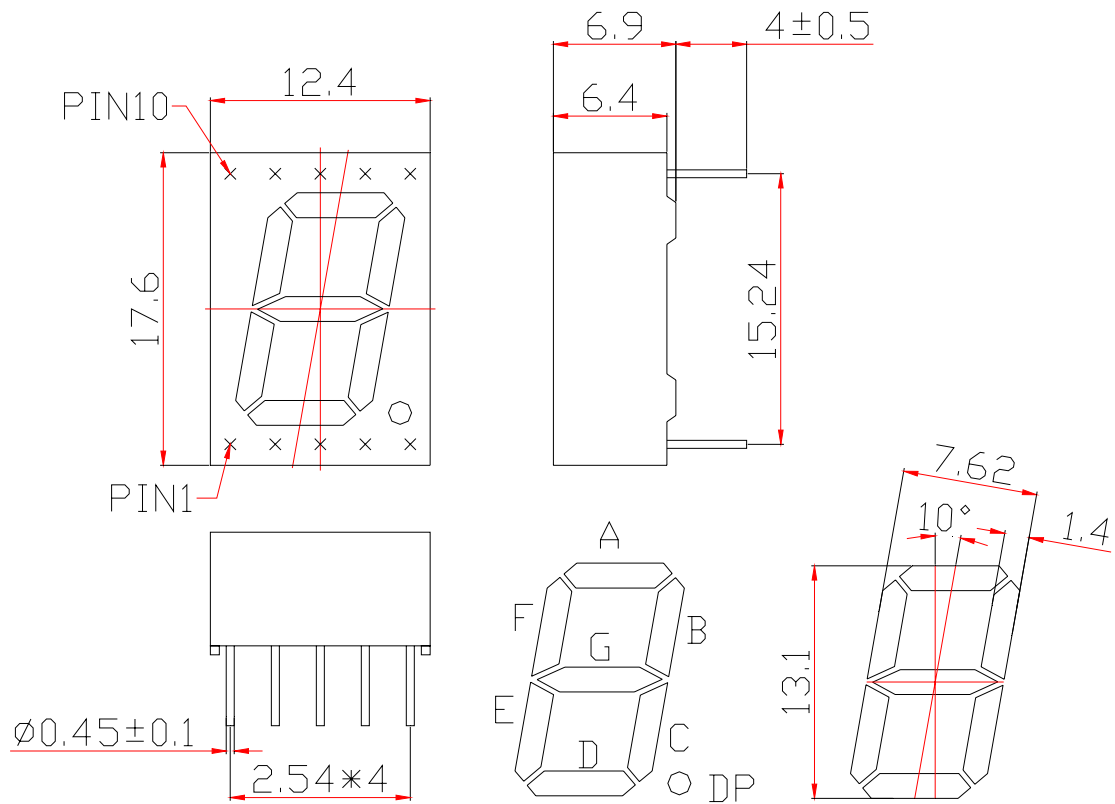


**WCN1-1052B7-C31****SPECIFICATION**

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei	Athena		
REVISION RECORD			

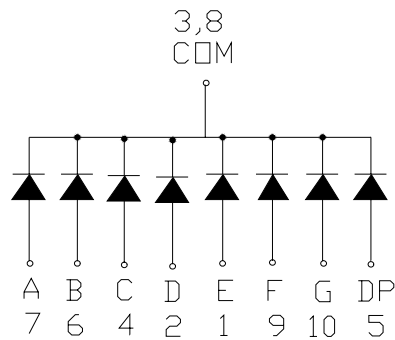
**REVISION: A0**

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

# WCN Opto Group Co., Limited

**Features:**

- . High Reliability
- . Color: Blue
- . Low Power Requirement
- . Easy Assembly

**Description:**

- . Single Digit LED Display
- . Digit Height: 13.2mm(0.52")
- . Gray Face and Milky Segment

**Absolute Maximum Rating (Ta=25 ):**

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	P <sub>d</sub>		Blue	90	mW
Forward Current Per Segment	I <sub>F</sub>		Blue	25	mA
Peak Forward Current Per Segment	I <sub>FP</sub>	1/10 Duty 10KHz	Blue	100	mA
Reverse Voltage Per Segment	V <sub>R</sub>		Blue	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 <sub>F</sub>	I <sub>F</sub> =20mA	Per Segment		3.20	3.60	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	Per Segment			100	A
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> =10mA	Per Segment	10501	16600		cd
Peak Emission Wave Length	P	I <sub>F</sub> =20mA	Per Segment				nm
	D			465	470	475	
Spectral Line Half Width		I <sub>F</sub> =20mA	Per Segment		30		nm
Luminous Intensity Matching Ratio (Segment to Segment)	I <sub>v-m</sub>	I <sub>F</sub> =10mA				1.2:1	

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

Rank	Symbol	Condition	Min	Max	Unit
Q	Q	I <sub>F</sub> =10mA	10501	12800	cd
R	R	I <sub>F</sub> =10mA	12801	15250	cd
S	S	I <sub>F</sub> =10mA	15251	18000	cd
T	T	I <sub>F</sub> =10mA	18001	21500	cd
U	U	I <sub>F</sub> =10mA	21501	26000	cd

**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:

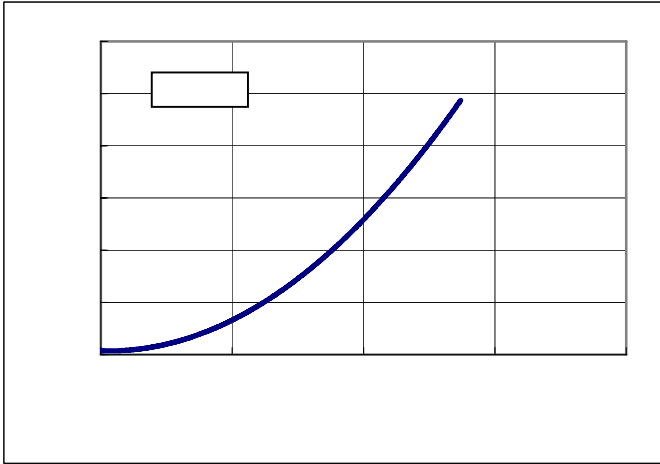


Fig2. Forward Current vs. Relative Intensity:

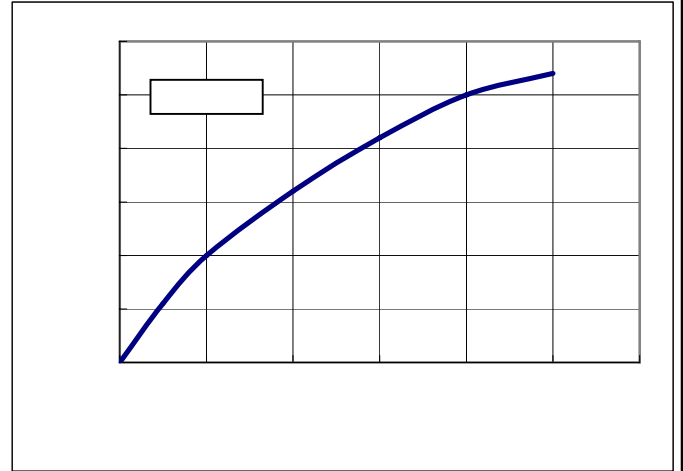
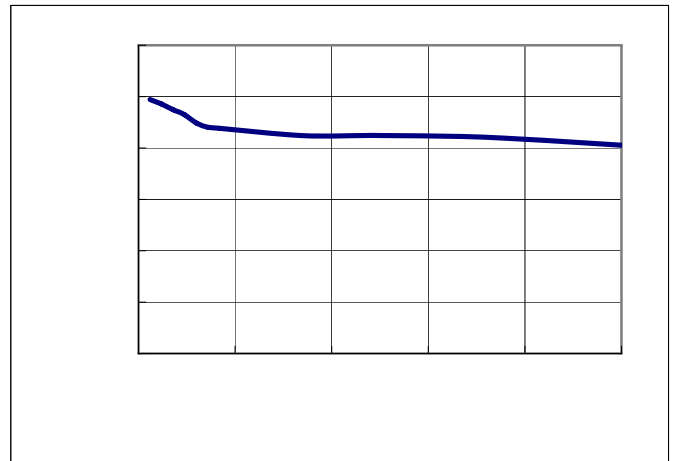


Fig3. Forward Current vs. Relative wavelength:



Fig4. 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 <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.

### Package Pattern 1:

200 pcs / Red Expandable Polyethylene.

1400 pcs / Box(360\*175\*130mm).

8400 pcs / Carton(550\*380\*280mm).

### Packing method B:

40 pcs / IC Tube.

2160 pcs / Box(537\*175\*125mm).

8640 pcs / Carton (550\*380\*280mm).