

# PRODUCT SPECIFICATION

**Model No.: CSDM-88110X CSDM-88111X**

Descriptions:
<ul style="list-style-type: none"> <li>■ 1.2 Inch Dot-Matrix Display</li> <li>■ 8*8 Array with X-Y Select</li> <li>■ CSDM-88110 is Common Column Cathode</li> <li>■ CSDM-88111 is Common Column Anode</li> <li>■ Emitting Color: Pure Green; Yellow Green; Yellow; Amber; Orange; Red; Deep Red</li> <li>■ Standard: -11: Gray face, white Dot. -21: Black face, white Dot.</li> </ul>



CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY

**OPTO PLUS TECHNOLOGIES CO.,LTD**  
 Address:No.696,Yangming North Rd,  
 ShaoXing City,ZheJiang Province, P.R.China.  
 Tel :86-575-88623888  
 Fax:86-575-88623112

**Model No.: CSDM-88110X CSDM-88111X**

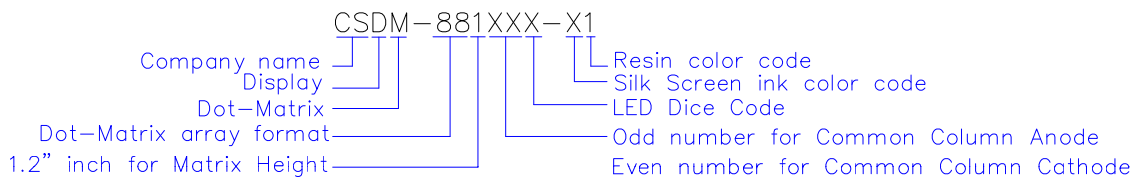
**■ Features -**

1. 1.2 inch (31.0mm) Matrix height.
2. Case mold type.
3. RoHS compliant.
4. Low power consumption.
5. Easy mounting on P.C. board or socket.

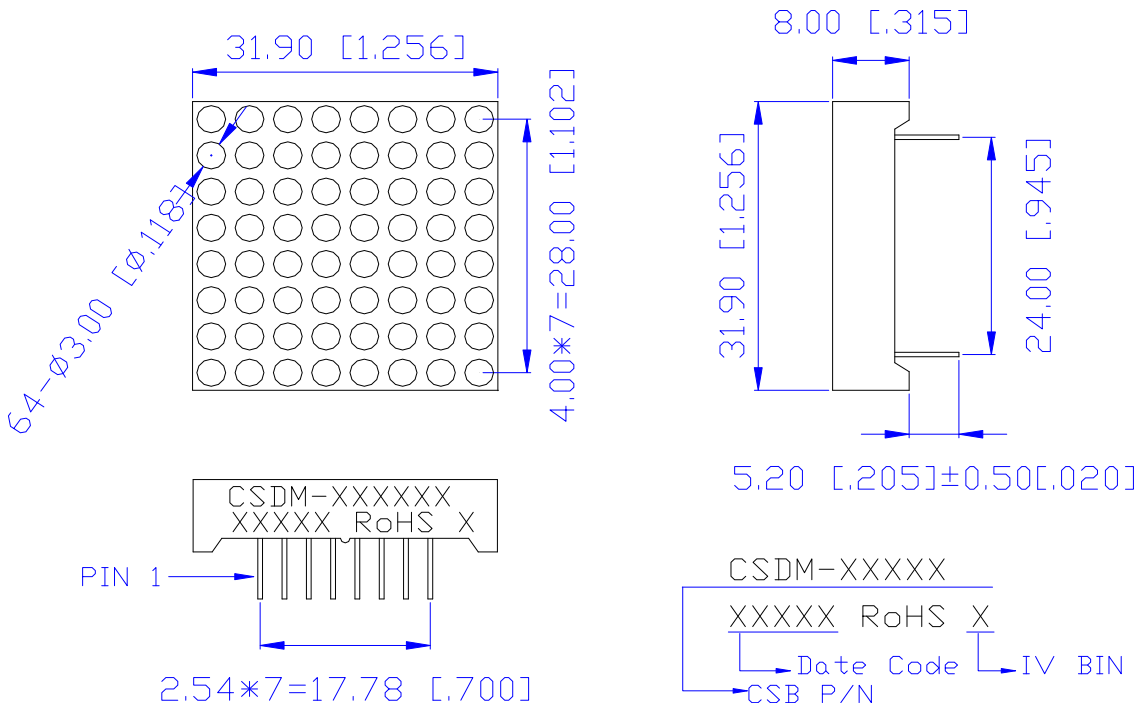
**■ Device Selection Guide -**

Model No.	Chip	
	Material	Emitting Color
CSDM-8811x2	AlGaInP	Pure Green
CSDM-8811xM		Yellow Green
CSDM-8811xT		Yellow
CSDM-8811xA		Amber
CSDM-8811xV		Orange
CSDM-8811xL		Red
CSDM-8811xU		Deep Red

**■ LED Numeric/Alphanumeric Display**



**■ Mechanical Dimensions -**

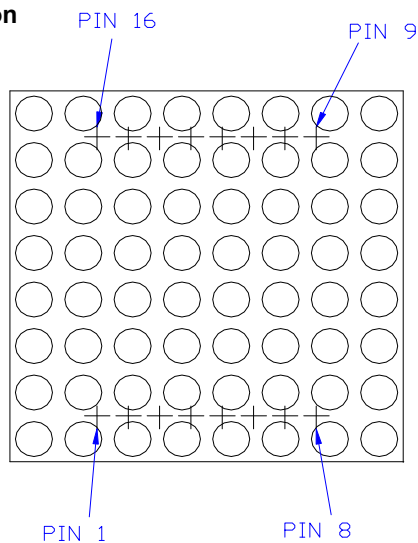


**Notes:**

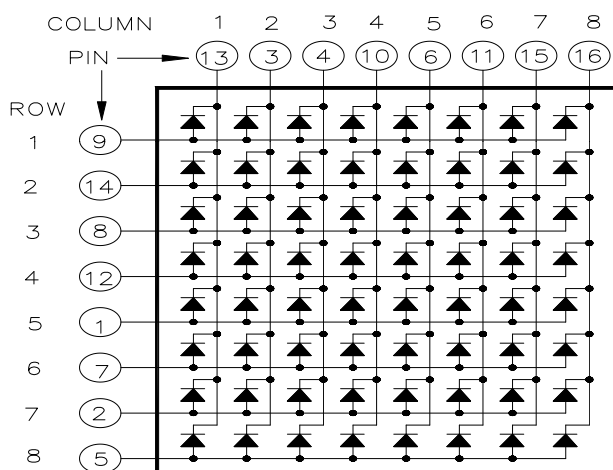
1. All pins are  $\phi 0.50 [0.020] \pm 0.1 [0.004]$
2. Dimension in millimeter [inch], tolerance is  $\pm 0.25 [0.010]$  and angle is  $\pm 1^\circ$  unless otherwise noted.
3. Bending  $\leq$  Length\*1%.

**Model No.: CSDM-88110X CSDM-88111X**

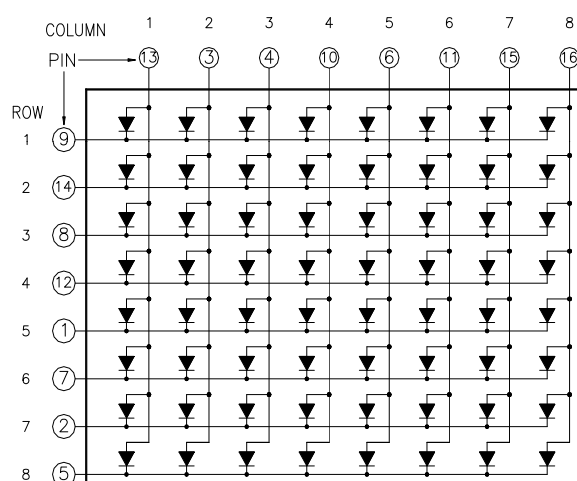
**■ All Light On Segments Feature & Pin Position**



**■ Internal Circuit Diagrams -**



CSDM-88110 is Common Column Cathode



CSDM-88111 is Common Column Anode

Model No.: CSDM-88110X CSDM-88111X

■ Absolute Maximum Rating -

(Ta=25°C)

Parameter	Symbol	Rating		Unit
		M/T/A/V/L/U	2	
Power Dissipation Per Dice	P <sub>AD</sub>	70	114	mW
Derating Liner from 25°C per Dice	-	0.33	0.4	mA/°C
Continuous Forward Current Per Dice	I <sub>AF</sub>	25	30	mA
Peak Current Per Dice(duty cycle 1/10,1KHz)	I <sub>PF</sub>	90	100	mA
Reverse Voltage Per Dice	VR	5	5	V
Electrostatic discharge(HBM)	ESD	/	1000	V
Operating Temp.	T <sub>opr</sub>	-35 ~ +85		°C
Storage Temp.	T <sub>stg</sub>	-35 ~ +85		°C
Hand Soldering Temp.	T <sub>sol</sub>	350		°C

■ Electro-optical Characteristics -

(Ta=25°C)

Parameter	Symbol	Chip	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity Per Segment	I <sub>v</sub>	2	-	357	-	mcd	IF=10mA
		M	-	23	-		
		T	-	80	-		
		A	-	92	-		
		V	-	55	-		
		L	-	53	-		
		U	-	27	-		
Forward Voltage Per Segment	VF	2	-	3.2	3.8	V	IF=20mA
		M/T/A/V/L/U	-	2	2.8		
Peak Emission Wavelength / Dominant Wavelength	λ <sub>P</sub> /λ <sub>d</sub>	2	-	*525	-	nm	IF=20mA
		M	-	572/570	-		
		T	-	592/590	-		
		A	-	612/605	-		
		V	-	632/625	-		
		L	-	644/630	-		
		U	-	660/645	-		
Reverse Current	I <sub>R</sub>		-	-	100	μA	VR=5V
Luminous Intensity Matching Ratio	IV-m		-	-	2:1	-	*1

Notes: \*1 Condition is I<sub>p</sub>=80mA 1/16Duty

■ Electrical / Optical Characteristics Curves -

(Ta = 25°C Unless Otherwise Noted)

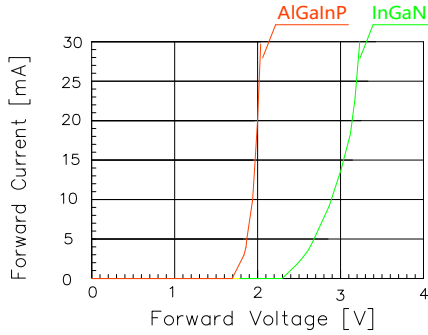


Fig 1. Forward Current vs. Forward Voltage

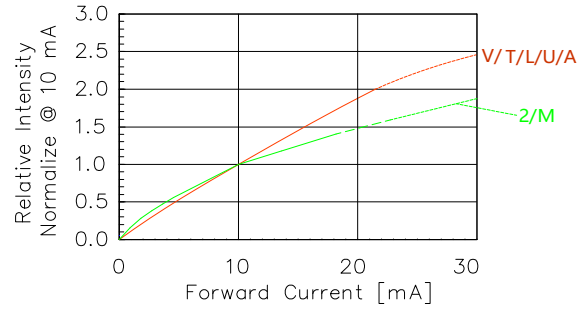


Fig 2. Relative Intensity vs. Forward Current

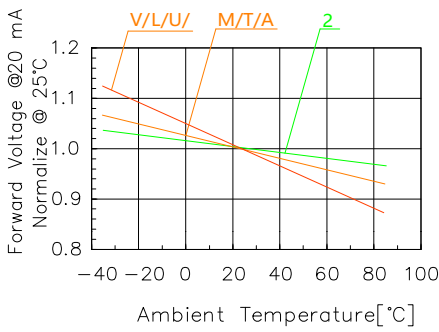


Fig 3. Forward Voltage vs. Temperature

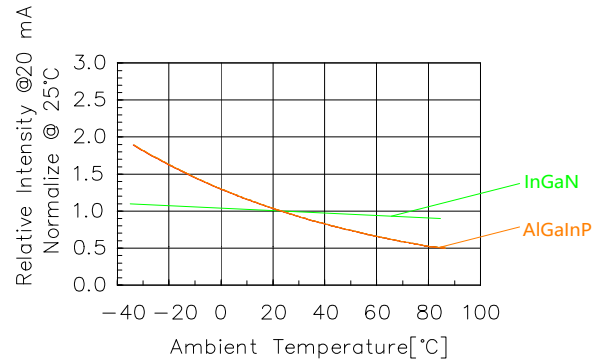


Fig 4. Relative Intensity vs. Temperature

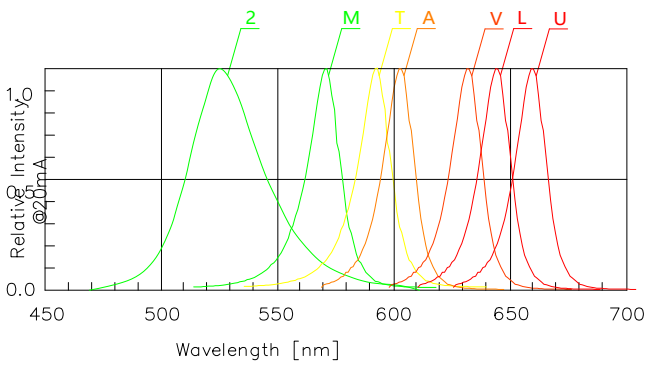


Fig 5. Relative Intensity vs. Wavelength

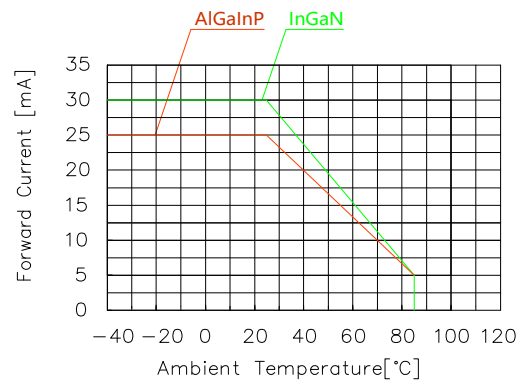


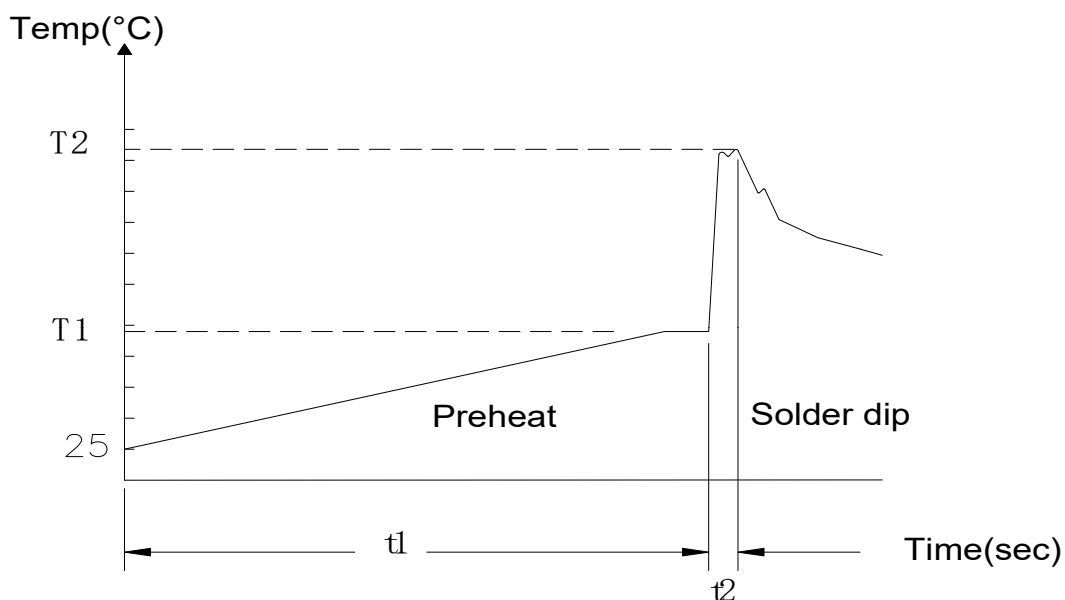
Fig 6. Forward current vs. Temperature

**■ Precautions For Use -**

**1.Wave Soldering Profile**

Distance:1.6mm min(From seating plane)

Item	Condition		Note
Preheat	Temperature T1	80 – 120°C	PWB temperature (Soldering side surface)
	Time t1	60 – 180sec	
Solder Dip	Temperature T2	230 – 260°C	Bath temperature
	Time t2	2 – 4sec	Solder tank passage time



**2.Hand Soldering (Iron Condition)**

Soldering Iron:30W Max

Temperature 350°C Max

Soldering Time:3 Seconds Max(One Time)

Distance:1.6mm min(From seating plane)