



# PRODUCT SPECIFICATION

**Model No : CSM-58271VM9/58281VM9**

## Descriptions:

- 2.3 Inch 5X8 Dot-Matrix Display
- Dot Pitch 7.62mm
- CSM-58271: Column Anode, Row Cathode
- CSM-58281: Column Cathode, Row Anode
- Emitting Color: Super Bright Orange & Super Bright Green



CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY

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Spec. No.	PS-ND-08090409
Rev.	A

**Model No : CSM-58271/58281VM9**

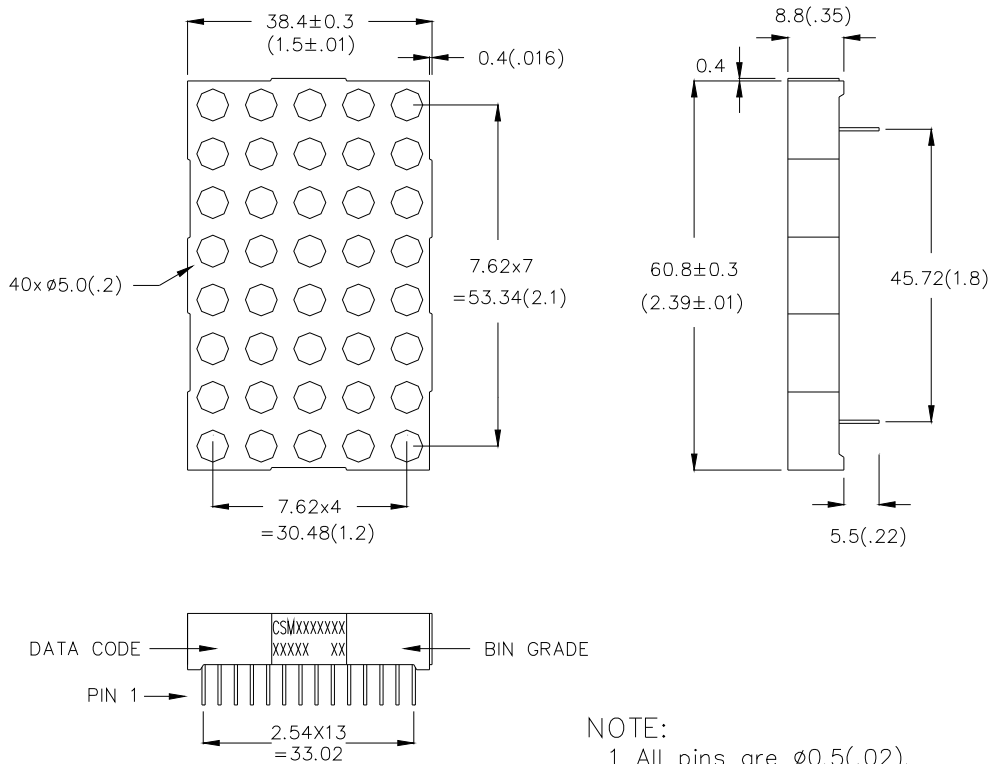
**Features -**

1. 2.3 inch (58.0mm) 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 -**

Part No.	Chip		Description	
	Material	Emitted Color	Column	Row
CSM-58271VM9	GaAsP	Orange	Anode	Cathode
	GaP	Yellow Green		
CSM-58281VM9	GaAsP	Orange	Cathode	Anode
	GaP	Yellow Green		

**Package Dimensions -**



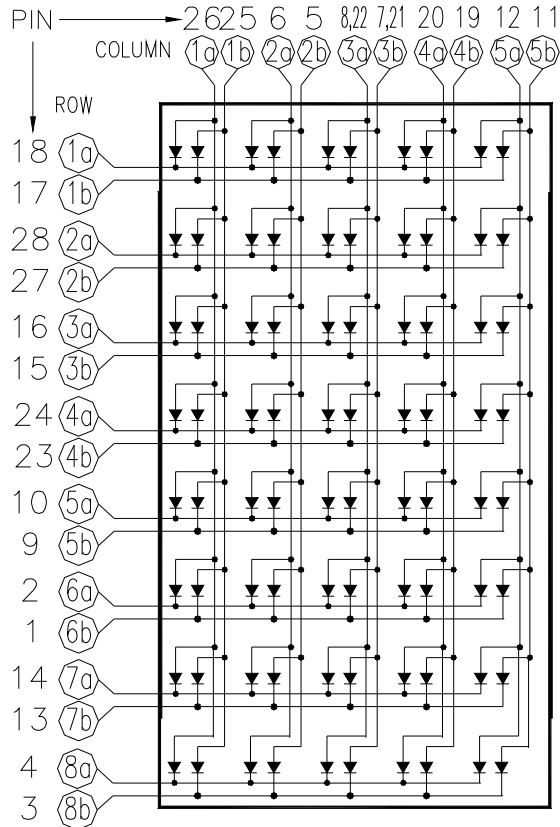
**NOTE:**

- 1 All pins are  $\phi 0.5(.02)$ .
- 2 Dimension in millimeters (inch), tolerance is  $\pm 0.25 (.01)$  unless otherwise noted.



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Internal Circuit Diagrams -



NOTE: "a" for Super Bright Orange color chip.  
"b" for Super Bright Green color chip

CSM-58271. Row Cathode, Column Anode.  
(CSM-58281. Row Anode, Column Cathode.)

Absolute Maximum Rating -

Super Bright Orange		(Ta=25°C)	
Parameter	Symbol	Rating	Unit
Power Dissipation Per Dice	Pd	70	mW
Continuous Forward Current Per Dice	IAF	25	mA
Peak Current Per Dice(duty cycle 1/10, 1kHz)	IPF	90	mA
Derating Linear From 25°C Per Dice	-	0.33	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			



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Super Bright Green		(Ta=25°C)	
Parameter	Symbol	Rating	Unit
Power Dissipation Per Dice	<b>Pd</b>	70	mW
Continuous Forward Current Per Dice	<b>IAF</b>	25	mA
Peak Current Per Dice(duty cycle 1/10, 1kHz)	<b>IPF</b>	90	mA
Derating Linear From 25°C Per Dice	-	0.33	mA/°C
Reverse Voltage Per Dice	<b>VR</b>	5	V
Operating Temp.	<b>Topr</b>	-35 ~ +85	°C
Storage Temp.	<b>Tstg</b>	-35 ~ +85	°C
Solder temperature 1/16 inch below seating plane for 3 seconds at 260°C			

■ Electro-optical Characteristics -

Super Bright Orange		(Ta=25°C)				
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage Per Segment	<b>VF</b>	-	2.0	2.8	V	IF=20mA
Luminous Intensity Per Segment	<b>Iv</b>	-	40	-	mcd	IF=10mA
Peak Emission Wavelength	$\lambda_p$	-	632	-	nm	IF=20mA
Dominant Wavelength	$\lambda_d$	-	624	-	nm	IF=20mA
Spectrum Radiation Bandwidth	$\Delta \lambda$	-	20	-	nm	IF=20mA
Reverse Current	<b>IR</b>	-	-	100	$\mu A$	VR=5V
Luminous Intensity Matching Ratio	<b>IV-m</b>	-	-	2:1	-	IF=10mA

Super Bright Green		(Ta=25°C)				
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage Per Segment	<b>VF</b>	-	2.1	2.8	V	IF=20mA
Luminous Intensity Per Segment	<b>Iv</b>	-	18	-	mcd	IF=10mA
Peak Emission Wavelength	$\lambda_p$	-	572	-	nm	IF=20mA
Dominant Wavelength	$\lambda_d$	-	570	-	nm	IF=20mA
Spectrum Radiation Bandwidth	$\Delta \lambda$	-	20	-	nm	IF=20mA
Reverse Current	<b>IR</b>	-	-	100	$\mu A$	VR=5V
Luminous Intensity Matching Ratio	<b>IV-m</b>	-	-	2:1	-	IF=10mA



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### ■ Typical Electrical / Optical Characteristics Curves -Super Bright Orange

(Ta = 25°C Unless Otherwise Noted)

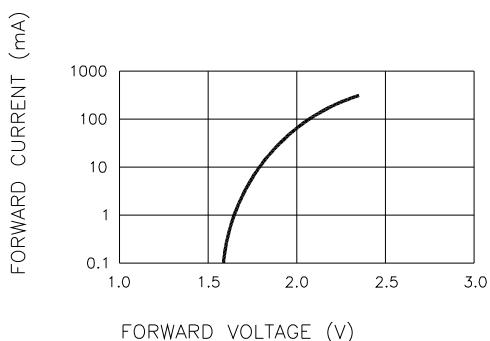


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

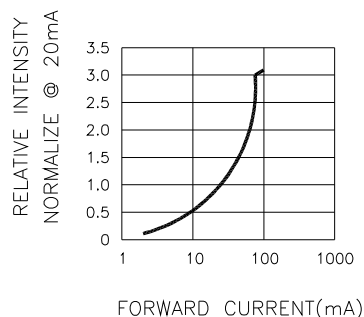


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

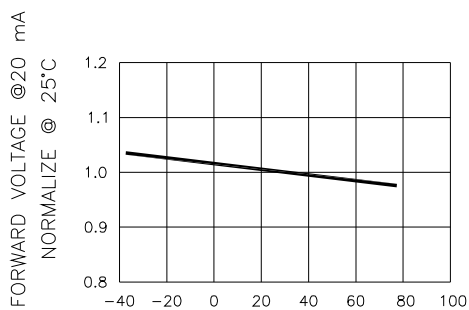


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

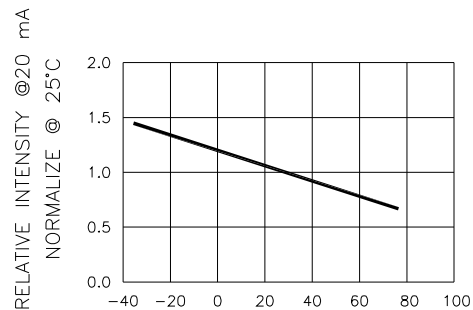


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

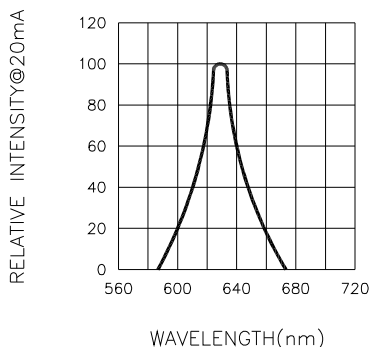


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH



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■ Super Bright Green

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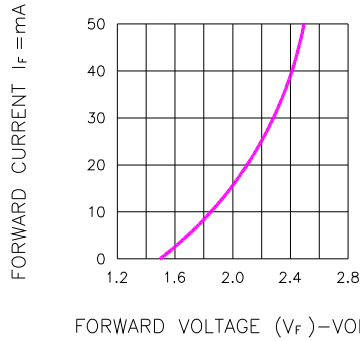


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

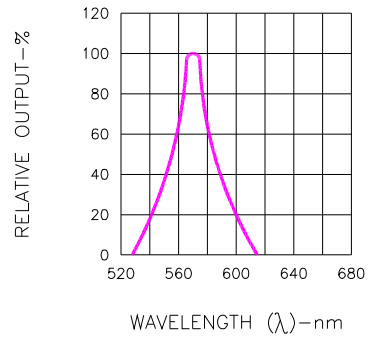


Fig.2 SPECTRAL RESPONSE

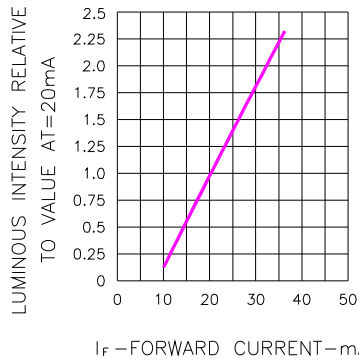


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

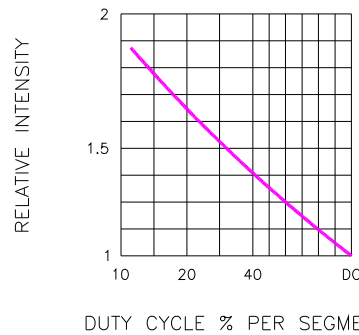


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

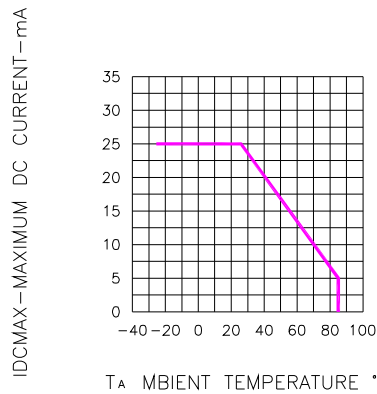


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

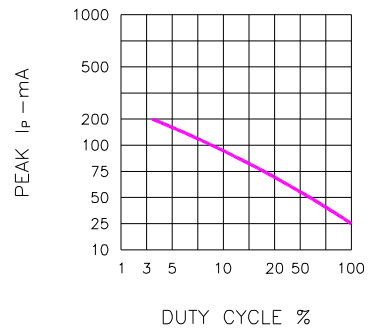


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1 KHz)