

WCN-21616B7-DC02**SPECIFICATION**

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

**REVISION: A0**

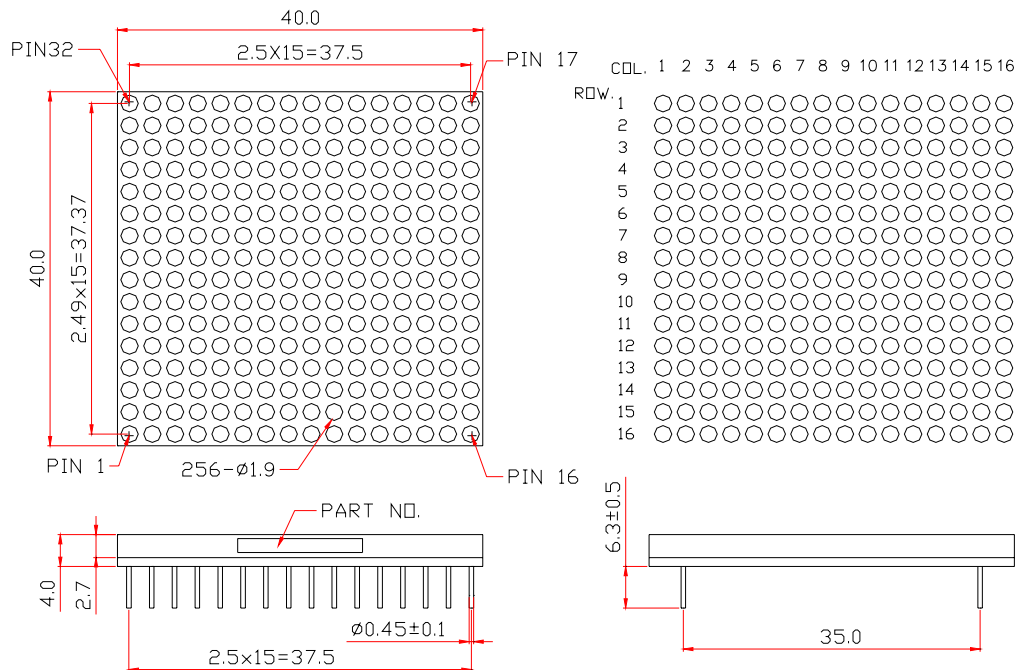
■ Features:

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

■ Description:

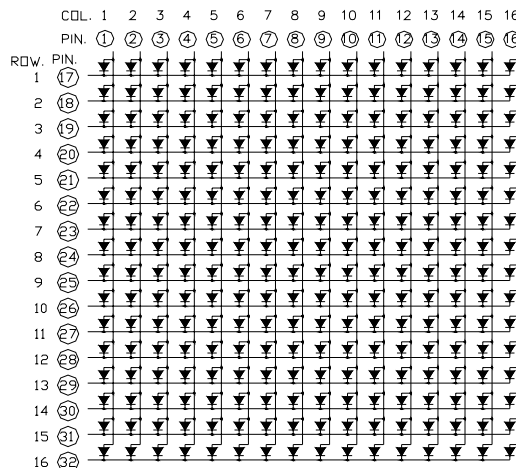
- 16x16 LED Dot Matrix
- ϕ 1.9 mm Dot and Pitch 2.5 mm
- Black Face and Milky Dots

■ 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	—	Blue	90	mW
Maximal Forward Current (When completely Lighting)	I_F	—	Blue	25	mA
Peak Forward Current	I_{FP}	1/8Duty 10khz	Blue	100	mA
Reverse Voltage	V_R	—	Blue	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	2.60	3.2	3.60	V
Reverse Current	I_R	$V_R=5V$	Per Dice	—	—	100	μA
Luminous Intensity	I_V	$I_F=10mA$	Per Dice	6.1	9.5	15.25	mcd
Wave Length	λ_P	$I_F=20mA$	Per Dice	—	465	—	nm
	λ_d				470		
Spectral Line Half Width	$\Delta \lambda$	$I_F=20mA$	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	N	O	P	Q	R
Blue (mcd)	6.101-7.20	7.201-8.50	8.501-10.5	10.501-12.8	12.801-15.250

■ Soldering Conditions: Soldering Temp. $\leq +260^\circ C$

Soldering Time. $\leq 3sec.$

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

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

Fig1. Forward Current vs. Forward Voltage:

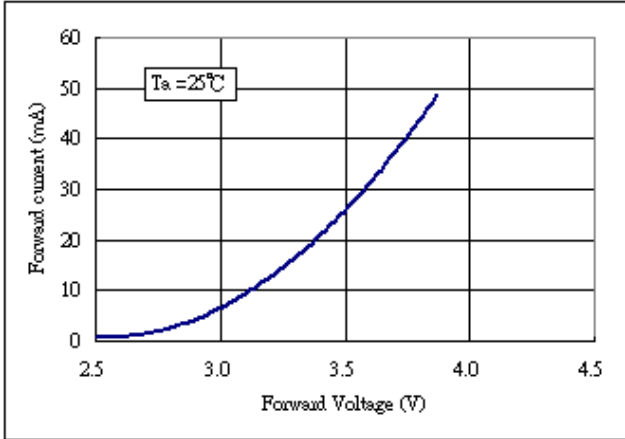


Fig2. Forward Current vs. Relative Intensity:

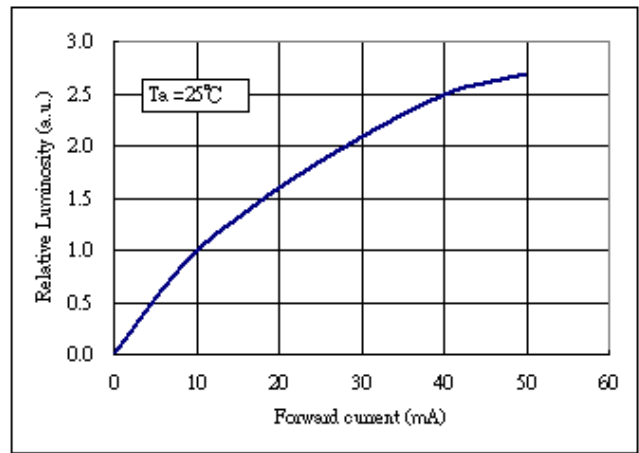


Fig3. Forward Current vs. Relative Wavelength:

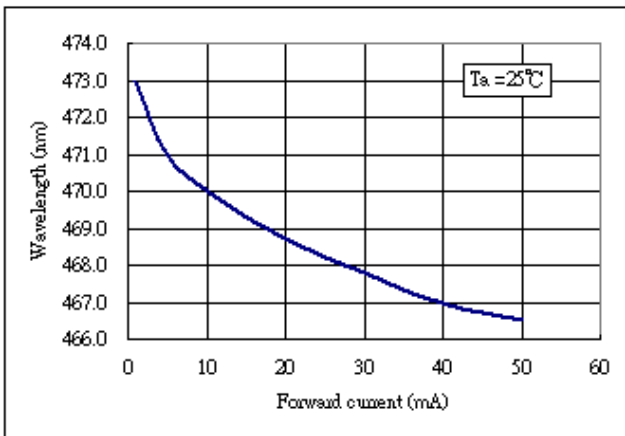
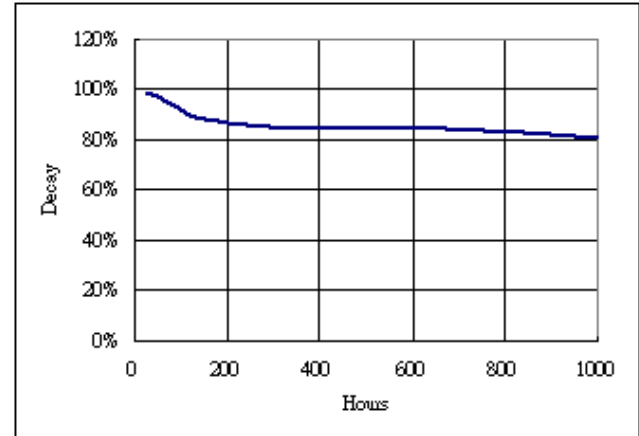


Fig4. Life Test at 20mA R.T. 1000hrs:



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 $T_a =$ UNDER ROOM TEMPERATURE $I_f = I_f \text{ max}$
	HIGH TEMPERATURE HIGH HUMIDITY STORAGE	EVALUATES MOISTURE RESISTANCE OF THE DEVICE WHEN STORED FOR A LONG TERM AT HIGH TEMPERATURE AND HUMIDITY $T_a = 65 \pm 5^\circ\text{C}$ RH=90~95%RH TEST TIME=240 \pm 2Hrs
	HIGH TEMPERATURE STORAGE	EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN HIGH TEMPERATURE $T_a = 85 \pm 5^\circ\text{C}$ (COB: $T_a = 65 \pm 5^\circ\text{C}$) TEST TIME=1000Hrs(-24Hrs, +72Hrs)
	LOW TEMPERATURE STORAGE	EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN LOW TEMPERATURE $T_a = -35 \pm 5^\circ\text{C}$ TEST TIME=1000Hrs(-24Hrs, +72Hrs)
ENVIRONMENTAL TEST	TEMPERATURE CYCLING	EVALUATES RESISTANCE OF DEVICE AT THERMAL STRESSES OR EXPANSION AND CONTRACTION $85^\circ\text{C} \sim 25^\circ\text{C} \sim -35^\circ\text{C} \sim 25^\circ\text{C}$ 30min 5min 30min 5min 10 CYCLES(COB: $T_{\text{hot}}=65^\circ\text{C}$, $T_{\text{cold}}=-25^\circ\text{C}$)
	THERMAL SHOCK	EVALUATES DEVICE STRUCTURE AND STRUCTURE AND MECHANICAL RESISTANCE WHEN SUDDENLY EXPOSED AT SERVE CHANGES $85 \pm 5^\circ\text{C} \sim -35 \pm 5^\circ\text{C}$ 10min 10min 10 CYCLES(COB: $T_{\text{hot}}=65^\circ\text{C}$, $T_{\text{cold}}=-25^\circ\text{C}$)
	SOLDERABILITY	EVALUATES SOLDERABILITY ON LEADS OF DEVICE $T_{\text{SOL}}=230 \pm 5^\circ\text{C}$ DWELL TIME=5 \pm 1sec.
	SOLDER RESISTANCE	EVALUATES RESISTANCE TO THERMAL STRESS CAUSED BY SOLDERING $T_{\text{SOL}}=260 \pm 5^\circ\text{C}$ DWELL TIME=10 \pm 1sec.

Packing method A:

32 pcs / Expandable Polyethylene.

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

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