



PRODUCT SPECIFICATION

Model No : CSM-58271SG/58281SG

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 Red & Yellow Green



CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY

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Spec. No.	PS-ND-08090408
Rev.	A

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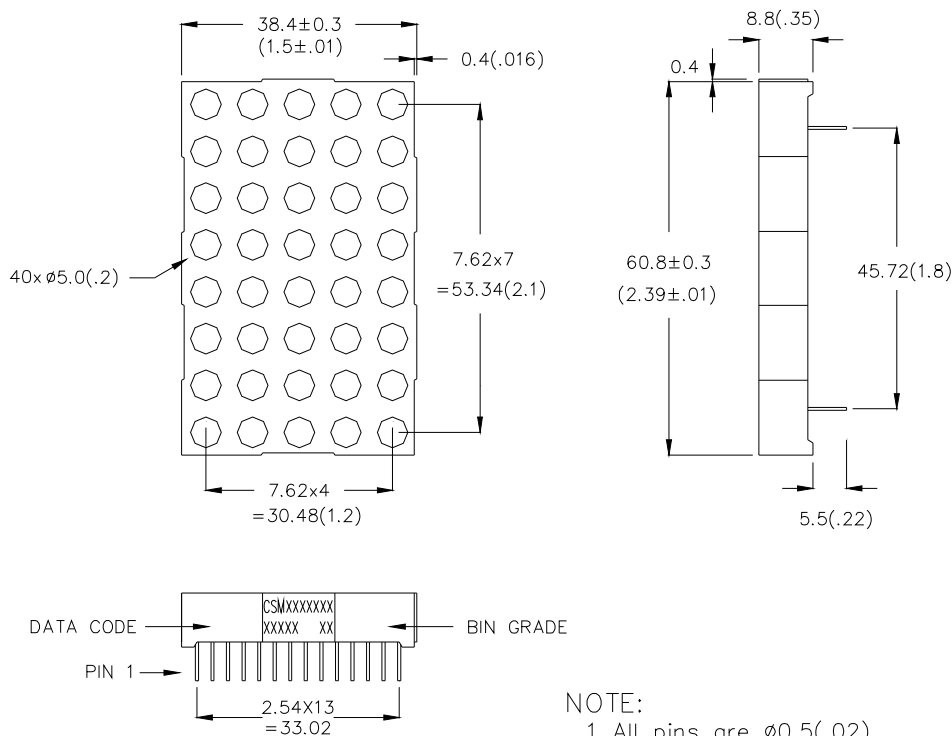
Features -

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-58271SG	GaAsP	Orange	Anode	Cathode
	GaP	Yellow Green		
CSM-58281SG	GaAsP	Orange	Cathode	Anode
	GaP	Yellow Green		

Package Dimensions -



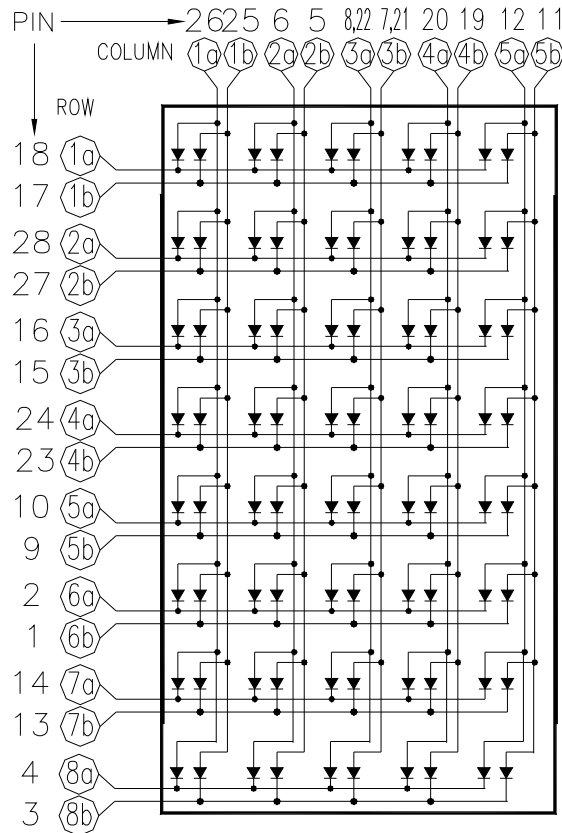
NOTE:

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



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Internal Circuit Diagrams -



NOTE: "a" for Super Bright Red color chip.
"b" for Yellow-Green color chip

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

Absolute Maximum Rating -

Super Bright Red		(Ta=25°C)	
Parameter	Symbol	Rating	Unit
Power Dissipation Per Dice	Pd	75	mW
Continuous Forward Current Per Dice	IAF	30	mA
Peak Current Per Dice(duty cycle 1/10, 1kHz)	IPF	120	mA
Derating Linear From 25°C Per Dice	-	0.42	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	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			

■ Electro-optical Characteristics -

Super Bright Red		(Ta=25°C)				
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage Per Segment	VF	-	1.8	2.5	V	IF=20mA
Luminous Intensity Per Segment	Iv	-	9	-	mcd	IF=10mA
Peak Emission Wavelength	λ_p	-	660	-	nm	IF=20mA
Dominant Wavelength	λ_d	-	643	-	nm	IF=20mA
Spectrum Radiation Bandwidth	$\Delta \lambda$	-	20	-	nm	IF=20mA
Reverse Current	IR	-	-	100	μA	VR=5V
Luminous Intensity Matching Ratio	IV-m	-	-	2:1	-	IF=10mA

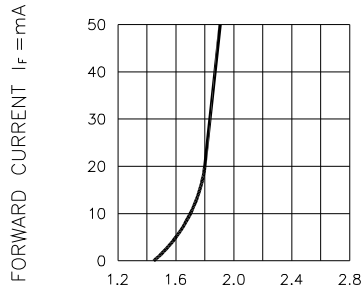
Yellow Green		(Ta=25°C)				
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage Per Segment	VF	-	2.1	2.8	V	IF=20mA
Luminous Intensity Per Segment	Iv	-	7	-	mcd	IF=10mA
Peak Emission Wavelength	λ_p	-	568	-	nm	IF=20mA
Dominant Wavelength	λ_d	-	572	-	nm	IF=20mA
Spectrum Radiation Bandwidth	$\Delta \lambda$	-	30	-	nm	IF=20mA
Reverse Current	IR	-	-	100	μA	VR=5V
Luminous Intensity Matching Ratio	IV-m	-	-	2:1	-	IF=10mA



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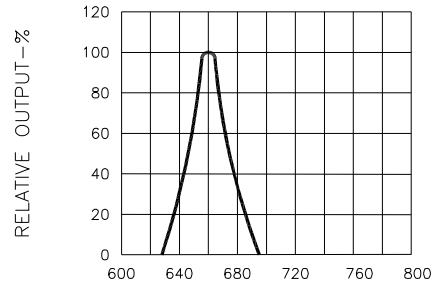
Typical Electrical / Optical Characteristics Curves -Super Bright Red

(Ta = 25°C Unless Otherwise Noted)



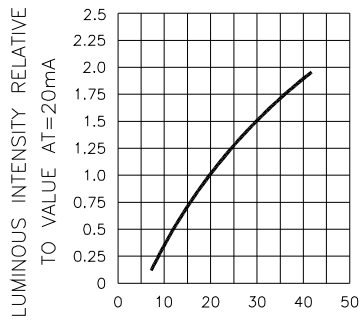
FORWARD VOLTAGE (V_F) - VOLTS

Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE



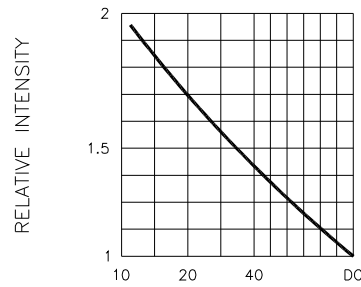
WAVELENGTH (λ) - nm

Fig.2 SPECTRAL RESPONSE



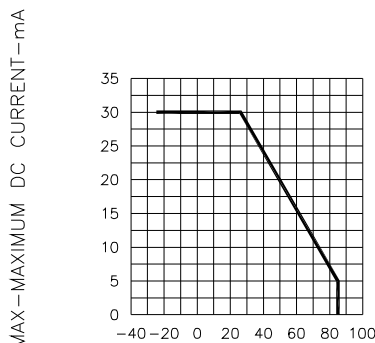
I_F - FORWARD CURRENT - mA

Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



DUTY CYCLE % PER SEGMENT
(AVERAGE I_F = 10mA)

Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE



T_A AMBIENT TEMPERATURE °C

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

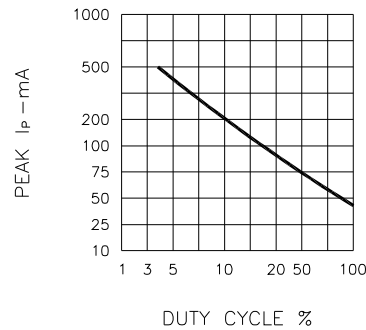


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE %
(REFRESH RATE f=1 KHz)



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Yellow Green

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

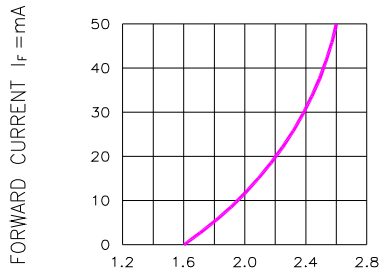


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

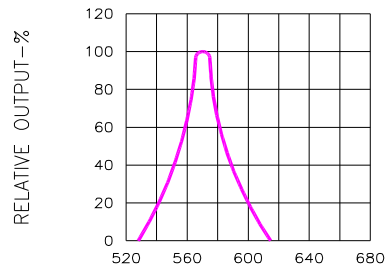


Fig.2 SPECTRAL RESPONSE

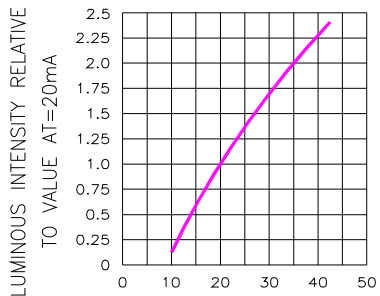


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

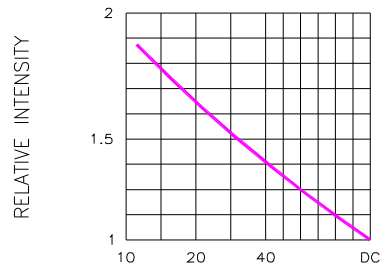


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

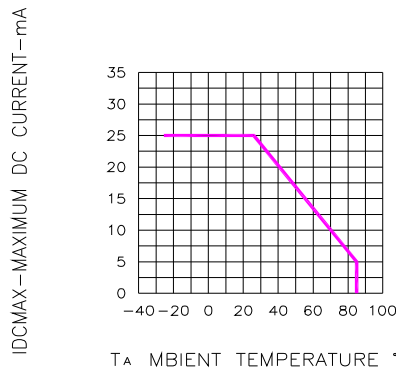


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

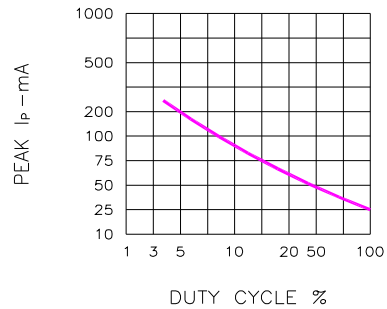


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE $f=1\text{ KHz}$)