



WCN Opto Group Co., Limited

# WCN-8819B7-DA01

## SPECIFICATION

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei 2016-7-26	Athena		
REVISION RECORD			



REVISION: A0

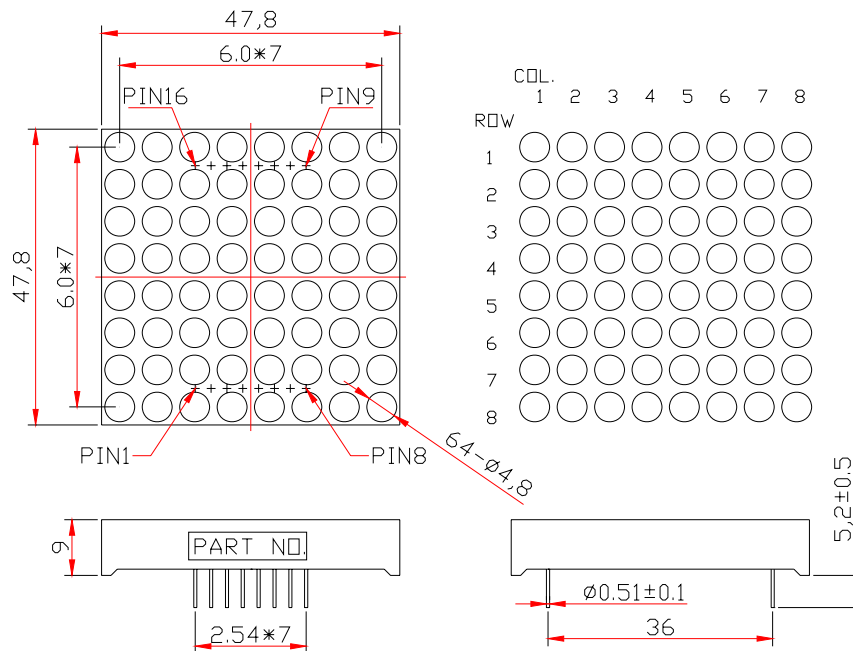
## ■ Features:

- High Reliability
- Color: Blue
- Low Power Requirement
- Flat Package and Light Weight
- Easy Assembly

## ■ Description:

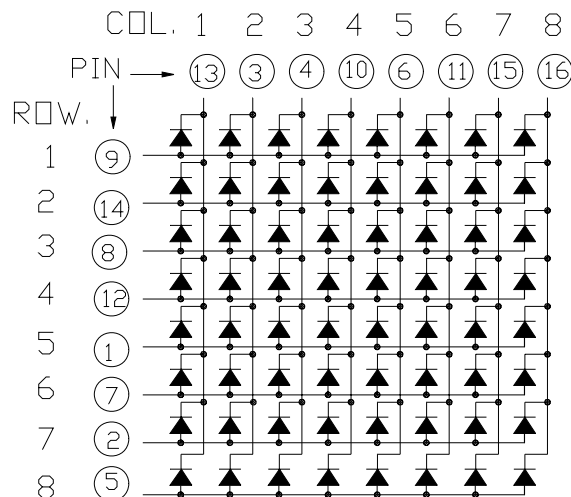
- 8X8 LED Dot Matrix
- $\phi 4.8\text{mm}$  Dot and Pitch 6.5 mm
- Black Face and Milky Dots

## ■ Outer Dimension:



Notes : Unless otherwise stated, The tolerance is  $\pm 0.25\text{mm}$ .

## ■ Circuit Diagram



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

Parameter	Symbol	Condition	Color	Rating	Units
Maximal Power Dissipation (When completely Lighting) Per Dot	P <sub>d</sub>	—	Blue	90	mW
Maximal Forward Current (When completely Lighting) Per Dot	I <sub>F</sub>	—	Blue	25	mA
Derating Of If Per Dot	I <sub>FP</sub>	1/8Duty 10khz	Blue	100	mA
Peak Forward Current Per Dot	V <sub>R</sub>	—	Blue	5	V
Reverse Voltage Per Dot	Topr	—	—	-40~+85	°C
Operating 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 <sub>F</sub>	I <sub>F</sub> =20mA	Per Dot	2.6	3.2	3.60	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	Per Dot	—	—	100	μA
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> =10mA	Per Dot	12.801	19.5	31.0	mcd
Wave Length	λ <sub>P</sub>	I <sub>F</sub> =20mA	Per Dot	—	465	—	nm
	λ <sub>d</sub>				470		
Spectral Line Half Width	△λ	I <sub>F</sub> =20mA		—	20	—	nm
Luminous Intensity Matching Ratio (Dot To Dot)	I <sub>V-M</sub>	1/8Duty I <sub>FP</sub> =40mA				1.2:1	

■ Luminous Intensity Sorting (1/8Duty ; I<sub>FP</sub> =40mA ; The Tolerance is +/-10%)

BIN Color	R	S	T	U	V
Blue ( mcd )	12.801-15.250	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:

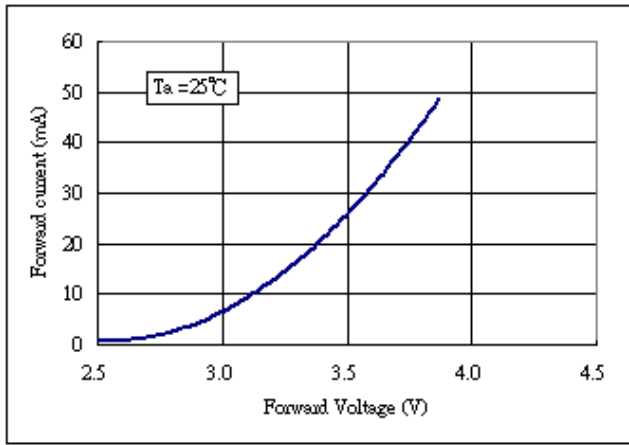


Fig2. Forward Current vs. Relative Intensity:

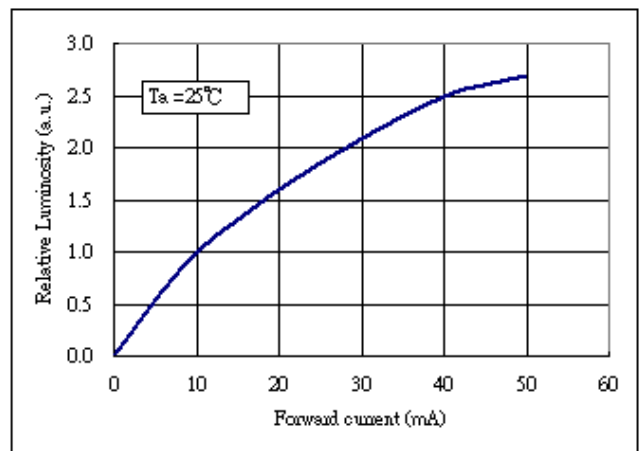


Fig3. Forward Current vs. Relative Wavelength:

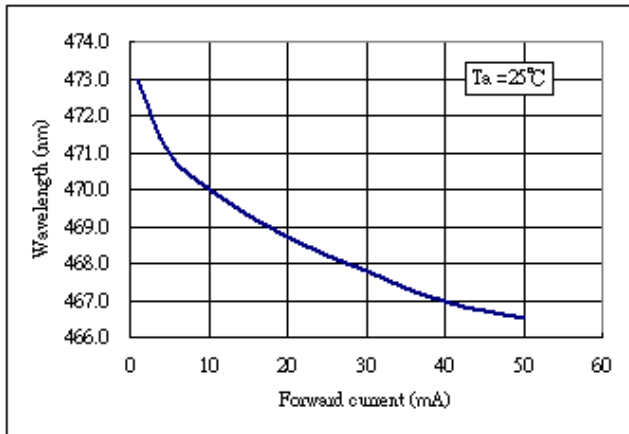
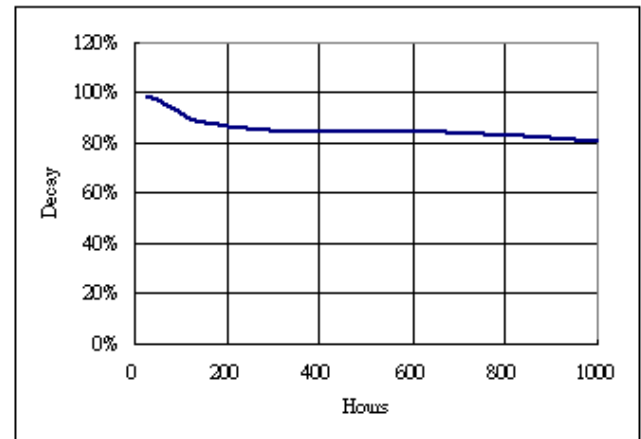


Fig4. Life Test at 20mA R.T. 1000hrs:



## 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 <sub>a</sub> = UNDER ROOM TEMPERATURE I <sub>F</sub> = I <sub>F</sub> max
	HIGH TEMPERATURE HIGH HUMIDITY STORAGE	EVALUATES MOISTURE RESISTANCE OF THE DEVICE WHEN STORED FOR A LONG TERM AT HIGH TEMPERATURE AND HUMIDITY T <sub>a</sub> = 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 <sub>a</sub> = 85±5°C(COB: T <sub>a</sub> =65±5°C) TEST TIME=1000Hrs(-24Hrs, +72Hrs)
	LOW TEMPERATURE STORAGE	EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN LOW TEMPERATURE T <sub>a</sub> = -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 <sub>hot</sub> =65°C, T <sub>cold</sub> =-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 <sub>hot</sub> =65°C, T <sub>cold</sub> =-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:

35pcs / Expandable Polyethylene.

380 pcs / Box(360\*260\*255mm).

760 pcs / Catton(550\*380\*280mm).