

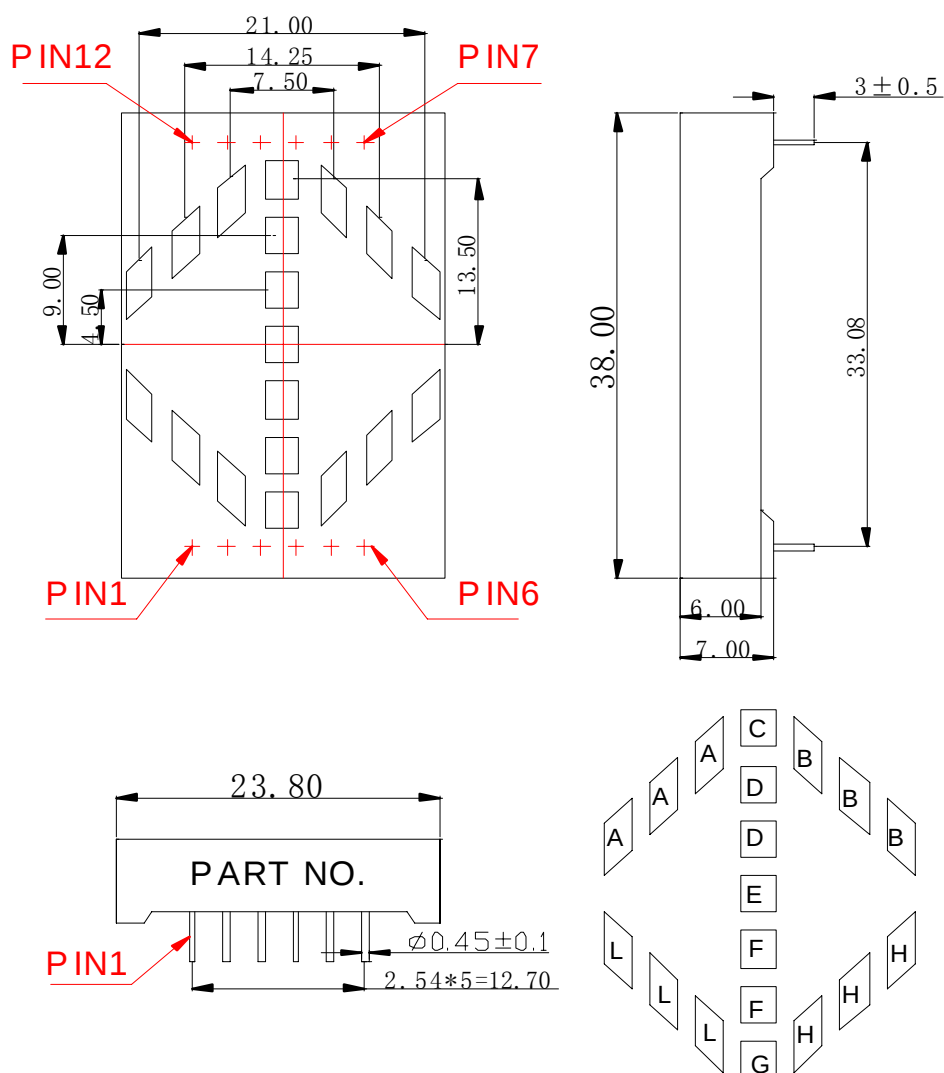
WCNA-S031

SPECIFICATION

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei 2015-3-20	Athena		
Note:			

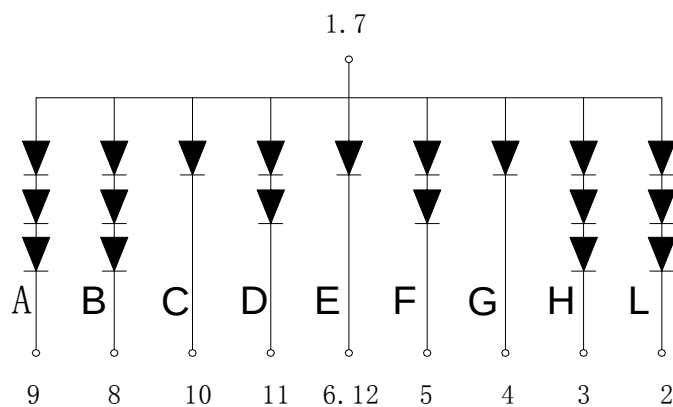
**REVISION: A1**

■ Outer Dimension:



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

■ Circuit Diagram:



■ Features:

- High Reliability
- Color: Bright Orange
- Low Power Requirement
- Easy Assembly

■ Description:

- Arrow LED Display Dot-matrix
- Black Face and Milky Epoxy

■ Absolute Maximum Rating (Ta=25°C):

Parameter	Symbol	Condition	Color	Rating	Unit
Power Dissipation Per Segment	P _d	—	Orange	65	mW
Forward Current Per Segment	I _F	—	Orange	25	mA
Derating Of If Per Segment	△I _F	Ta ≥ 25°C	Orange	0.30	mA/°C
Peak Forward Current Per Segment	I _{FP}	1/10 Duty 10KHz	Orange	100	mA
Reverse Voltage Per Segment	V _R	—	Orange	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			Unit
				Min.	Typ.	Max.	
Forward Voltage	V _F	I _F =20mA	Per Segment	1.70	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	—	11500	—	μcd
Peak Emission Wave Length	λ _P	I _F =20mA	Per Segment	—	615	—	nm
	λ _D			600	604	609	
Spectral Line Half Width	△λ	I _F =20mA	Per Segment	—	20	—	nm
Luminous Intensity Matching Ratio	I _{v-m}	I _F =10mA		—	—	1.2:1	

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

Rank	Symbol	Condition	Min	Max	Unit
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
S	S	I _F =10mA	15251	18000	μcd

■ Hue Grade:(I_F=10mA ,Color Coordinates Tolerance:±1nm)

Rank	Symbol	Hue Range	Units
57	57	600.1~603	nm
58	58	603.1~606	nm
59	59	606.1~609	nm

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

Typical Elector-Optical Characteristics Curve:

Fig 1. Forward Current vs. Forward Voltage

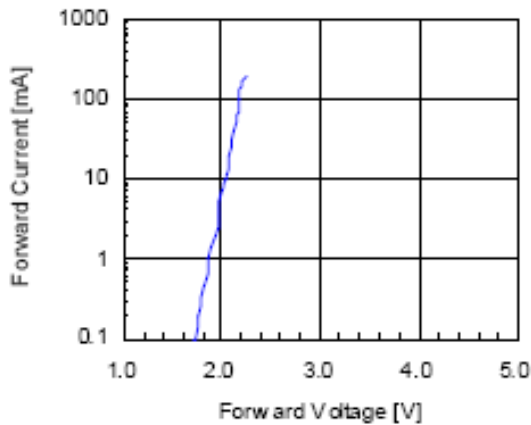


Fig 2. Relative Intensity vs. Forward Current

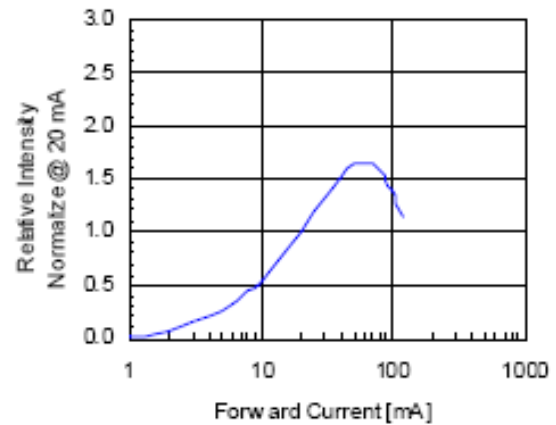


Fig 3. Forward Voltage vs. Temperature

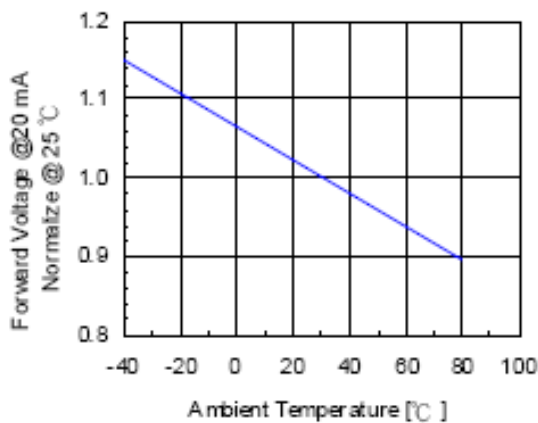


Fig 4. Relative Intensity vs. Temperature

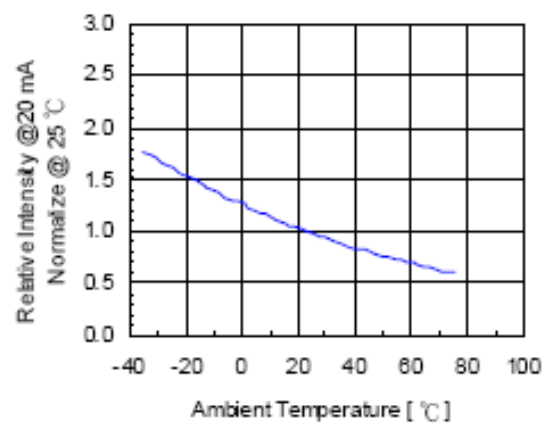
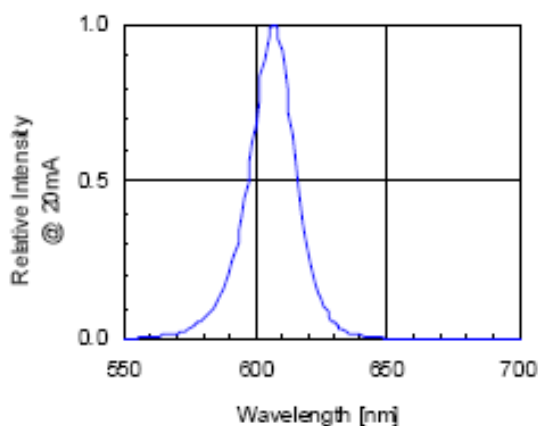


Fig 5. Relative Intensity vs. Wavelength



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 $85^\circ\text{C} \sim 25^\circ\text{C} \sim -35^\circ\text{C} \sim 25^\circ\text{C}$ 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:

72 pcs / Red Expandable Polyethylene.

936 pcs / Box

1872 pcs / Carton(550*380*280mm).