



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

# PRODUCT SPECIFICATION

**Model No: CSM-88138E/88148E**

Descriptions:
<ul style="list-style-type: none"> <li>• 1.85 Inch 8X8 Dot-Matrix Display</li> <li>• Dot Pitch 6.0mm</li> <li>• CSM-88138: Column Anode, Row Cathode</li> <li>• CSM-88148: Column Cathode, Row Anode</li> <li>• Emitting Color: Orange</li> </ul>



CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY

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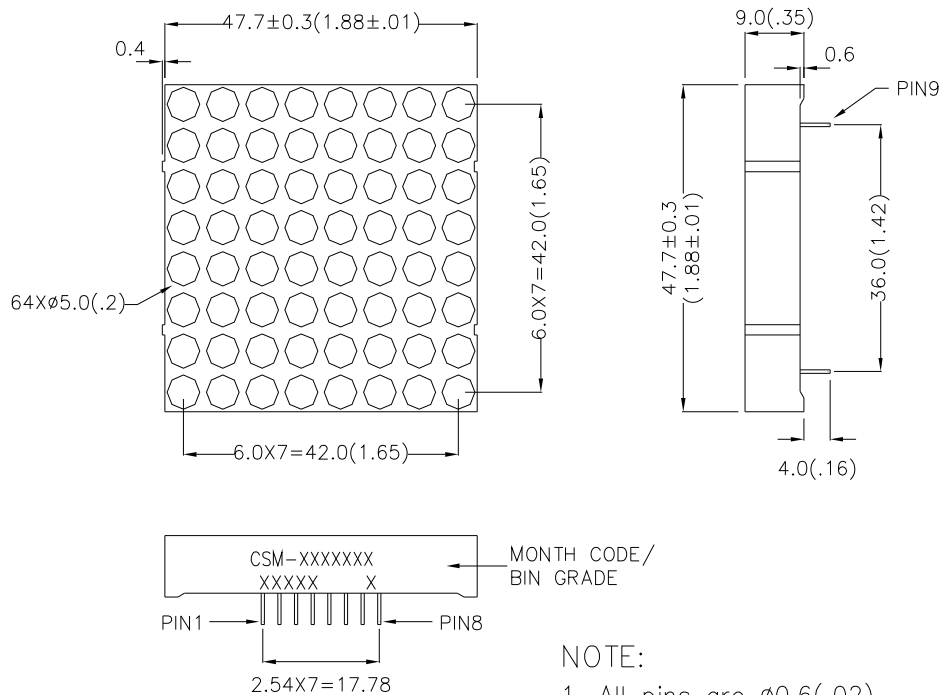
**Features -**

1. 1.85 inch (47.0mm) 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-88138E</b>	<b>GaAsP</b>	<b>Orange</b>	<b>Anode</b>	<b>Cathode</b>
<b>CSM-88148E</b>	<b>GaAsP</b>	<b>Orange</b>	<b>Cathode</b>	<b>Anode</b>

**Package Dimensions -**



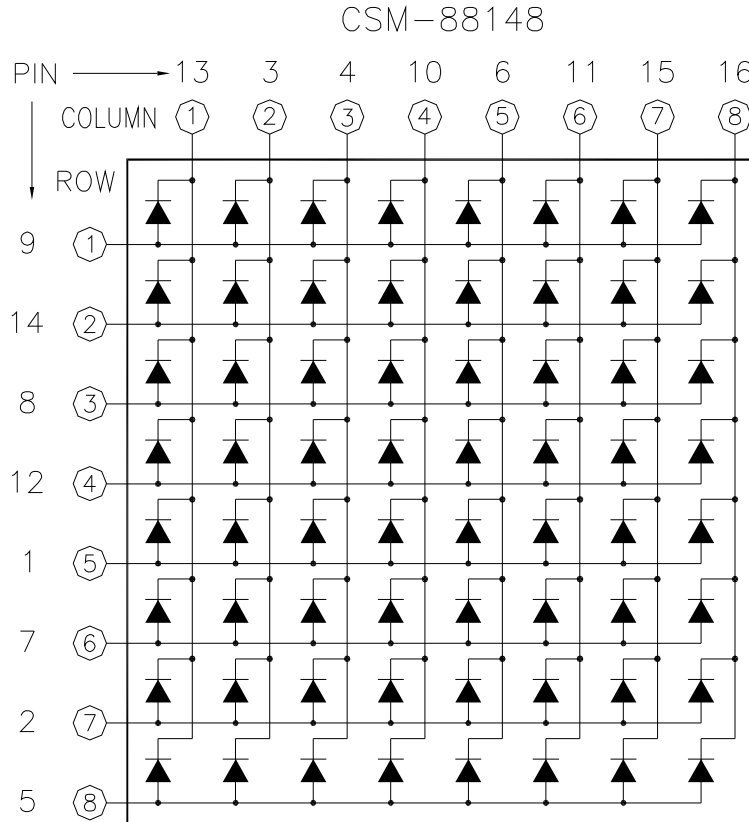
**NOTE:**

1. All pins are  $\phi 0.6(.02)$ .
2. Dimensions in millimeters (inch), tolerance is  $\pm 0.25 (.01)$  unless otherwise noted.



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Internal Circuit Diagrams -



CSM-88138				CSM-88148			
PIN NO.	FUNCTION	PIN NO.	FUNCTION	PIN NO.	FUNCTION	PIN NO.	FUNCTION
1	Cathode Row 5	9	Cathode Row 1	1	Anode Row 5	9	Anode Row 1
2	Cathode Row 7	10	Anode Column 4	2	Anode Row 7	10	Cathode Column 4
3	Anode Column 2	11	Anode Column 6	3	Cathode Column 2	11	Cathode Column 6
4	Anode Column 3	12	Cathode Row 4	4	Cathode Column 3	12	Anode Row 4
5	Cathode Row 8	13	Anode Column 1	5	Anode Row 8	13	Cathode Column 1
6	Anode Column 5	14	Cathode Row 2	6	Cathode Column 5	14	Anode Row 2
7	Cathode Row 6	15	Anode Column 7	7	Anode Row 6	15	Cathode Column 7
8	Cathode Row 3	16	Anode Column 8	8	Anode Row 3	16	Cathode Column 8



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■ Absolute Maximum Rating -

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation Per Dice	<b>P<sub>AD</sub></b>	70	mW
Continuous Forward Current Per Dice	<b>I<sub>AF</sub></b>	25	mA
Peak Current Per Dice(duty cycle 1/10,1KHz)	<b>I<sub>PF</sub></b>	90	mA
Derating Linear From 25°C Per Dice	-	0.33	mA/°C
Reverse Voltage Per Dice	<b>V<sub>R</sub></b>	5	V
Operating Temp.	<b>T<sub>opr</sub></b>	-35 ~ +85	°C
Storage Temp.	<b>T<sub>stg</sub></b>	-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	<b>V<sub>F</sub></b>	-	2.0	2.8	V	I <sub>F</sub> =20mA
Luminous Intensity Per Dot	<b>I<sub>v</sub></b>	-	6	-	mcd	I <sub>F</sub> =10mA
Peak Emission Wavelength	<b>λ<sub>p</sub></b>	-	632	-	nm	I <sub>F</sub> =20mA
Dominant Wavelength	<b>λ<sub>d</sub></b>	-	624	-	nm	I <sub>F</sub> =20mA
Spectrum Radiation Bandwidth	<b>Δλ</b>	-	35	-	nm	I <sub>F</sub> =20mA
Reverse Current	<b>I<sub>R</sub></b>	-	-	100	μA	V <sub>R</sub> =5V
Luminous Intensity Matching Ratio	<b>I<sub>V-m</sub></b>	-	-	2:1	-	I <sub>p</sub> =80mA 1/16Duty



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■ Typical Electrical / Optical Characteristics Curves -

(Ta = 25°C Unless Otherwise Noted)

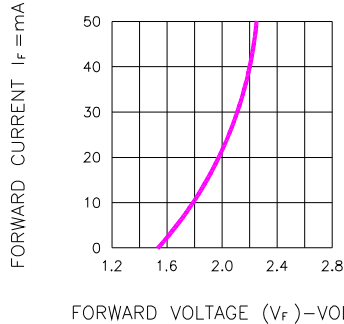


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

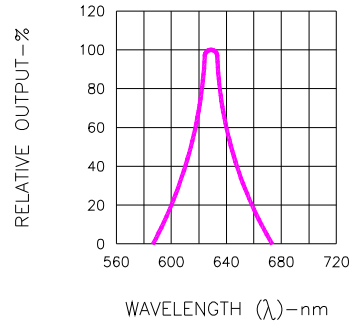


Fig.2 SPECTRAL RESPONSE

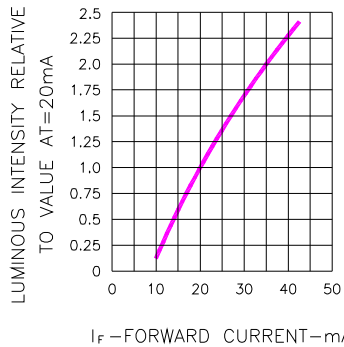


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

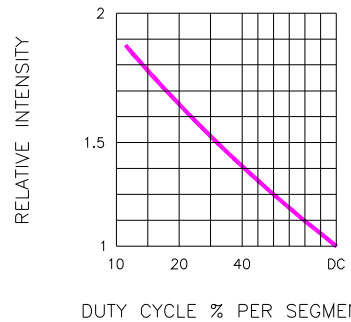


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

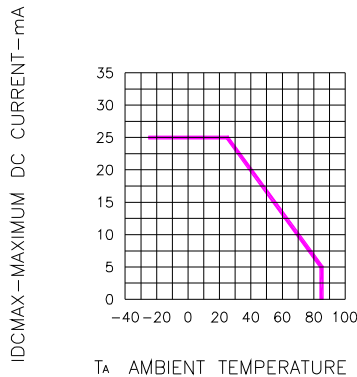


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

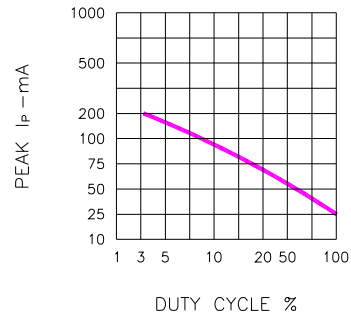


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1 KHz)



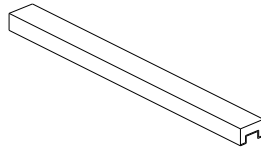


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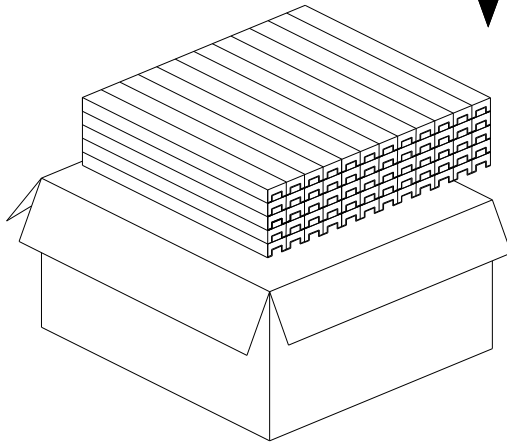
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■ Package Dimensions

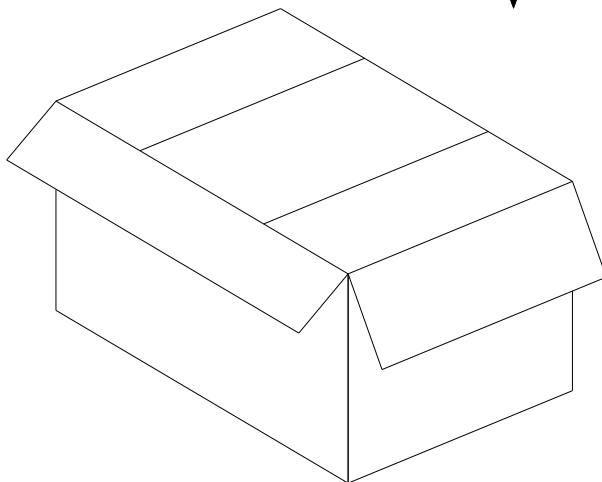
Dot-Matrix Display  
Dice Code  
CSM-88138/88148X



10 Pcs Per Tube



16 Tubes Per Inner Box  
Total Q'TY: 160 Pcs



3 Inner Boxes Per Carton.

Total Q'TY: 480 Pcs

Carton Size:

L540\*W485\*H305.5 mm

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