



WCN Opto Group Co., Limited

WCN-5742SD-DA01

SPECIFICATION

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei 2016-3-28	Athena		
REVISION RECORD			



REVISION: A0

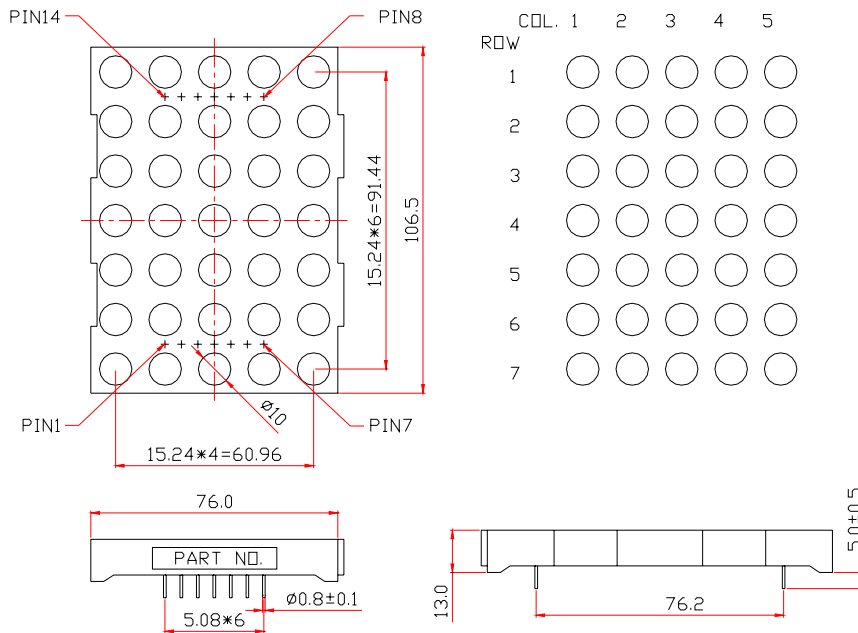
■ Features:

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

■ Description:

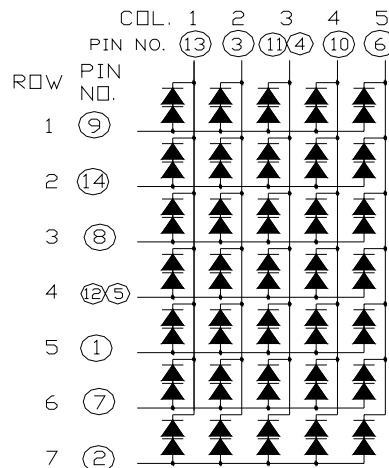
- 5X7 LED Dot Matrix
- ϕ 10mm Dot and Pitch 15.24 mm
- Black Face and Milky Dots

■ Outer Dimension:



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

■ Circuit Diagram



■ Absolute Maximum Rating (Ta=25°C) / Per Dice:

Parameter	Symbol	Condition	Color	Rating	Units
Maximal Power Dissipation (When completely Lighting)	P _d	—	Red	130	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	°C
Storage Temperature Range	Tstg	—	—	-40~+85	°C

■ Electrical/Optical Characteristics Rating(Ta=25°C)

Item	Symbol	Test conditions	Location	Rating			Units
				Min.	Typ.	Max.	
Forward Voltage	V _F	I _F =20mA	Per Dice	3.6	4.0	5.2	V
Reverse Current	I _R	V _R =5V	Per Dice	—	—	100	μA
Luminous Intensity	I _V	I _F =10mA	Per Dice	12.801	19.5	31.0	
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	R	S	T	U	V
Red (mcd)	12.801-15.25	15.251-18.0	18.001-21.5	21.501-26.0	26.001-31.0

■ Soldering Conditions: Soldering Temp. ≤+260°C

Soldering Time. ≤3sec.

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

■ **Typical Elector-Optical Characteristics Curve:**

Fig1. Forward Current vs. Forward Voltage:

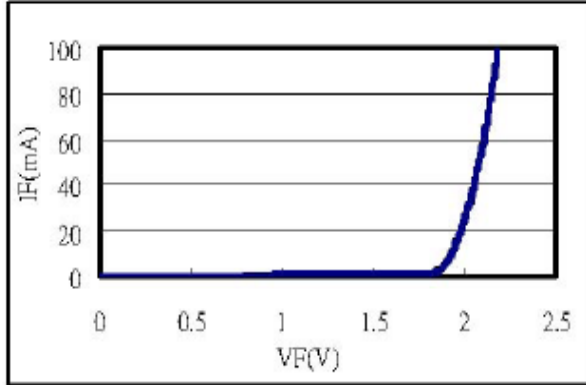


Fig2. Forward Current vs. Relative Intensity:

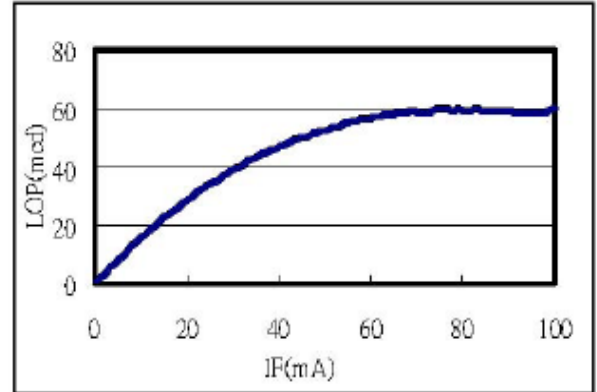


Fig3. Forward Current vs. Relative Wavelength:

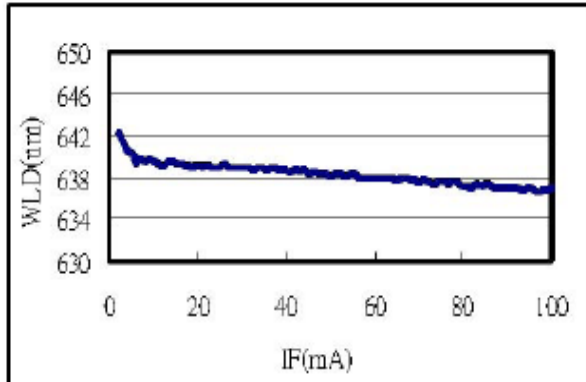


Fig4. Temperature vs. Relative Intensity:

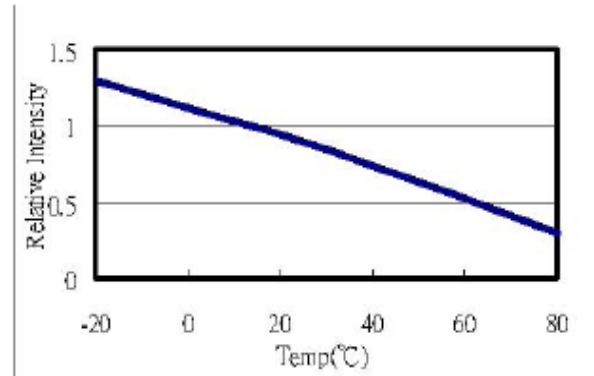


Fig5. Temperature vs. Relative Wavelength:

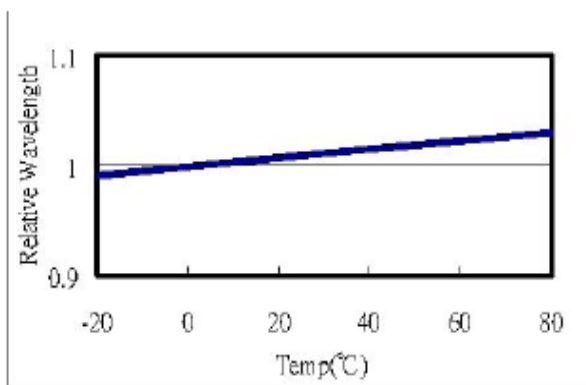
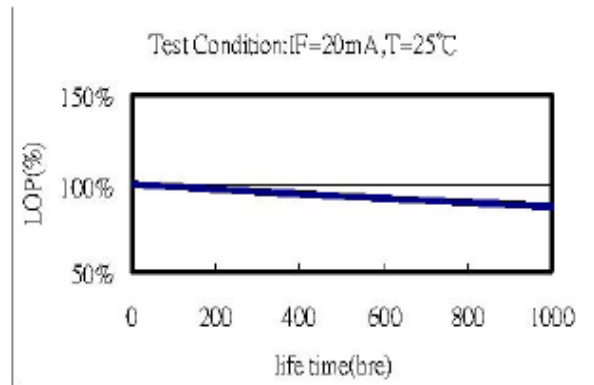


Fig6. Life Test at 20mA R.T. 1000hrs:



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: T _a =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: T _{hot} =65°C, T _{cold} =-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 _{hot} =65°C, T _{cold} =-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:

9 pcs / Expandable Polyethylene.

90 pcs / Box(360*260*255mm).

180 pcs / Catton(550*380*280mm).