

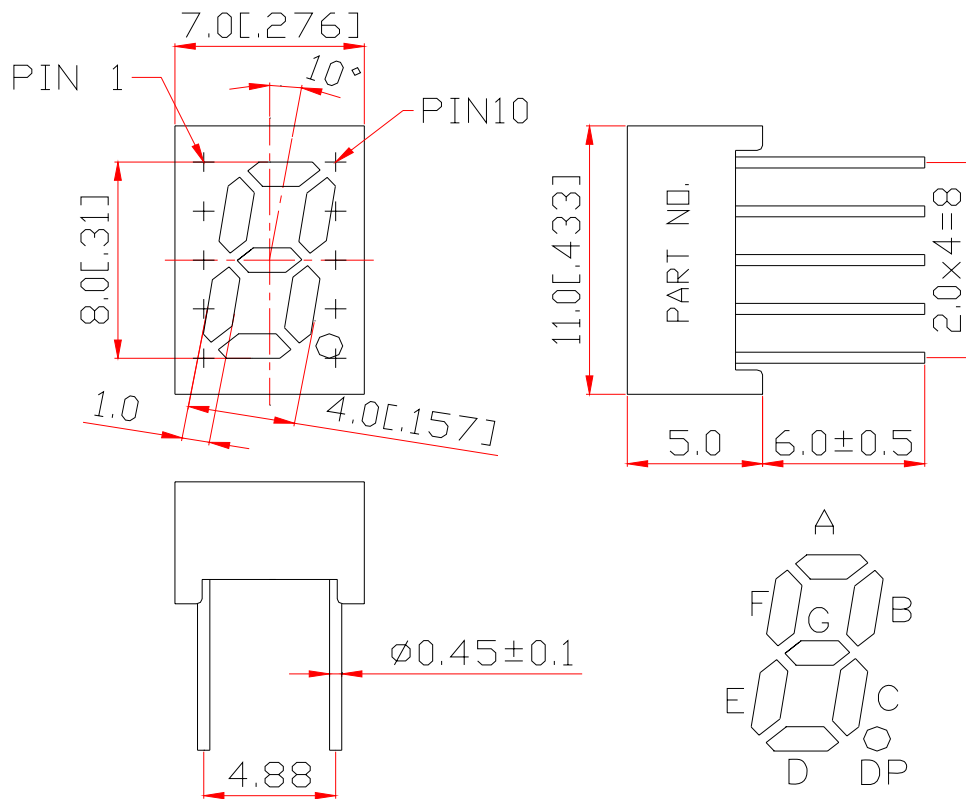
# **WCN1-0032SO-C11**

## **SPECIFICATION**

<b>WCN</b>			<b>CUSTOMER Confirmed</b>
<b>Prepared by</b>	<b>Checked by</b>	<b>Approved by</b>	
<b>Fei</b> <b>2017-04-14</b>	<b>Athena</b>		
<b>REVISION RECORD</b>			

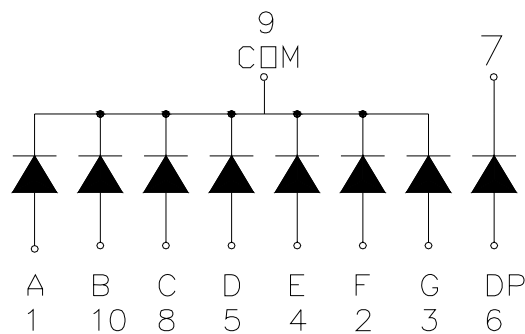
**REVISION: A0**

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

■ **Features:**

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

■ **Description:**

- Single Digit LED Display
- Digit Height: 8.0mm(0.32" )
- Black Face and Milky Segment

■ **Absolute Maximum Rating (Ta=25°C):**

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	$P_d$	—	Orange	65	mW
Forward Current Per Segment	$I_F$	—	Orange	25	mA
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	$T_{opr}$	—	—	-35~+85	°C
Storage Temperature Range	$T_{stg}$	—	—	-35~+85	°C

■ **Electrical/Optical Characteristics Rating(Ta=25°C)**

Item	Symbol	Test conditions	Location	Rating			Units
				Min.	Typ.	Max.	
Forward Voltage	$V_F$	$I_F=20mA$	Per Segment	—	2.00	2.60	V
Reverse Current	$I_R$	$V_R=5V$	Per Segment	—	—	100	$\mu A$
Luminous Intensity	$I_V$	$I_F=10mA$	Per Segment	4001	6600	10500	$\mu cd$
Peak Emission Wave Length	$\lambda_P$	$I_F=20mA$	Per Segment	—	606	—	nm
	$\lambda_D$				605		
Spectral Line Half Width	$\Delta \lambda$	$I_F=20mA$	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	$\mu cd$
M	M	$I_F=10mA$	5001	6100	$\mu cd$
N	N	$I_F=10mA$	6101	7200	$\mu cd$
O	O	$I_F=10mA$	7201	8500	$\mu cd$
P	P	$I_F=10mA$	8501	10500	$\mu cd$

■ **Soldering Conditions: Soldering Temp.  $\leq +260^\circ C$ , Soldering Time.  $\leq 3sec$ .  
(at 2mm Distance from The Case of Reflector Edge)**

■ Typical Elector-Optical Characteristics Curve:

Fig 1. Forward Current vs. Forward Voltage

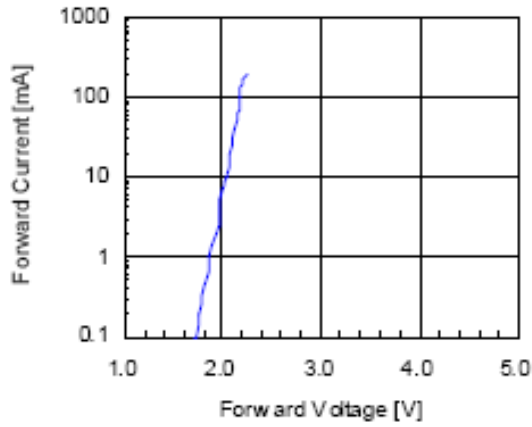


Fig 2. Relative Intensity vs. Forward Current

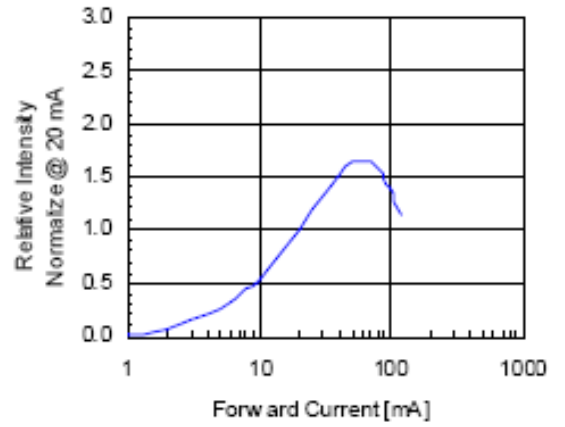


Fig 3. Forward Voltage vs. Temperature

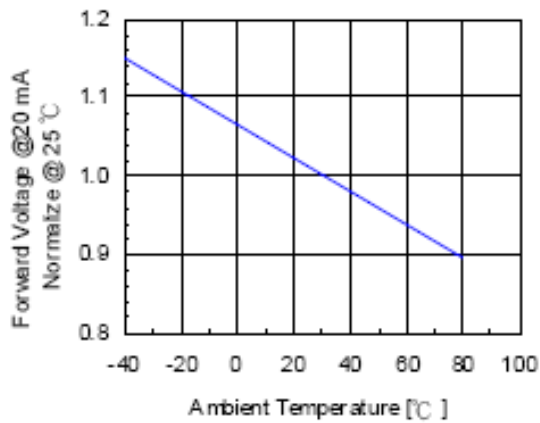


Fig 4. Relative Intensity vs. Temperature

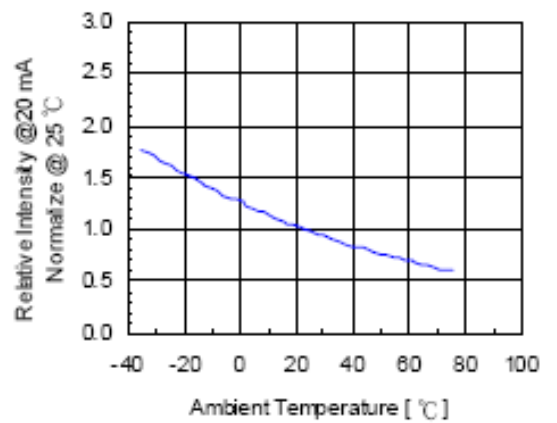
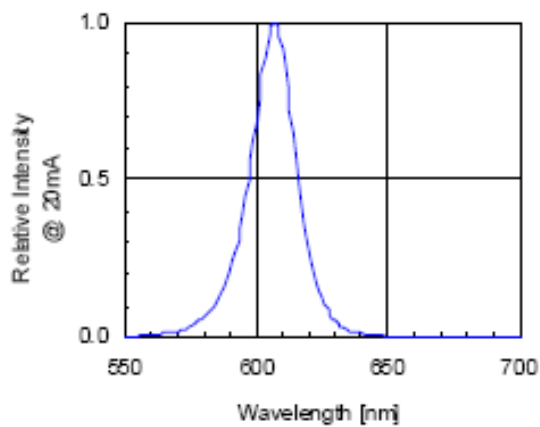


Fig 5. Relative Intensity vs. Wavelength



## 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 <sub>a</sub> = UNDER ROOM TEMPERATURE I <sub>F</sub> = I <sub>F</sub> max
	HIGH TEMPERATURE HIGH HUMIDITY STORAGE	EVALUATES MOISTURE RESISTANCE OF THE DEVICE WHEN STORED FOR A LONG TERM AT HIGH TEMPERATURE AND HUMIDITY T <sub>a</sub> = 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 <sub>a</sub> = 85±5°C(COB: T <sub>a</sub> =65±5°C) TEST TIME=1000Hrs(-24Hrs, +72Hrs)
	LOW TEMPERATURE STORAGE	EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN LOW TEMPERATURE T <sub>a</sub> = -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: T <sub>hot</sub> =65°C, T <sub>cold</sub> =-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: T <sub>hot</sub> =65°C, T <sub>cold</sub> =-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:

630 pcs / Red Expandable Polyethylene.

4410 pcs / Box(360\*175\*130mm).

26460 pcs / Carton(550\*380\*280mm).

### Packing method B:

46 pcs / IC Tube.(530\*10\*13.5)

6072 pcs / Box(537\*175\*125mm).

24288 pcs / Carton(550\*380\*280mm).