WCN Opto Group Co., Limited

WCN3-0050R6-C11

SPECIFICATION

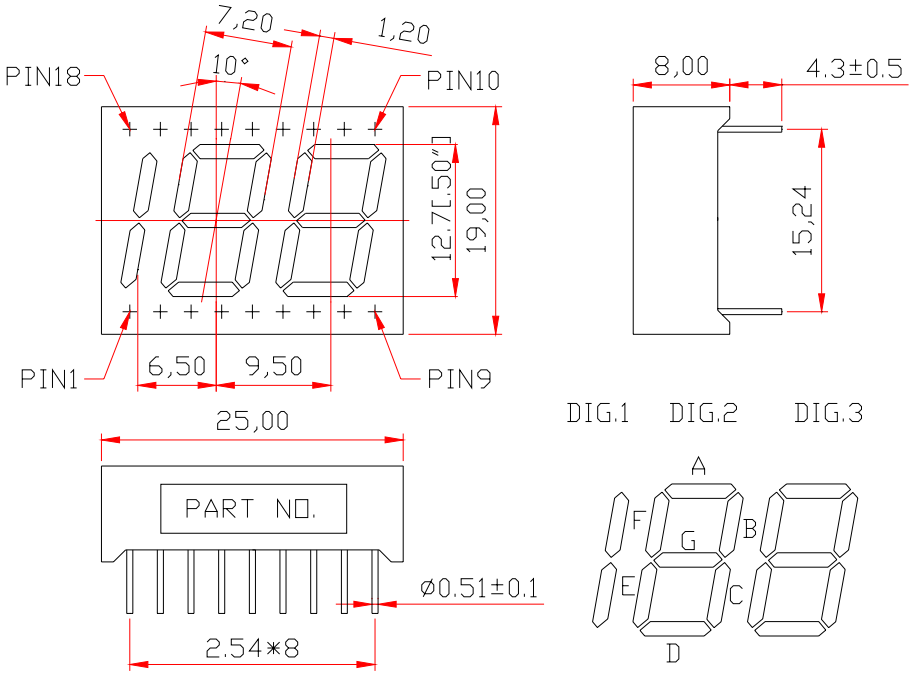
WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei 2016-7-2	Athena	William	
REVISION RECORD			

RoHS

恒盛源光电科技(深圳)有限公司 开发部 WCN

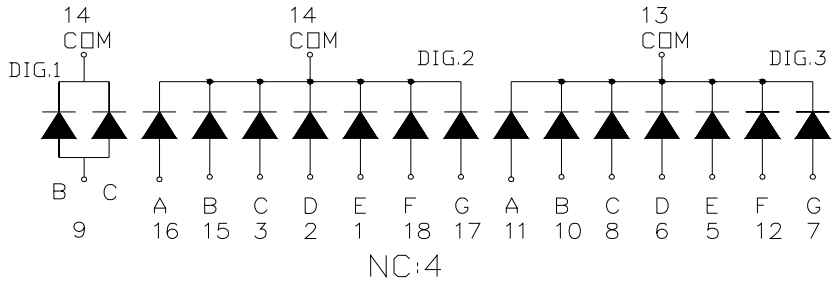
REVISION: A0

■ Outer Dimension:



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

■ Circuit Diagram:



■ Pin Connection:

PIN NO.	CONNECTION	PIN NO.	CONNECTION
1	Dig.2 Anode E	10	Dig.3 Anode B
2	Dig.2 Anode D	11	Dig.3 Anode A
3	Dig.2 Anode C	12	Dig.3 Anode F
4	NC	13	Common Cathode Dig.3
5	Dig.3 Anode E	14	Common Cathode Dig.1/Dig.2
6	Dig.3 Anode D	15	Dig.2 Anode B
7	Dig.3 Anode G	16	Dig.2 Anode A
8	Dig.3 Anode C	17	Dig.2 Anode G
9	Dig.1 Anode B/C	18	Dig.2 Anode F

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Features:

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

Description:

- Three Digit Display
- Digit Height:12.7mm(0.50″)
- 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	2.60	V
Reverse Current	I_R	V_R=5V	Per Segment	—	—	100	μA
Luminous Intensity	I_V	I_F=10mA	Per Segment	7201	11500	18000	μcd
Peak Emission Wave Length	λ_P	I_F=20mA	Per Segment	—	635	—	nm
	λ_D			—	630	—	
Spectral Line Half Width	△λ	I_F=20mA	Per Segment	—	30	—	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%)

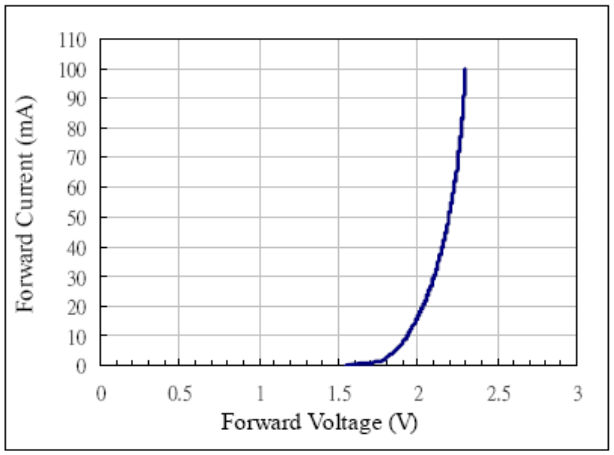
Rank	Symbol	Condition	Min	Max	Unit
O	O	I_F=10mA	7201	8500	μcd
P	P	I_F=10mA	8501	10500	μcd
Q	Q	I_F=10mA	10501	12800	μcd
R	R	I_F=10mA	12801	15250	μcd
S	S	I_F=10mA	15251	18000	μcd

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

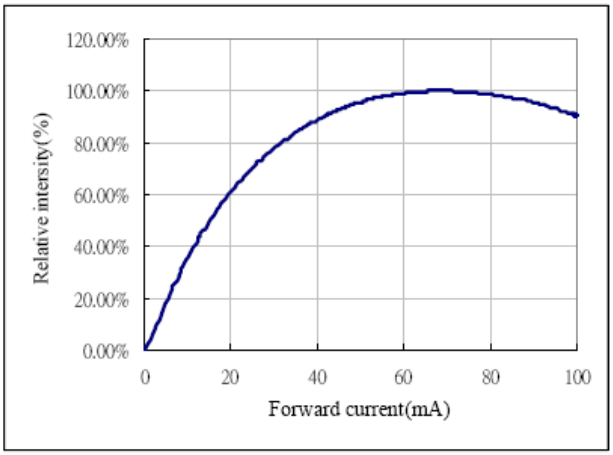
(at 2mm Distance from The Case of Reflector Edge)

Typical Elector-Optical Characteristics Curve:

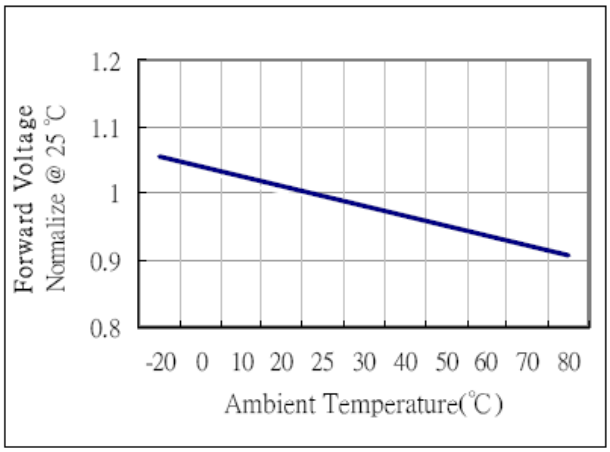
Forward current vs. Forward voltage



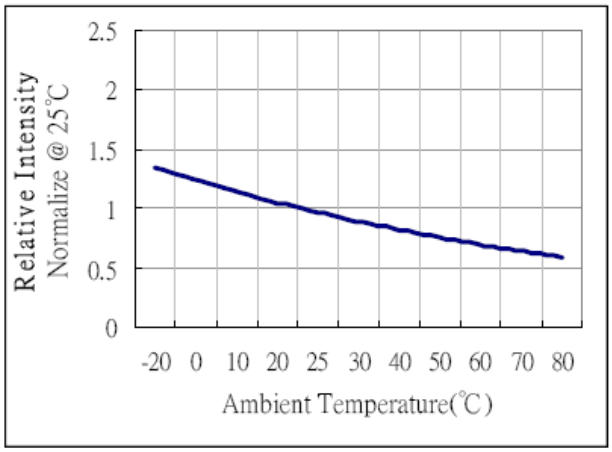
Relative intensity vs. Forward current



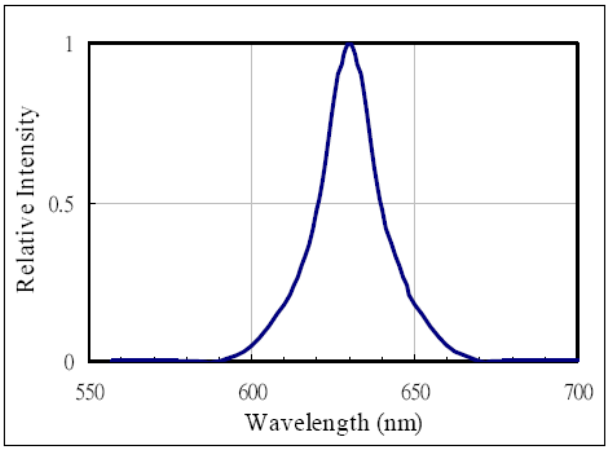
Forward voltage vs. Temperature



Relative intensity vs. Temperature



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)
	IOW 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:

91 pcs / Red Expandable Polyethylene.

540 pcs / Box(360*175*130mm).

3240pcs / Carton(550*380*280mm).

■ Packing method B:

20 pcs / IC Tube(520*24*19).

840 pcs / Box(537*175*125mm).

3360 pcs / Carton(550*380*280mm)