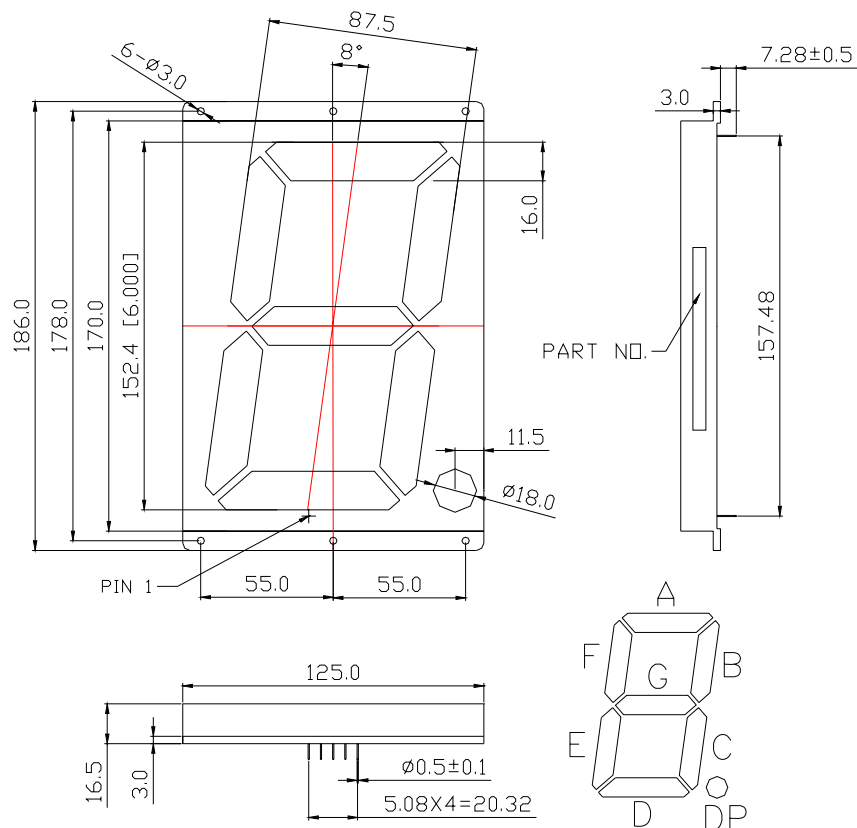
WCN1-00F0SD-C23**SPECIFICATION**

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei	Athena		



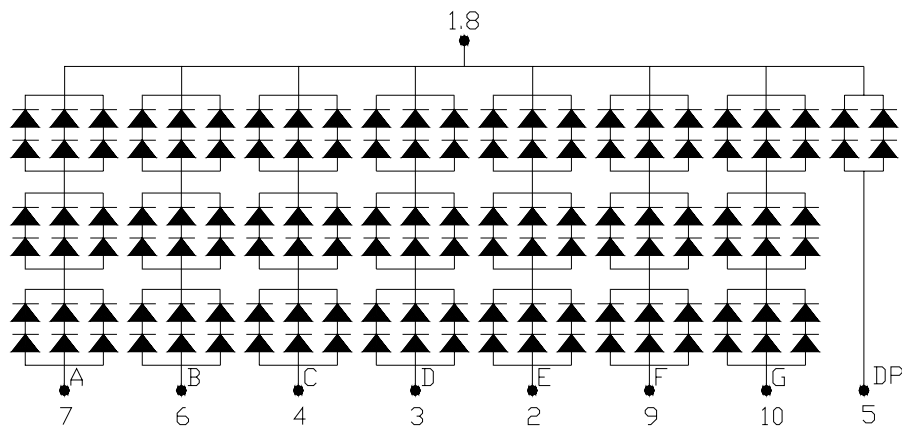
REVISION: A0

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	Common Cathode	6	Anode B
2	Anode E	7	Anode A
3	Anode D	8	Common Cathode
4	Anode C	9	Anode F
5	Anode DP	10	Anode G

WCN Opto Group Co., Limited

■ Features:

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

■ Description:

- Single Digit LED Display
- Digit Height: 152.4 mm (6.0")
- Black Face and milky Segment

■ Absolute Maximum Rating (Ta=25℃):

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment/DP	P _d	—	Red	800/170	mW
Forward Current Per Segment/DP	I _F	—	Red	60/40	mA
Peak Forward Current Per Segment	I _{FP}	1/10 Duty 10KHz	Red	100	mA
Reverse Voltage Per Segment/DP	V _R	—	Red	30/10	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 =60mA	Per Segment	—	12.00	15.60	V
		I _F =40mA	DP		4.00	5.20	
Reverse Current	I _R	V _R =30V	Per Segment	—	—	100	μA
		V _R =10V	DP				
Luminous Intensity	I _V	I _F =30mA	Per Segment	31001	43000	—	ucd
Wave Length	λ _P	I _F =60mA	Per Segment	—	660	—	nm
	λ _D				640		
Spectral Line Half Width	△λ	I _F =60mA	Per Segment	—	20	—	nm
Luminous Intensity Matching Ratio (Segment to Segment)	I _{V-m}	I _F =30mA	—	—	—	1.3:1	

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

Rank	Symbol	Condition	Min	Max	Unit
W	W	I _F =10mA	31001	37000	ucd
X	X	I _F =10mA	37001	43000	ucd
Y	Y	I _F =10mA	43001	50000	ucd
Z	Z	I _F =10mA	50001	58000	ucd

■ Soldering Conditions: Soldering Temp. ≤+260℃

Soldering Time. ≤3sec. (at 2mm Distance from The Case of Reflector Edge)

■ Typical Electro-Optical Characteristics Curve:

Fig1. Forward Current vs. Forward Voltage:

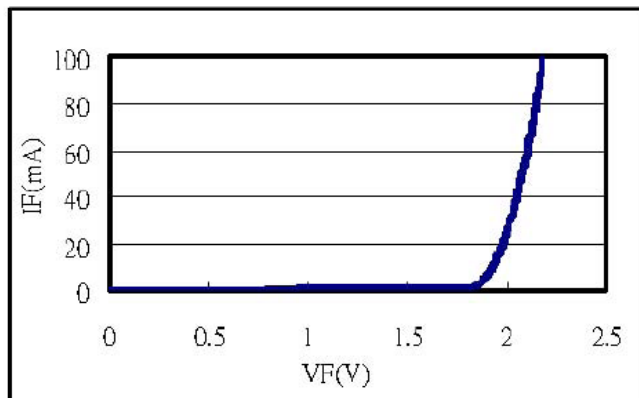


Fig2. Forward Current vs. Relative Intensity:

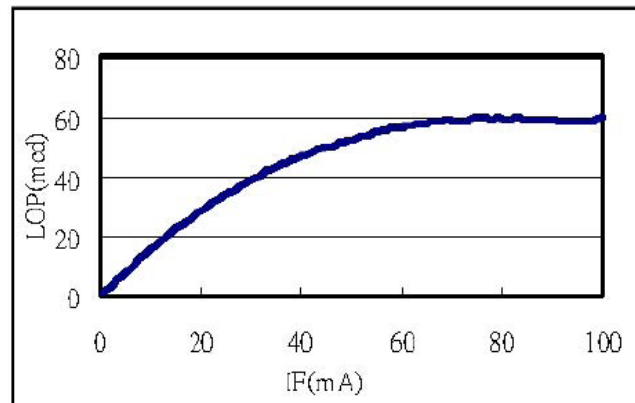


Fig3. Forward Current vs. Relative Wavelength:

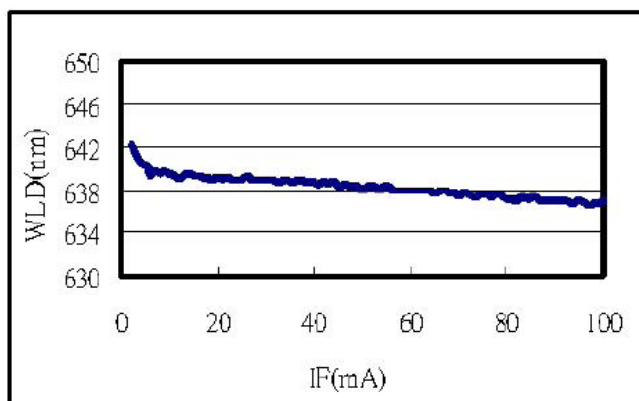


Fig4. Temperature vs. Relative Intensity:

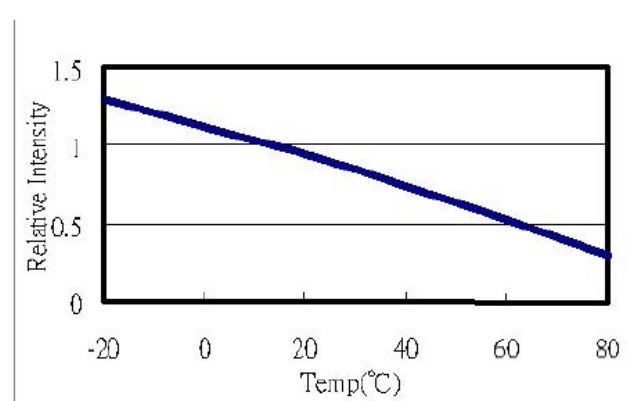


Fig5. Temperature vs. Relative Wavelength:

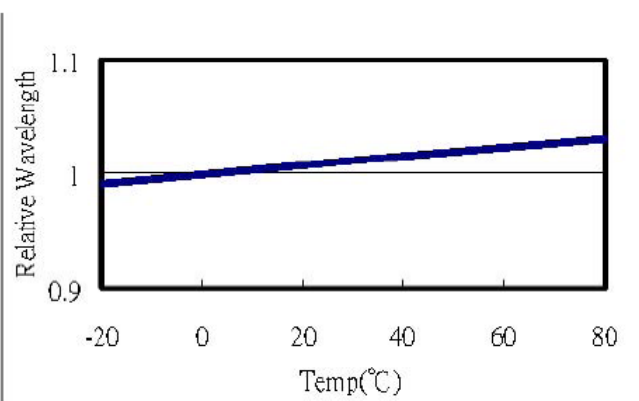
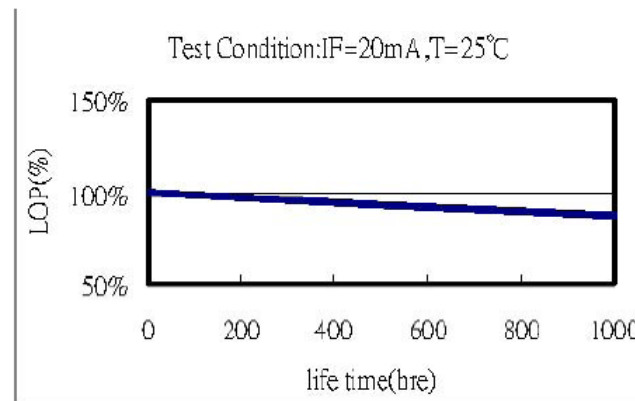


Fig6. Life Test at 20mA R.T. 1000hrs:



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 $I_F = I_{F \text{ max}}$
	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 $85^\circ\text{C} \sim 25^\circ\text{C} \sim -35^\circ\text{C} \sim 25^\circ\text{C}$ 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 $\pm$ 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:

3pcs / Red Expandable Polyethylene.

21pcs / Box(360*265*255mm).

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