

**WCN-21616GU-DC02****SPECIFICATION**

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

**REVISION: A0**

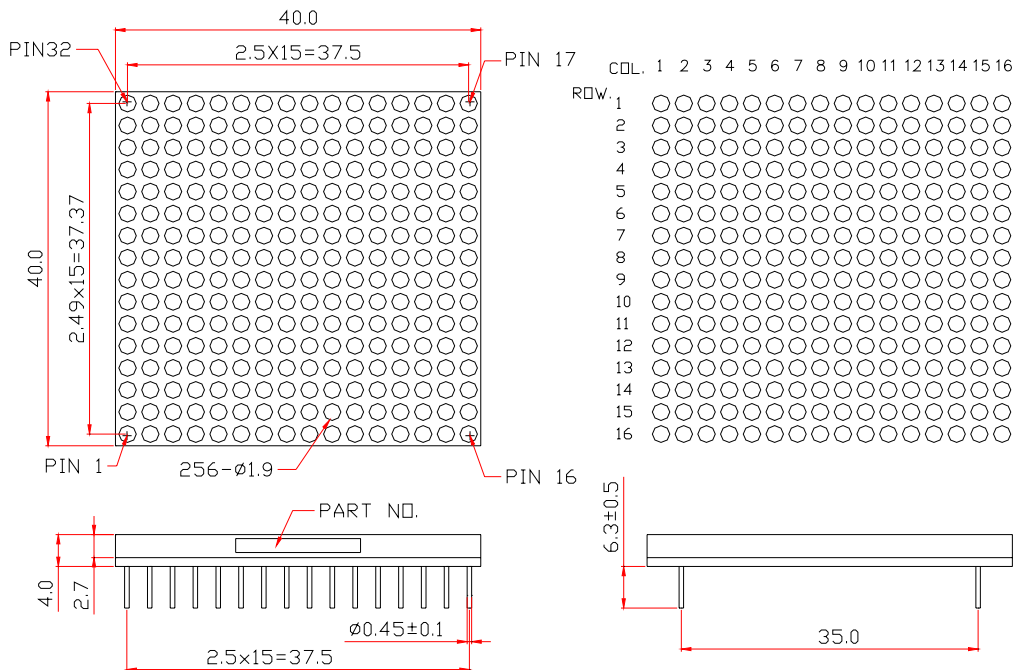
## ■ Features:

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

## ■ Description:

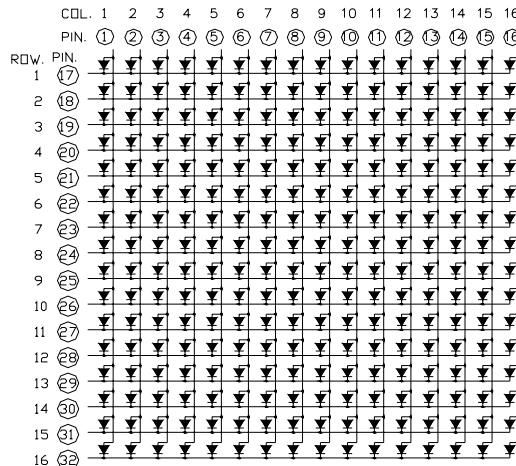
- 16x16 LED Dot Matrix
- $\phi$  1.9 mm Dot and Pitch 2.5 mm
- Black Face and Milky Dots

## ■ 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)	P <sub>d</sub>	—	Yellow Green	65	mW
Maximal Forward Current (When completely Lighting)	I <sub>F</sub>	—	Yellow Green	25	mA
Peak Forward Current	I <sub>FP</sub>	1/8Duty 10khz	Yellow Green	100	mA
Reverse Voltage	V <sub>R</sub>	—	Yellow Green	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 <sub>F</sub>	I <sub>F</sub> =20mA	Per Dice	1.80	2.25	2.60	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	Per Dice	—	—	100	μA
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> =10mA	Per Dice	1.001	2.0	4.0	mcd
Wave Length	λ <sub>P</sub>	I <sub>F</sub> =20mA	Per Dice	—	568	—	nm
	λ <sub>d</sub>				571		
Spectral Line Half Width	△λ	I <sub>F</sub> =20mA	Per Dice	—	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	G	H	I	J	K
Yellow Green ( mcd )	1.001-1.350	1.351-1.75	1.751-2.35	2.351-3.05	3.051-4.0

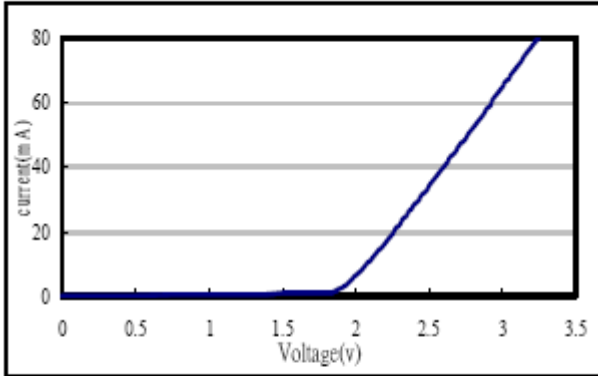
■ Soldering Conditions: Soldering Temp. ≤ +260°C

Soldering Time. ≤ 3sec.

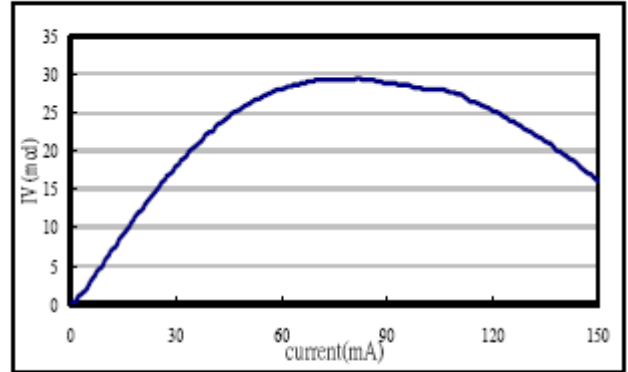
( at 2mm Distance from The Case of Reflector Edge)

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

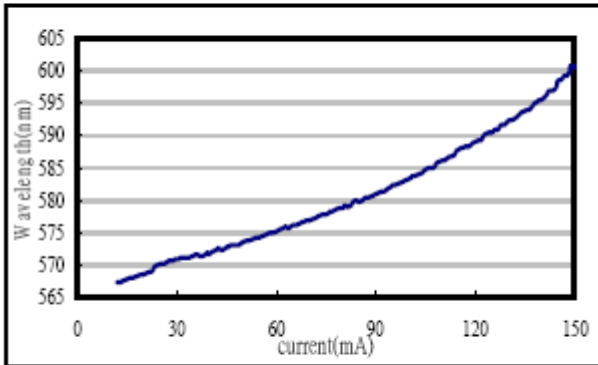
**Fig1. Forward Current vs. Forward Voltage:**



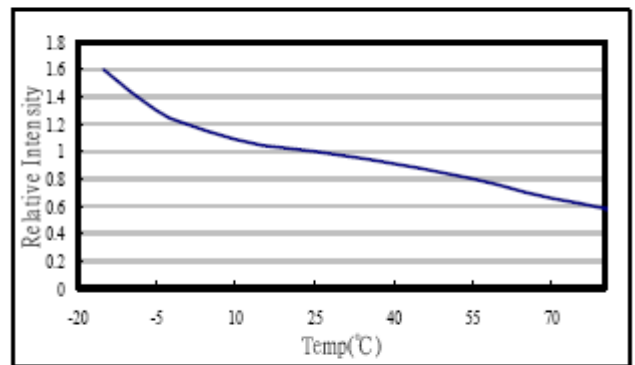
**Fig2. Forward Current vs. Relative Intensity:**



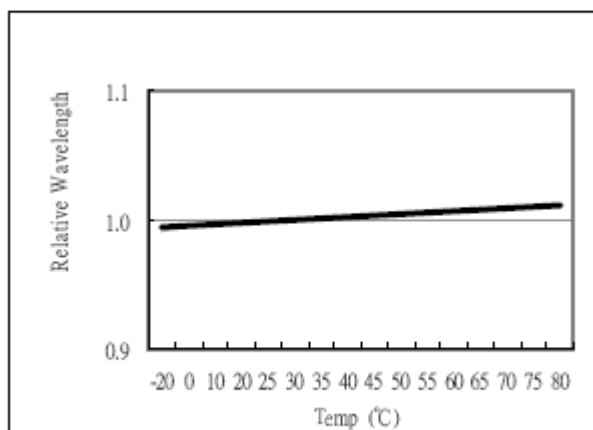
**Fig3. Forward Current vs. Relative Wavelength:**



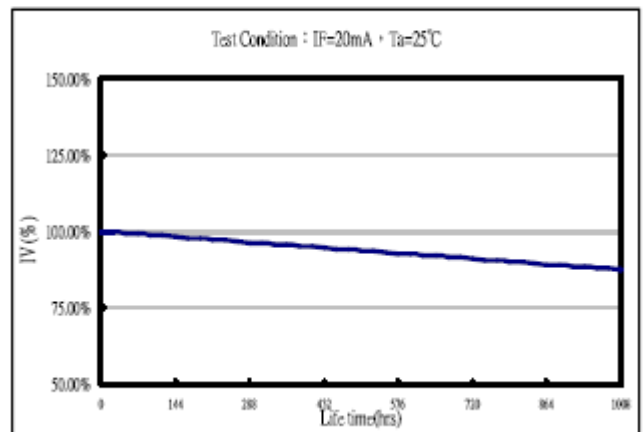
**Fig4. Temperature vs. Relative Intensity:**



**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 <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:

32 pcs / Expandable Polyethylene.

220 pcs / Box(360\*175\*130mm).

1320 pcs / Catton(550\*380\*280mm).