



Spec. No.	PS-ND-08090401
Rev.	A

# PRODUCT SPECIFICATION

**Model No: CSM-58161EG**

Descriptions:
<ul style="list-style-type: none"> <li>1.4 Inch 5X8 Dot-Matrix Display</li> <li>Dot Pitch 4.7mm</li> <li>CSM-58161: Column Cathode, Row Anode</li> <li>Emitting Color: Orange &amp; Yellow Green</li> </ul>



CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY

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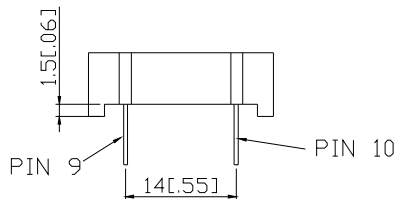
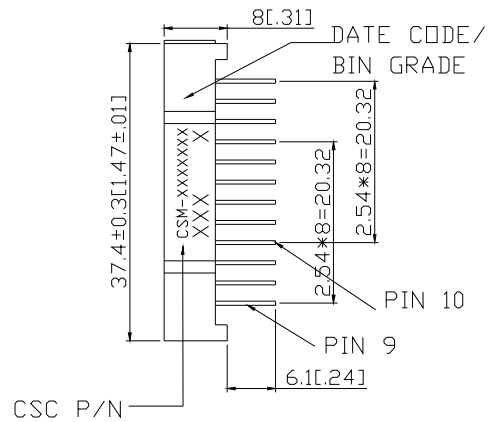
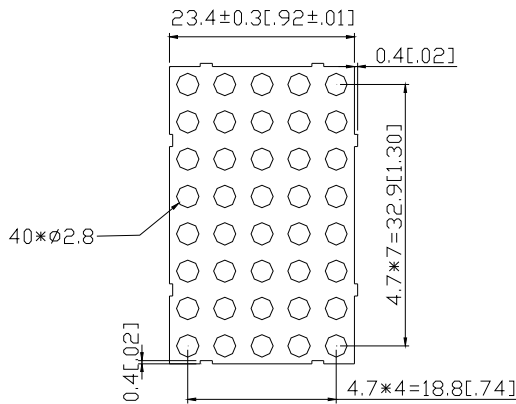
**Features -**

1. 1.4 inch (35.7mm) 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		Column	Row
	Material	Emitted Color		
CSM-58161EG	GaAsP	Orange	Cathode	Anode
	GaP	Yellow Green		

**Package Dimensions -**



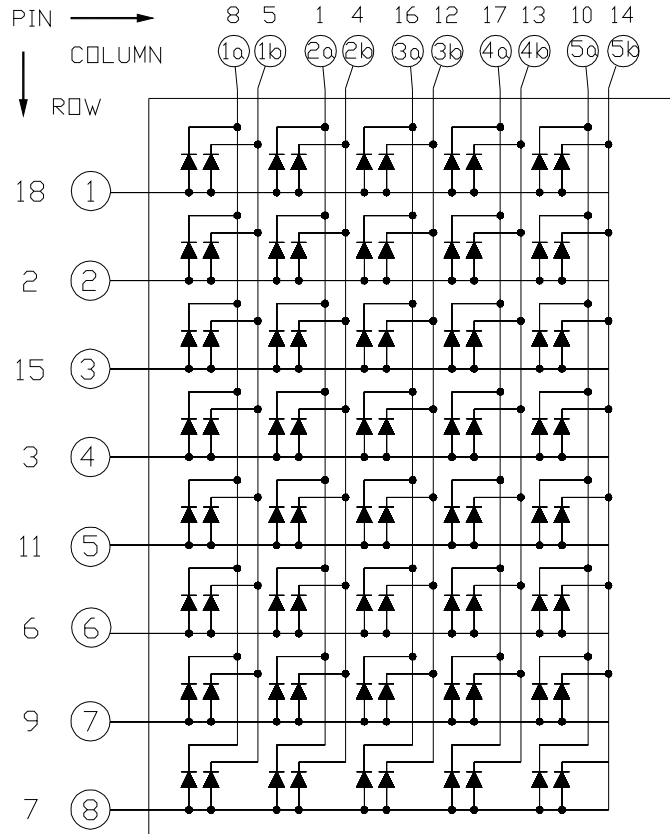
**NOTE:**

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



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Internal Circuit Diagrams -



NOTE: "a" for Orange color chip  
"b" for Yellow Green color chip

Absolute Maximum Rating -

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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Yellow 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 -

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>	-	4	-	mcd	IF=10mA
Peak Emission Wavelength	$\lambda_p$	-	632	-	nm	IF=20mA
Dominant Wavelength	$\lambda_d$	-	624	-	nm	IF=20mA
Spectrum Radiation Bandwidth	$\Delta \lambda$	-	35	-	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

Yellow 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>	-	4	-	mcd	IF=20mA
Peak Emission Wavelength	$\lambda_p$	-	568	-	nm	IF=20mA
Dominant Wavelength	$\lambda_d$	-	572	-	nm	IF=20mA
Spectrum Radiation Bandwidth	$\Delta \lambda$	-	30	-	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 -Orange

(Ta = 25°C Unless Otherwise Noted)

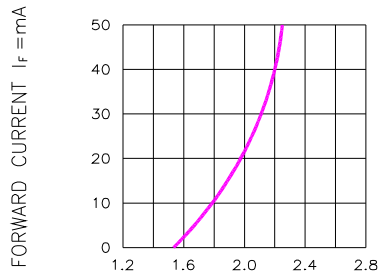


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

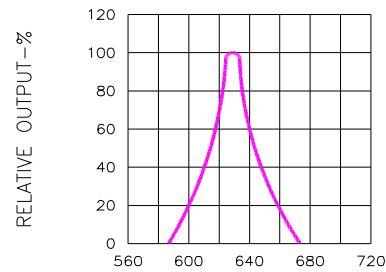


Fig.2 SPECTRAL RESPONSE

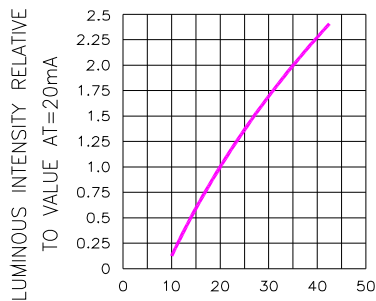


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

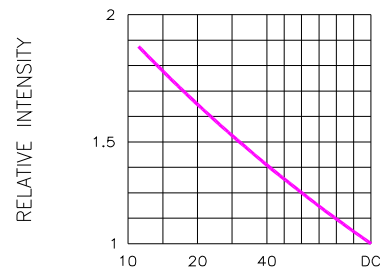


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

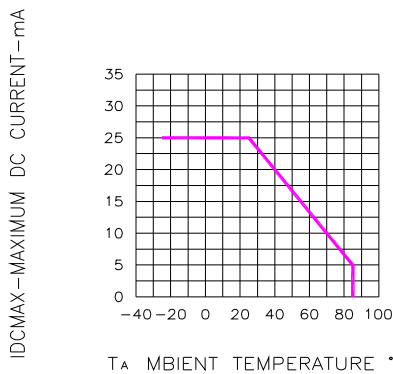


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

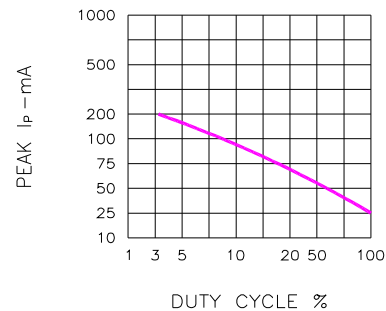


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1 KHz)



Model No: CSM-58161EG

Yellow Green

( $T_a = 25^\circ\text{C}$  Unless Otherwise Noted)

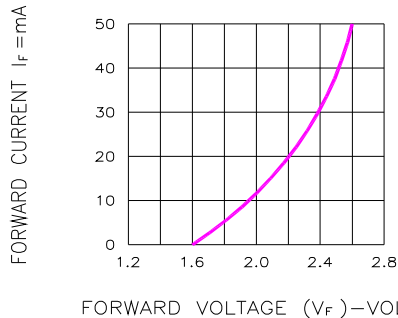


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

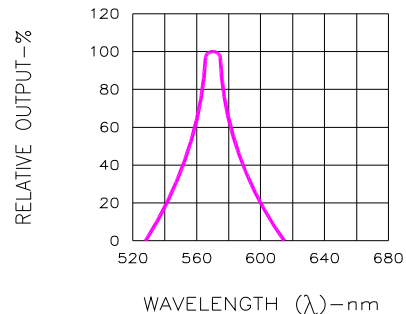


Fig.2 SPECTRAL RESPONSE

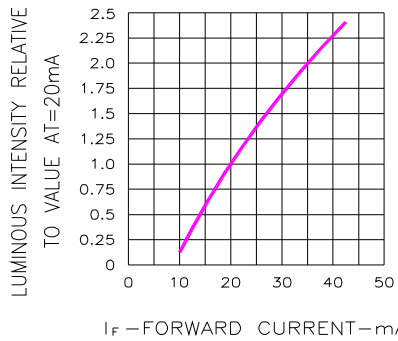


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

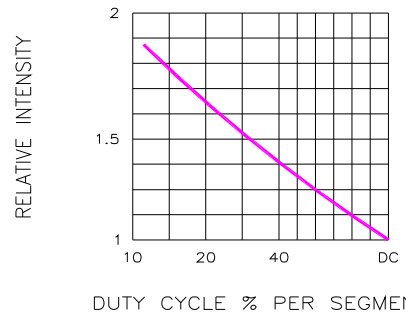


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

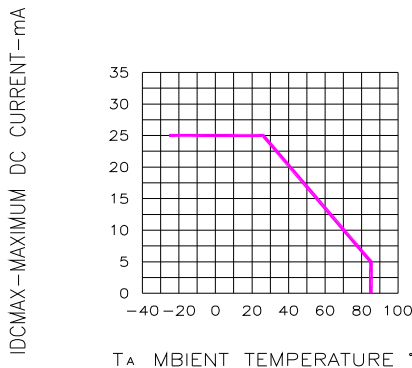


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

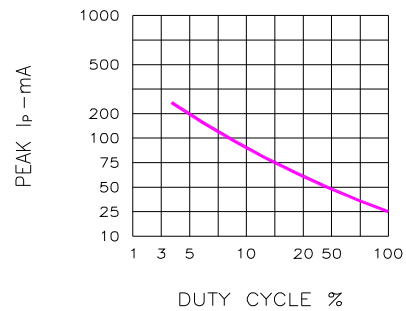


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE  $f = 1\text{ kHz}$ )