WCN3-0080R7-A81

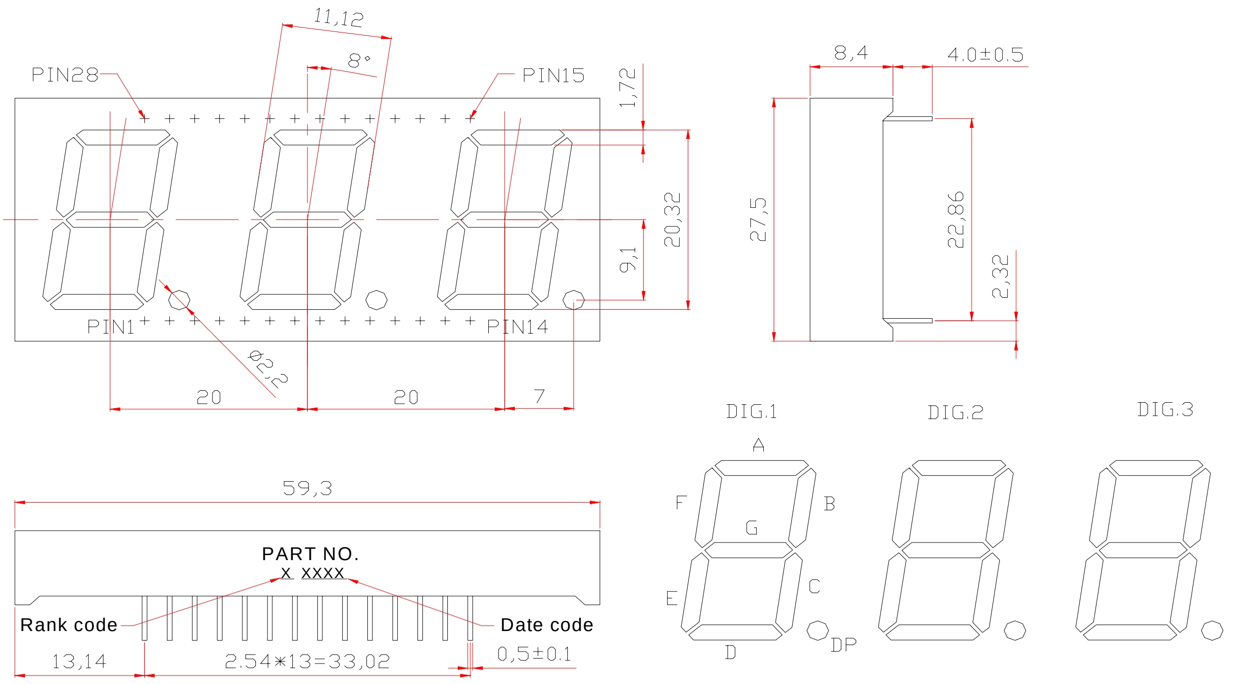
SPECIFICATION

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei 2017-05-23	Athena	William	
REVISION RECORD			

恒盛源光电科技（深圳）有限公司
开发部
WCN

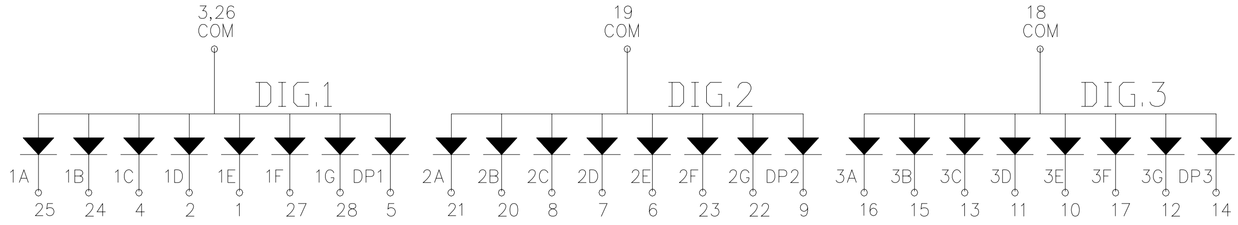
REVISION: A0

Outer Dimension:



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

Circuit Diagram:



Pin Connection:

PIN NO.	CONNECTION	PIN NO.	CONNECTION	PIN NO.	CONNECTION
1	Cathode 1E	11	Cathode 3D	21	Cathode 2A
2	Cathode 1D	12	Cathode 3G	22	Cathode 2G
3	Common Anode DIG.1	13	Cathode 3C	23	Cathode 2F
4	Cathode 1C	14	Cathode DP3	24	Cathode 1B
5	Cathode DP1	15	Cathode 3B	25	Cathode 1A
6	Cathode 2E	16	Cathode 3A	26	Common Anode DIG.1
7	Cathode 2D	17	Cathode 3F	27	Cathode 1F
8	Cathode 2C	18	Common Anode DIG.3	28	Cathode 1G
9	Cathode DP2	19	Common Anode DIG.2	29	—
10	Cathode 3E	20	Cathode 2B	30	—

Features:

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

Description:

- Three Digit Display
- Digit Height:20.4mm(0.8″)
- 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	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=20mA	Per Segment	—	2.0	2.6	V
Reverse Current	I_R	V_R=5V	Per Segment	—	—	100	μA
Luminous Intensity	I_V	I_F=10mA	Per Segment	12801	19500	31000	μ cd
Peak Emission Wave Length	λ_P	I_F=20mA	Per Segment	—	630	—	nm
	λ_D			620	623	627	
Spectral Line Half Width	$\triangle\lambda$	I_F=20mA	Per Segment	—	20	—	nm
Luminous Intensity Matching Ratio (Segment to Segment)	$I_{v\text{-}m}$	I_F=10mA	—	—	—	1.2:1	

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

Rank	Symbol	Condition	Min	Max	Unit
R	R	I_F =10mA	12801	15250	μcd
S	S	I_F =10mA	15251	18000	μcd
T	T	I_F =10mA	18001	21500	μcd
U	U	I_F =10mA	21501	26000	μcd
V	V	I_F =10mA	26001	31000	μcd

Soldering Conditions: Soldering Temp. ≦+260℃, Soldering Time. ≦3sec.

(at 2mm Distance from The Case of Reflector Edge)

Typical Electro-Optical Characteristics Curve:

Fig 1. Forward Current vs. Forward Voltage

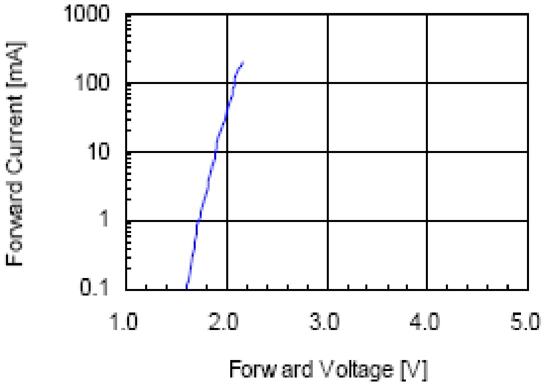


Fig 2. Relative Intensity vs. Forward Current

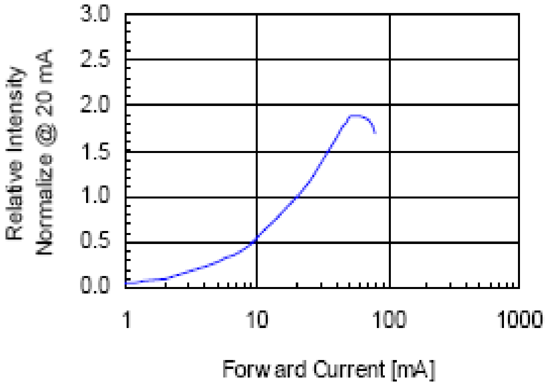


Fig 3. Forward Voltage vs. Temperature

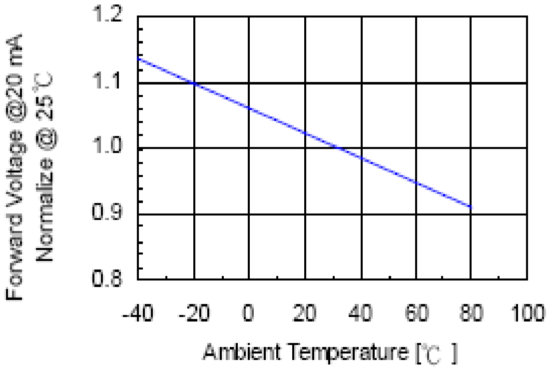


Fig 4. Relative Intensity vs. Temperature

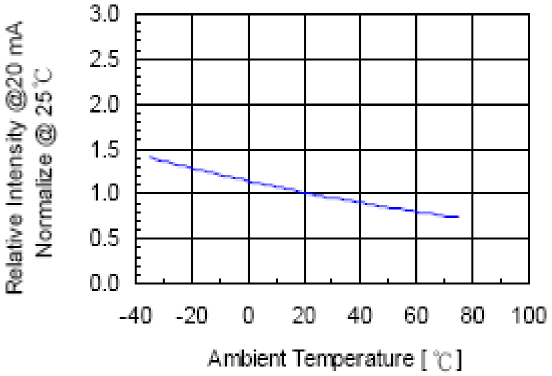
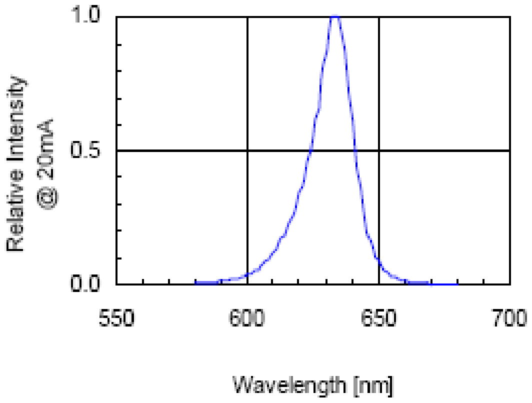


Fig 5. Relative Intensity vs. Wavelength



■ 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_a = UNDER ROOM TEMPERATURE I_F=I_F 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±5°C RH=90~95%RH TEST TIME=240± 2Hrs
	HIGH TEMPERATURE STORAGE	EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN HIGH TEMPERATURE T_a =85±5°C(COB: Ta=65±5°C) TEST TIME=1000Hrs(-24Hrs, +72Hrs)
	lOW TEMPERATURE STORAGE	EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN LOW TEMPERATURE T_a =-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: Thot=65°C, Tcold=-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: Thot=65°C,Tcold=-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:

25 pcs / Red Expandable Polyethylene.
150pcs / Box(360*175*130mm).
900 pcs / Carton(550*380*280mm).

■ Packing method B:

8 pcs / IC Tube.(520*37*21mm)
192 pcs / Box(537*175*125mm).
768 pcs / Carton(550*380*280mm).