WCNOptoGroupCo.,Limited

WCN6-0036G6-C11

SPECIFICATION

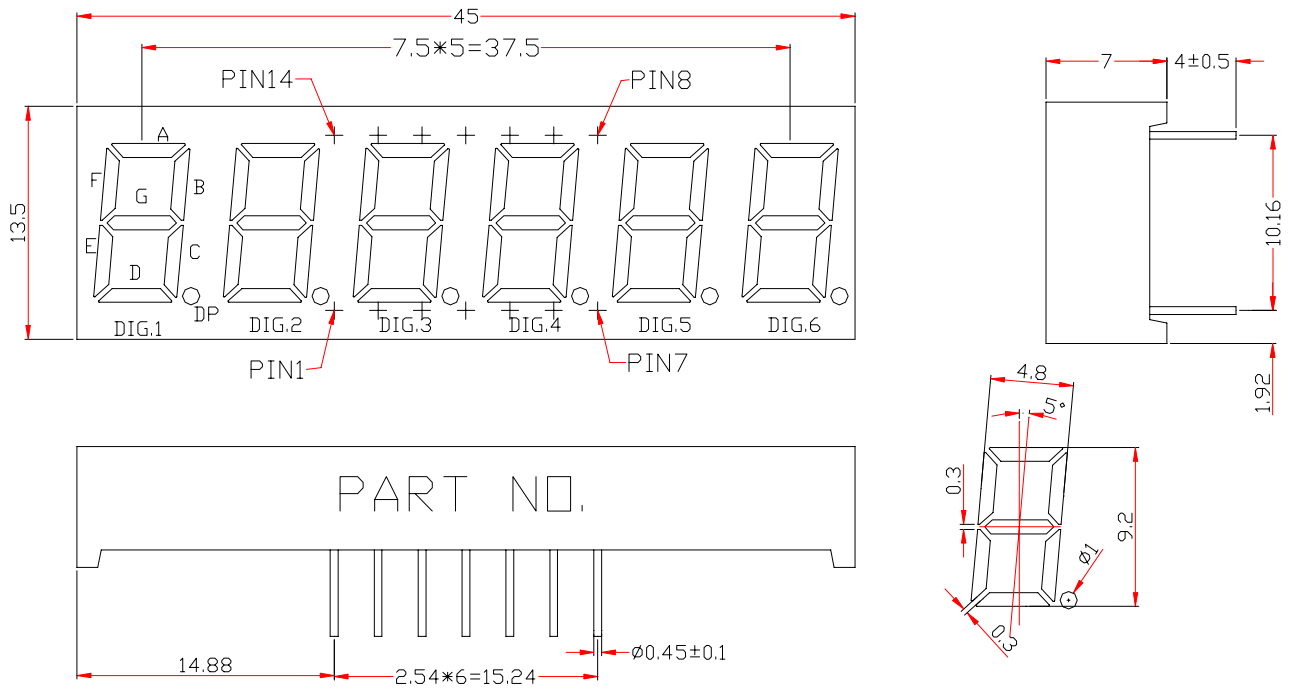
WCN			CUSTOMER
Prepared by	Checked by	Approved by	Confirmed
Fei 2016-1-28	Athena		
Note: A2: Add Typical Elector-Optical Characteristics Curve (2016-1-28)			

RoHS

恒盛源光电科技(深圳)有限公司 开发部 WCN

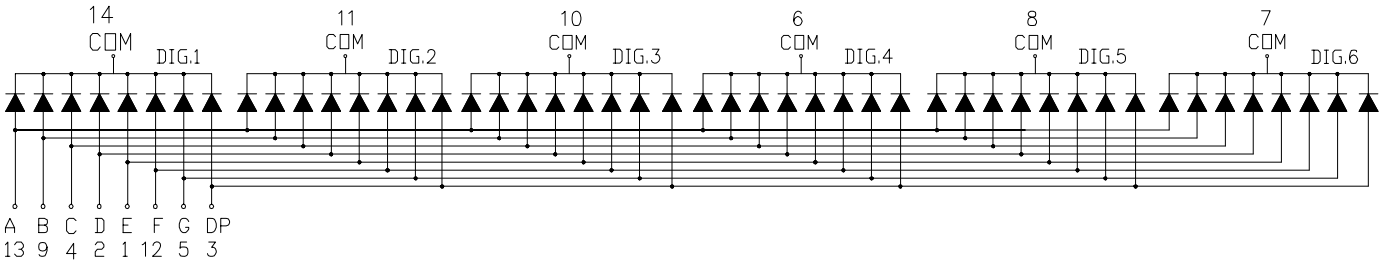
REVISION: A2

■ Outer Dimension:



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

■ Circuit Diagram



■ Pin Connection:

PIN NO.	CONNECTION	PIN NO.	CONNECTION
1	Anode E	8	Common DIG.5
2	Cathode D	9	Anode B
3	Anode DP	10	Common DIG.3
4	Anode C	11	Common DIG.2
5	Anode G	12	Anode F
6	Common DIG.4	13	Anode A
7	Common DIG.6	14	Common DIG.1

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■Features:

- **High Reliability**
- **Color: Yellow Green**
- **Low Power Requirement**
- **Easy Assembly**

■ Description:

- **Six Digit LED Display**
- **Digit Height: 9.2mm(0.36″)**
- **Black Face and Milky Segment**

■Absolute Maximum Rating (Ta=25℃):

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	P_d	—	Yellow Green	65	mW
Forward Current Per Segment	I_F	—	Yellow Green	25	mA
Derating Of If Per Segment	$\triangle I_F$	Ta≧25℃	Yellow Green	0.30	mA/℃
Peak Forward Current Per Segment	I_{FP}	1/10 Duty 10KHz	Yellow Green	100	mA
Reverse Voltage Per Segment	V_R	—	Yellow Green	5	V
Operating Temperature Range	Topr	—	—	-35～+85	℃
Storage Temperature Range	Tstg	—	—	-35～+85	℃

■Electrical/Optical Characteristics Rating(Ta=25℃)

Forward Voltage	V_F	I_F=20mA	Per Segment	1.90	2.2	2.60	V
Reverse Current	I_R	V_R=5V	Per Segment	—	—	100	μA
Luminous Intensity	I_V	I_F=10mA	Per Segment	5001	7500	12800	μcd
Peak Emission Wave Length	λ_P	I_F=20mA	Per Segment	—	565	—	nm
	λ_D			567	570	573	
Spectral Line Half Width	$\triangle\lambda$	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
M	M	I_F=10mA	5001	6100	μcd
N	N	I_F=10mA	6101	7200	μcd
O	O	I_F=10mA	7201	8500	μcd
P	P	I_F=10mA	8501	10500	μcd
Q	Q	I_F=10mA	10501	12800	μcd

■Hue Grade: I_F =10mA (Hue:+/-1nm)

Rank	Symbol	Hue Range	Units
3	3	569.1~571.0	nm
4	4	571.1~573.0	nm

■ Soldering Conditions: Soldering Temp. ≦+260℃ Soldering Time. ≦3sec.
(at 2mm Distance from The Case of Reflector Edge))

■ Typical Elector-Optical Characteristics Curve:

Fig 1. Forward Current vs. Forward Voltage

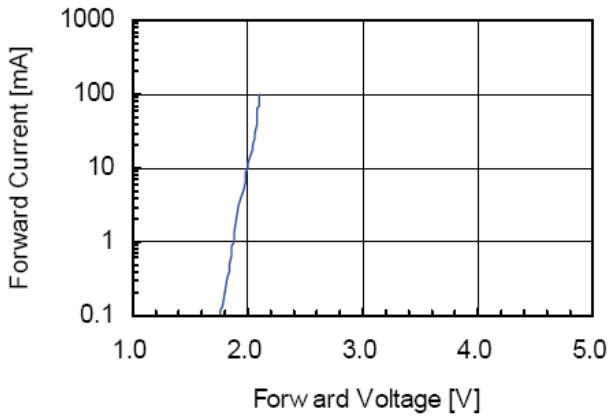


Fig 2. Relative Intensity vs. Forward Current

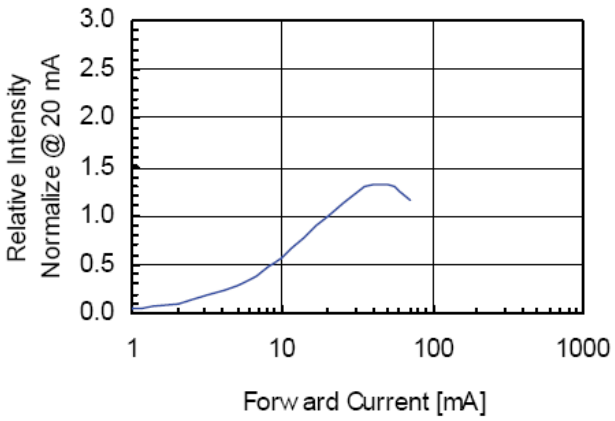


Fig 3. Forward Voltage vs. Temperature

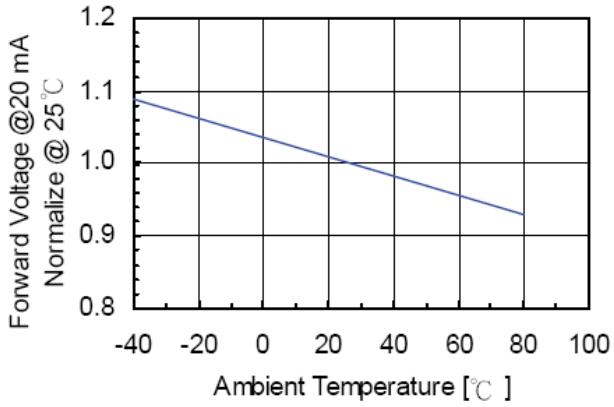


Fig 4. Relative Intensity vs. Temperature

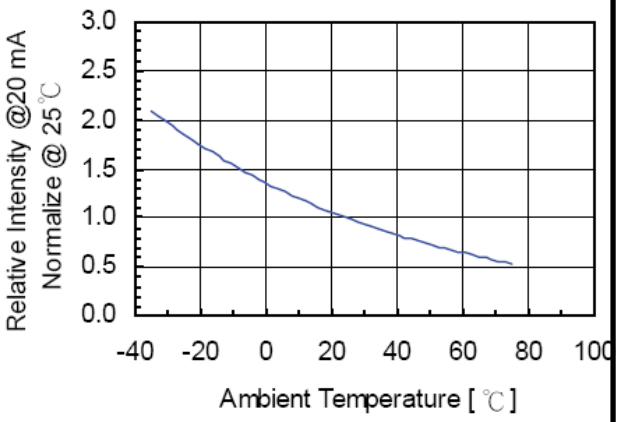
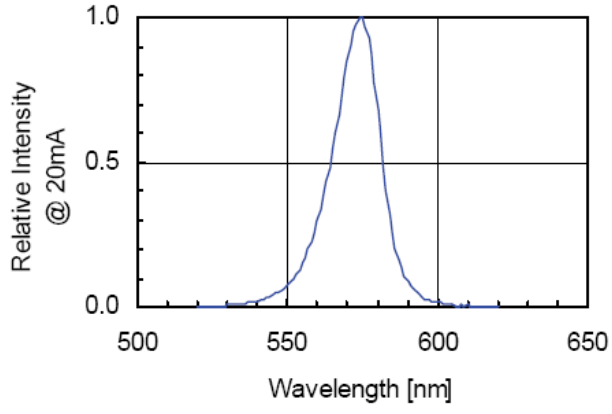


Fig 5. Relative Intensity vs. Wavelength



■ 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:

77 pcs / Red Expandable Polyethylene.

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

3180 pcs / Carton(550*380*280mm).

■ Packing method B:

11 pcs / IC Tube.(525*17*16)

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

3080 pcs / Carton(550*380*280mm).