



# PRODUCT SPECIFICATION

**Model No : CSM-88111S/88121S**

## Descriptions:

- 1.2 Inch 8X8 Dot-Matrix Display
- Dot Pitch 4.0mm
- CSM-88111: Column Anode, Row Cathode
- CSM-88121: Column Cathode, Row Anode
- Emitting Color: Super Bright Red



CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY

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<b>Spec. No.</b>	PS-ND-08090304
<b>Rev.</b>	A

**Model No : CSM-88111S/88121S**

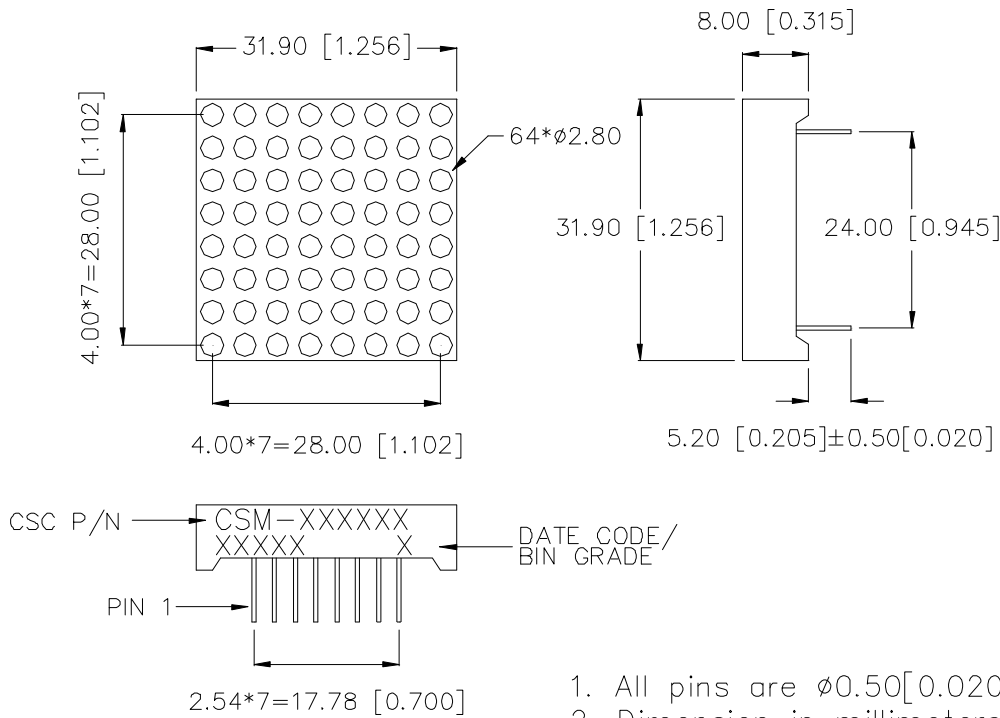
**Features -**

1. 1.2 inch (30.8mm) Matrix height.
2. 8x8 array with X-Y select.
3. RoHS compliant.
4. Low power consumption.
5. Easy mounting on P.C. board or socket.

**Device Selection Guide -**

Part No.	Chip		Description	
	Material	Emitted Color	Column	Row
<b>CSM-88111S</b>	<b>AlGaAs</b>	<b>Super Bright Red</b>	<b>Anode</b>	<b>Cathode</b>
<b>CSM-88121S</b>	<b>AlGaAs</b>	<b>Super Bright Red</b>	<b>Cathode</b>	<b>Anode</b>

**Package Dimensions -**

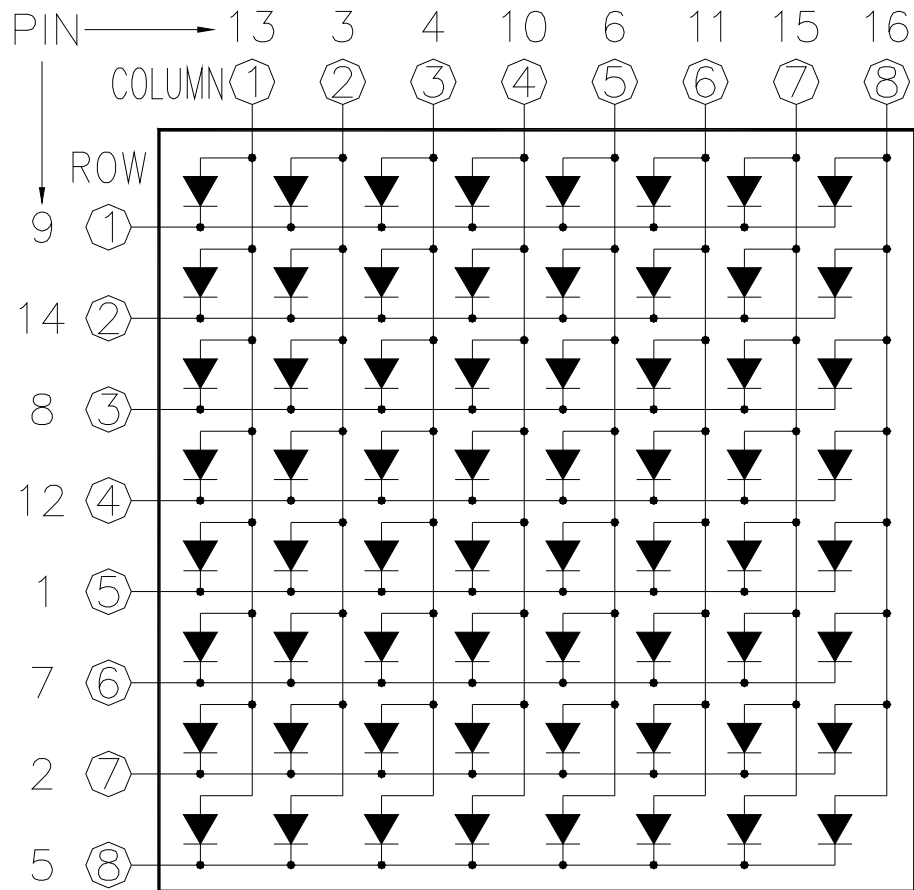


1. All pins are  $\phi 0.50$  [0.020].
2. Dimension in millimeters [inch], tolerance is  $\pm 0.25$  [0.010] unless otherwise noted.



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Internal Circuit Diagrams -



CSM-88111 Column Anode, Row Cathode  
CSM-88121 Column Cathode, Row Anode



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■ Absolute Maximum Rating -

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation Per Dice	PAD	75	mW
Continuous Forward Current Per Dice	IAF	30	mA
Peak Current Per Dice(duty cycle 1/10,1KHz)	IPF	120	mA
Derating Linear From 25°C Per Dice	-	0.42	mA/°C
Reverse Voltage Per Dice	VR	5	V
Operating Temp.	Topr	-35 ~ +85	°C
Storage Temp.	Tstg	-35 ~ +85	°C
Solder temperature 1/16 inch below seating plane for 3 seconds at 260°C			

■ Electro-optical Characteristics -

(Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage Per Dot	VF	-	1.8	2.5	V	IF=20mA
Luminous Intensity Per Dot	Iv	-	5	-	mcd	IF=10mA
Peak Emission Wavelength	$\lambda_p$	-	660	-	nm	IF=20mA
Dominant Wavelength	$\lambda_d$	-	644	-	nm	IF=20mA
Spectrum Radiation Bandwidth	$\Delta \lambda$	-	20	-	nm	IF=20mA
Reverse Current	IR	-	-	100	$\mu A$	VR=5V
Luminous Intensity Matching Ratio	IV-m	-	-	2:1	-	Ip=80mA 1/16Duty

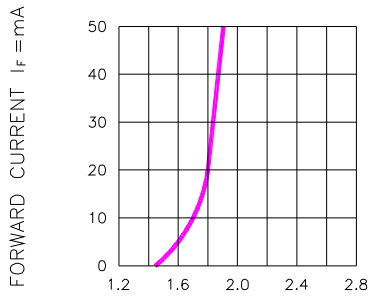


Spec. No.	PS-ND-08090304
Rev.	A

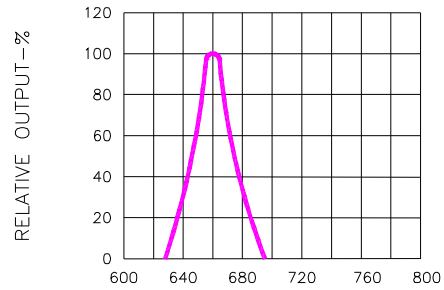
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**Typical Electrical / Optical Characteristics Curves -**

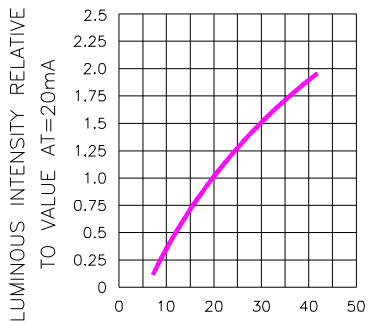
**(Ta = 25°C Unless Otherwise Noted)**



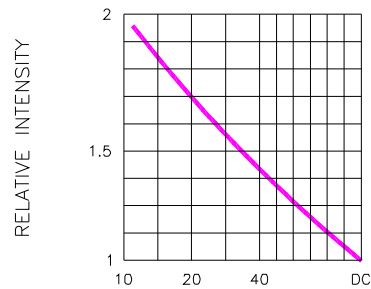
FORWARD VOLTAGE (V<sub>F</sub>) - VOLTS  
Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE



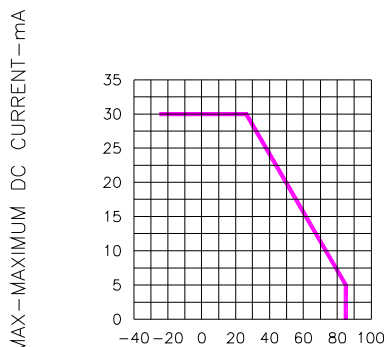
WAVELENGTH (λ) - nm  
Fig.2 SPECTRAL RESPONSE



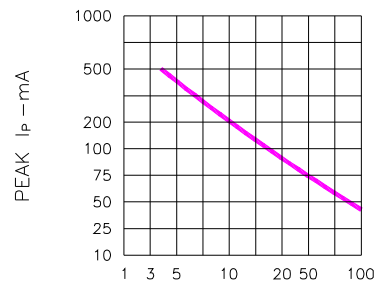
I<sub>F</sub> - FORWARD CURRENT - mA  
Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



DUTY CYCLE % PER SEGMENT (AVERAGE I<sub>F</sub> = 10 mA)  
Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE



T<sub>A</sub> AMBIENT TEMPERATURE °C  
Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE



DUTY CYCLE %  
Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f = 1 KHz)

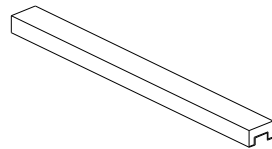


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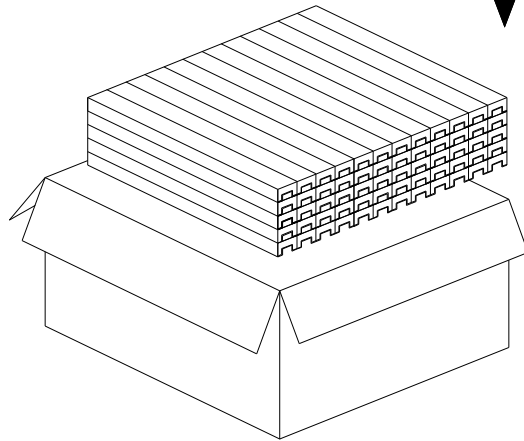
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■ Package Dimensions

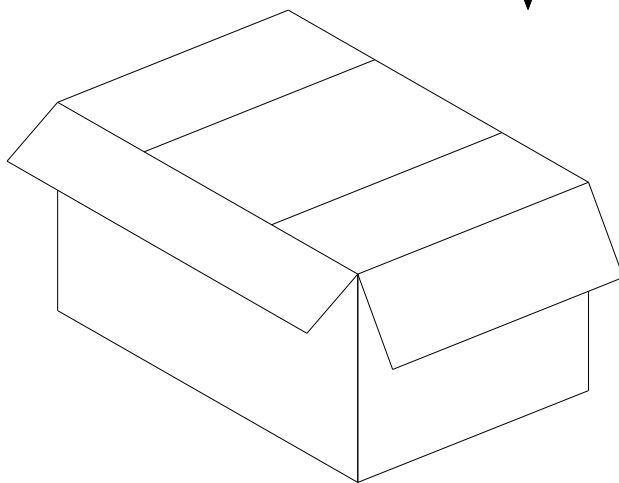
Dot-Matrix Display  
Dice Code  
CSM-88111/88121X



15 Pcs Per Tube



42 Tubes Per Inner Box  
Total Q'TY: 630 Pcs



3 Inner Boxes Per Carton.

Total Q'TY: 1890 Pcs

Carton Size:

L540\*W485\*H305.5 mm

Note: The specifications are subject to change without notice. Please contact us for updated information.