



Spec. No.	PS-ND-08090301
Rev.	A

# PRODUCT SPECIFICATION

**Model No : CSM-16151A9/16161A9**

## Descriptions:

- 1.5 Inch 16X16 Dot-Matrix Display
- Dot Pitch 2.5mm
- CSM-16151: Column Anode, Row Cathode
- CSM-16161: Column Cathode, Row Anode
- Emitting Color: Super Bright Amber



CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY

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**Model No : CSM-16151/16161A9**

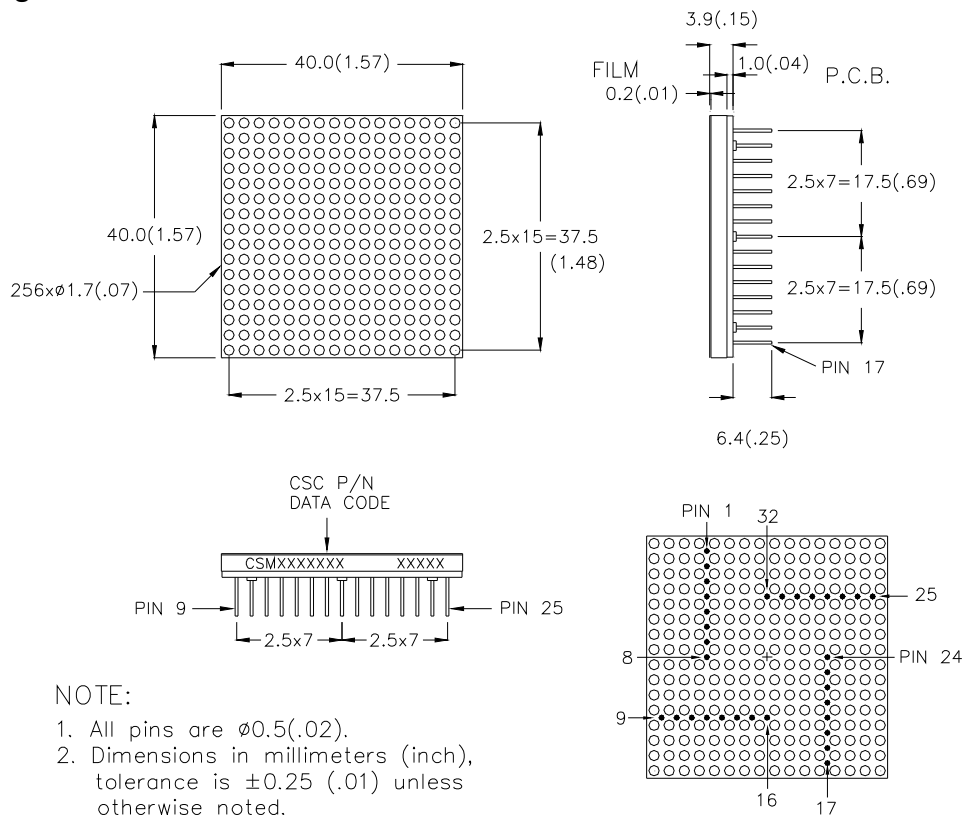
**Features -**

1. 1.5 inch (39.2mm) 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		
<b>CSM-16151A9</b>	<b>AlGaInP</b>	<b>Super Bright Amber</b>	<b>Anode</b>	<b>Cathode</b>
<b>CSM-16161A9</b>	<b>AlGaInP</b>	<b>Super Bright Amber</b>	<b>Cathode</b>	<b>Anode</b>

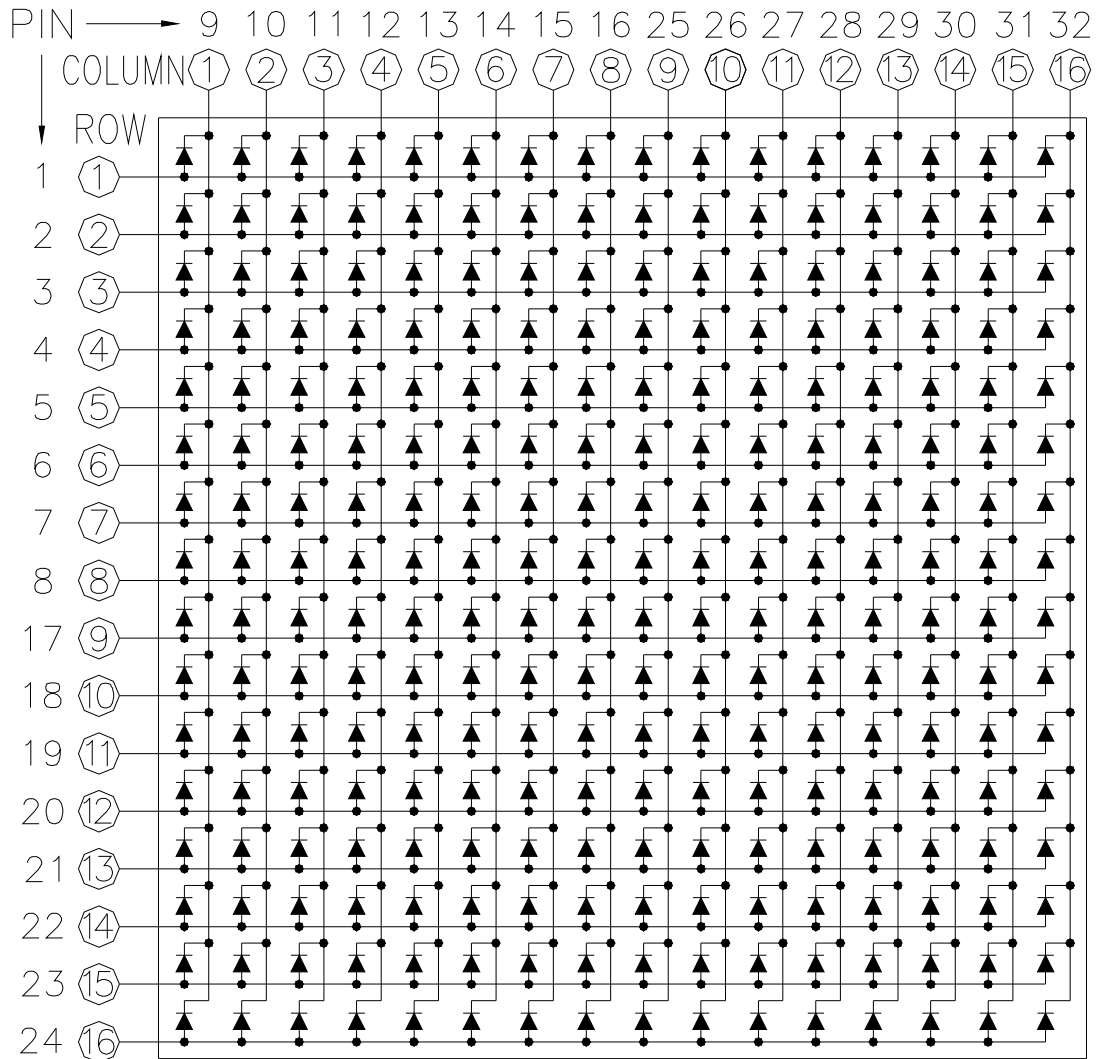
**Package Dimensions -**



- NOTE:**
1. All pins are ø0.5(.02).
  2. Dimensions in millimeters (inch), tolerance is ±0.25 (.01) unless otherwise noted.

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Internal Circuit Diagrams -



CSM-16151 Column Anode, Row Cathode.  
(CSM-16161 Column Cathode, Row Anode.)



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■ **Absolute Maximum Rating -**

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation Per Dice	<b>Pd</b>	75	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 -**

(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>	-	20	-	mcd	IF=10mA
Peak Emission Wavelength	$\lambda_p$	-	612	-	nm	IF=20mA
Dominant Wavelength	$\lambda_d$	-	606	-	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 Charateristics Curves -**

(Ta = 25°C Unless Otherwise Noted)

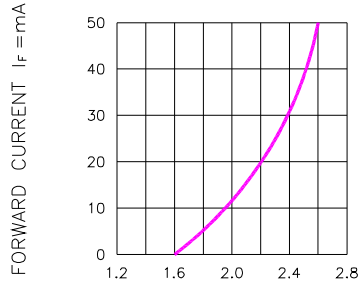


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

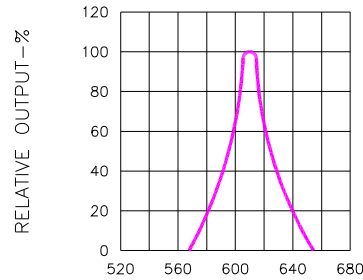


Fig.2 SPECTRAL RESPONSE

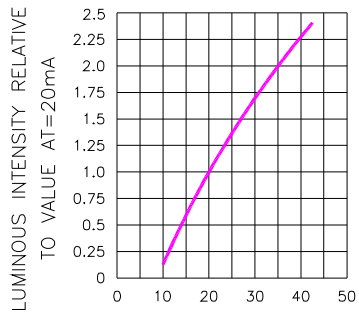


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

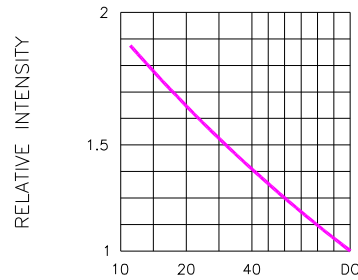


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

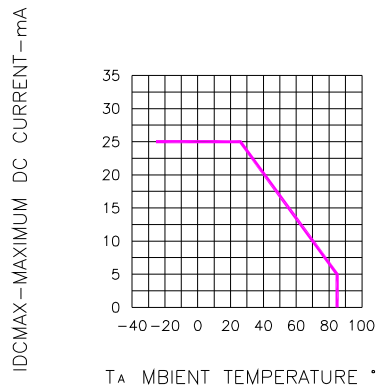


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

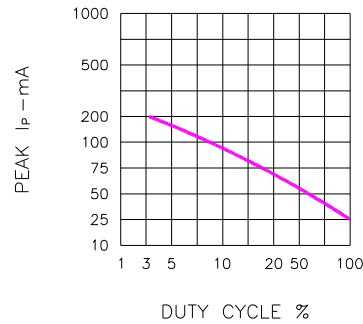


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1 KHz)