

**WCN-7B11SR-DA01****SPECIFICATION**

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

**REVISION: A1**

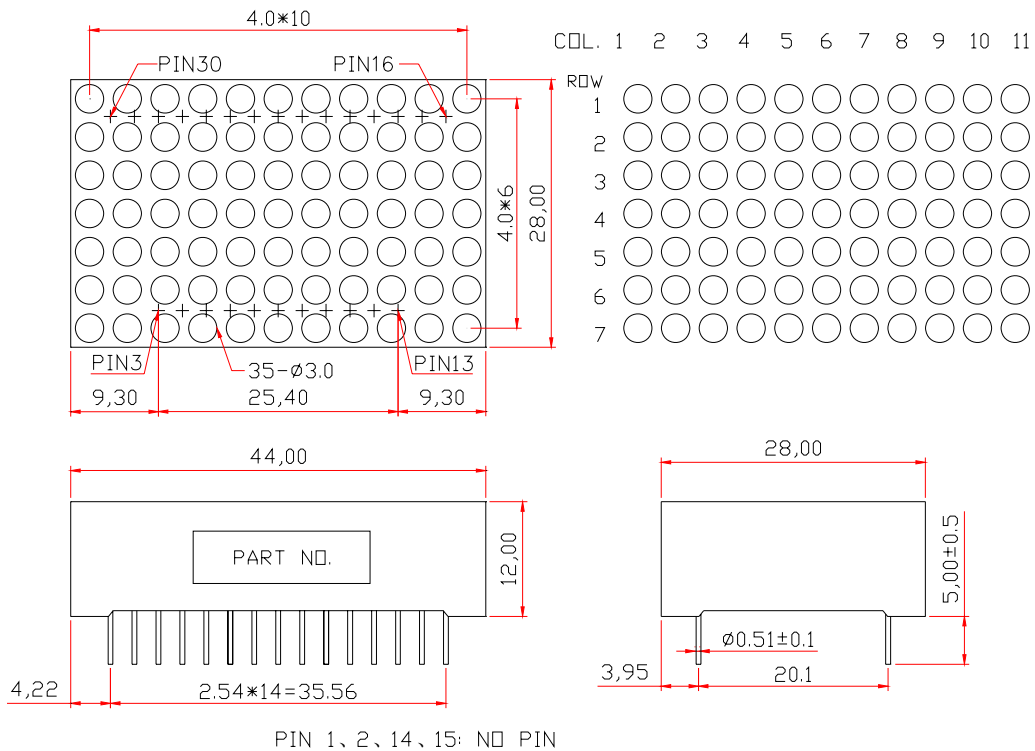
## ■ Features:

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

## ■ Description:

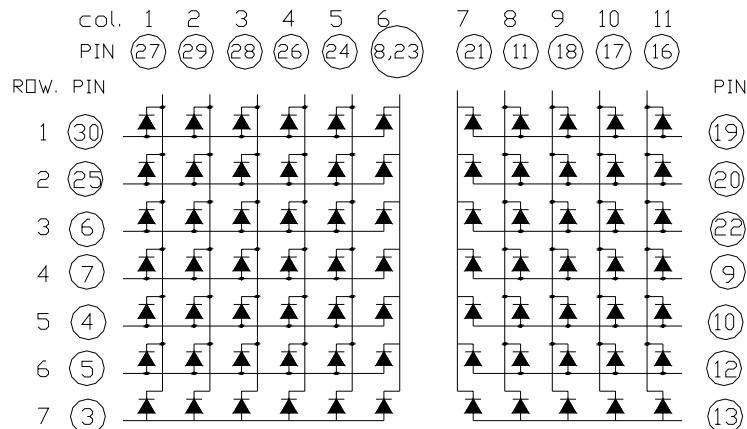
- 7\*11 LED Dot Matrix
- $\phi$  3mm Dot and Pitch 4.0 mm
- Black Face and Milky Dots

## ■ Outer Dimensions:



**Notes :** Unless otherwise stated, The tolerance is  $\pm 0.25$ 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	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	°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	1.80	2.0	2.60	V
Reverse Current	$I_R$	$V_R=5V$	Per Dice	—	—	100	$\mu A$
Luminous Intensity	$I_V$	$I_F=10mA$	Per Dice	4.001	6.8	10.5	mcd
Wave Length	$\lambda_p$	$I_F=20mA$	Per Dice	—	638	—	nm
	$\lambda_d$				633		
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	L	M	N	O	P
Red ( mcd )	4.001-5.0	5.001-6.1	6.101-7.2	7.201-8.50	8.501-10.5

■ 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:

Fig 1. Forward Current vs. Forward Voltage

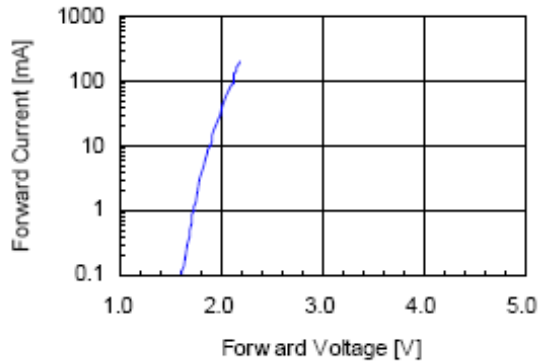


Fig 2. Relative Intensity vs. Forward Current

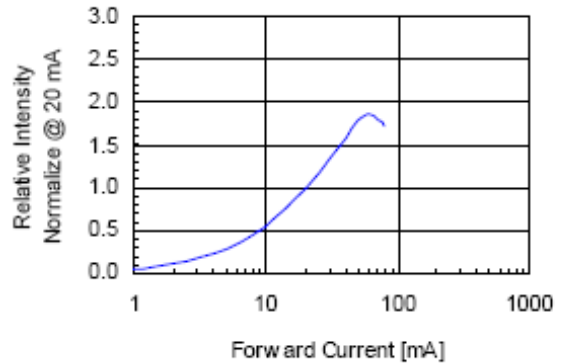


Fig 3. Forward Voltage vs. Temperature

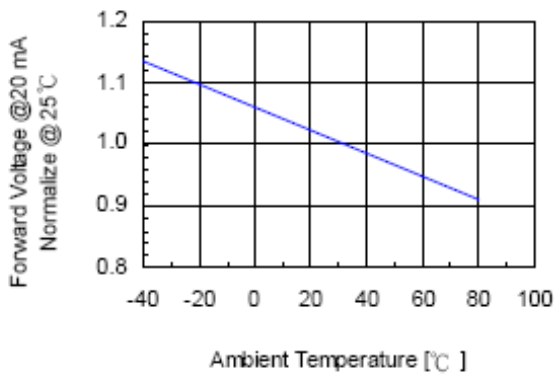
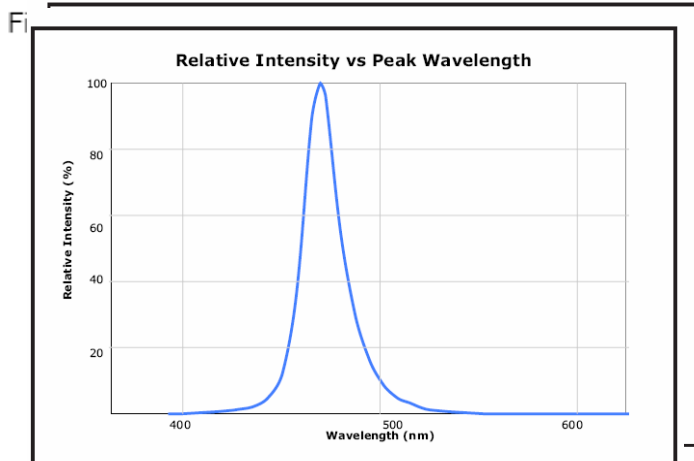
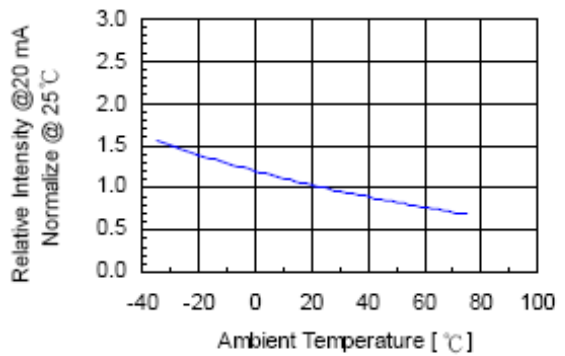


Fig 4. Relative Intensity vs. Temperature



## 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:

56 pcs / Expandable Polyethylene.

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

1120 pcs / Catton(550\*380\*280mm).