WCN

WCN Opto Group Co., Limited

WCN-5707SD-DA15

SPECIFICATION

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei 2016-3-25	Athena		
REVISION RECORD A1: New Version issued (2016-3-25)			

RoHS

恒盛源光电科技(深圳)有限公司 开发部 WCN

REVISION: A1

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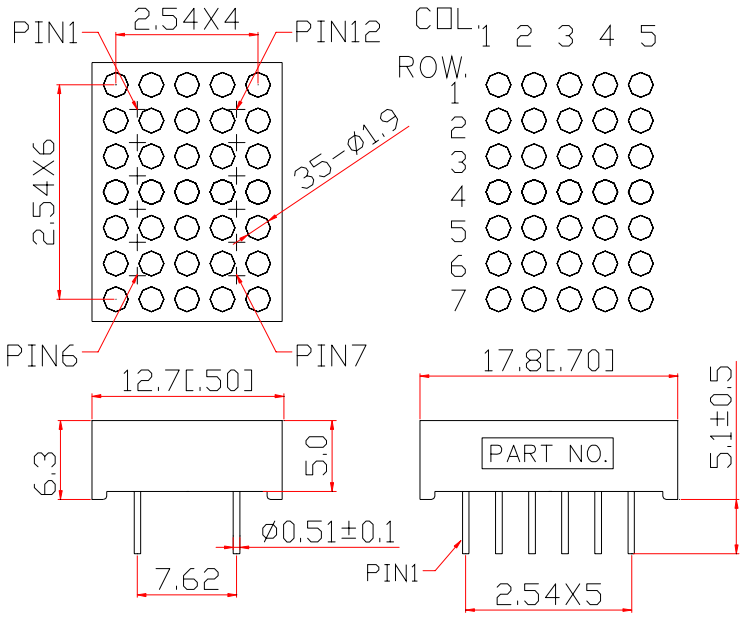
■ Features:

- . **High Reliability**
- . **Color : Super Bright Red**
- . **Low Power Requirement**
- . **Flat Package and Light Weight**
- . **Easy Assembly**

■ Description:

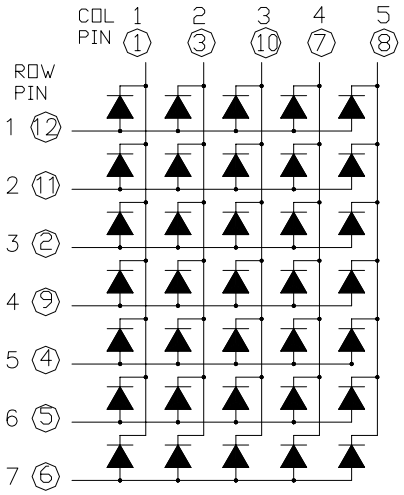
- . **5X7 LED Dot Matrix**
- . **ϕ 1.9 mm Dot and Pitch 2.54 mm**
- . **Gray Face and Milky Diffused Dots**

■ Outer Dimension:



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

■ Circuit Diagram



■ **Absolute Maximum Rating (Ta=25℃) / Per Dice:**

Parameter	Symbol	Condition	Color	Rating	Units
Maximal Power Dissipation (When completely Lighting)	P_d	—	Red	65	mW
Maximal Forward Current (When completely Lighting)	I_F	—	Red	25	mA
Peak Forward Current	I_{FP}	1/8Duty 10khz	Red	100	mA
Reverse Voltage	V_R	—	Red	5	V
Operating Temperature Range	Topr	—	—	-40～+85	℃
Storage Temperature Range	Tstg	—	—	-40～+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 Dice	1.80	2.0	2.60	V
Reverse Current	I_R	V_R=5V	Per Dice	—	—	100	μA
Luminous Intensity	I_V	I_F=10mA	Per Dice	4.001	6.5	10.5	mcd
Wave Length	λ_P	I_F=20mA	Per Dice	—	660	—	nm
	λ_d				640		
Spectral Line Half Width	△λ	I_F=20mA	Per Dice	—	20	—	nm
Luminous Intensity Matching Ratio (Dot To Dot)	I_{V-M}	1/8Duty I_{FP} =40mA				1.2:1	

■ **Luminous Intensity Sorting (1/8Duty ; I_{FP} =40mA ;The Tolerance is +/-10%)**

BIN / Color	L	M	N	O	P
Red (mcd)	4.001-5.000	5.001-6.100	6.101-7.20	7.201-8.500	8.501-10.500

■**Soldering Conditions: Soldering Temp. ≦+260℃**

Soldering Time. ≦3sec.

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

■ Typical Elector-Optical Characteristics Curve:

Fig1. Forward Current vs. Forward Voltage:

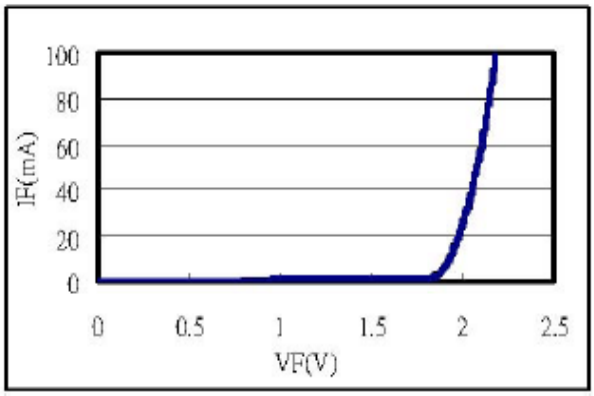


Fig2. Forward Current vs. Relative Intensity:

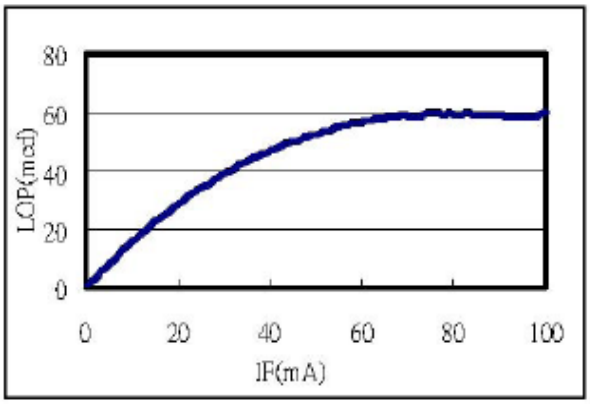


Fig3. Forward Current vs. Relative Wavelength:

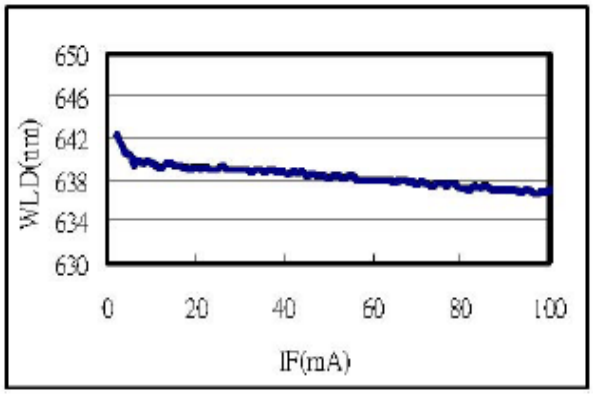


Fig4. Temperature vs. Relative Intensity:

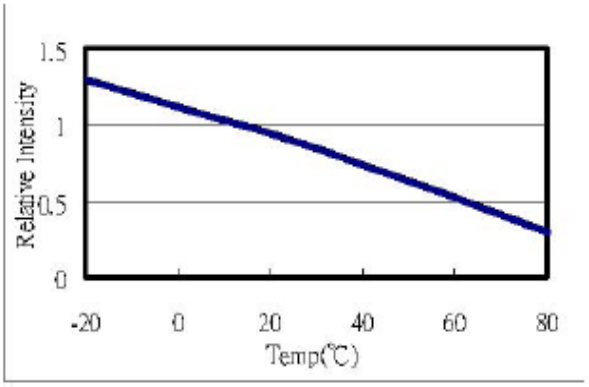


Fig5. Temperature vs. Relative Wavelength:

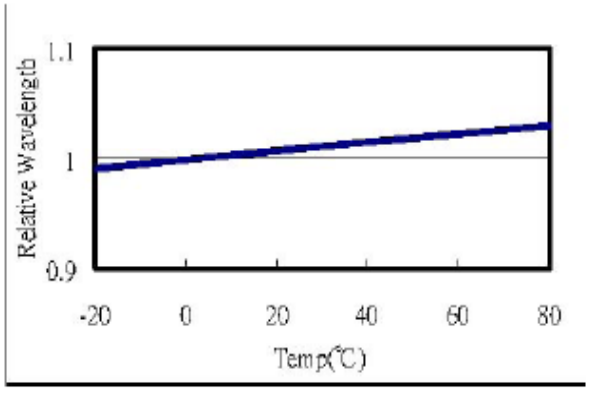
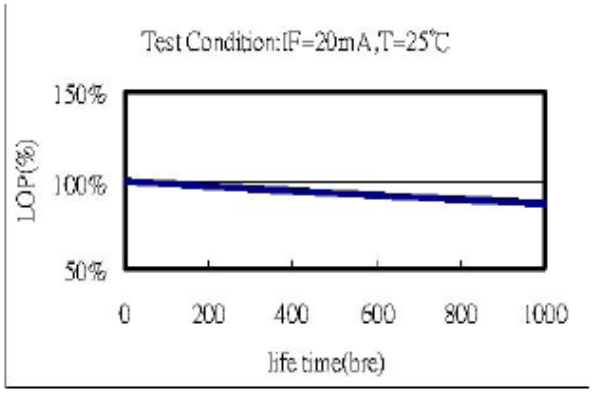


Fig6. Life Test at 20mA R.T. 1000hrs:



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:

200 pcs / Expandable Polyethylene.
1400 pcs / Box(360*175*130mm).
8400 pcs / Catton(550*380*280mm).

Packing method B:

28 pcs / IC Tube.(530*14.5*15.5)
2156 pcs / Box(537*175*125mm).
8624 pcs / Catton(550*380*280mm).