



PRODUCT SPECIFICATION

Model No : CSS-4018SG/4019SG

Descriptions:

- 4.0 Inch Single Digit Display
- Emitting Color : Super Bright Red & Yellow Green



CUSTOMER APPROVED	APPROVED BY	CHECKED BY	PREPARED BY
SIGNATURES			

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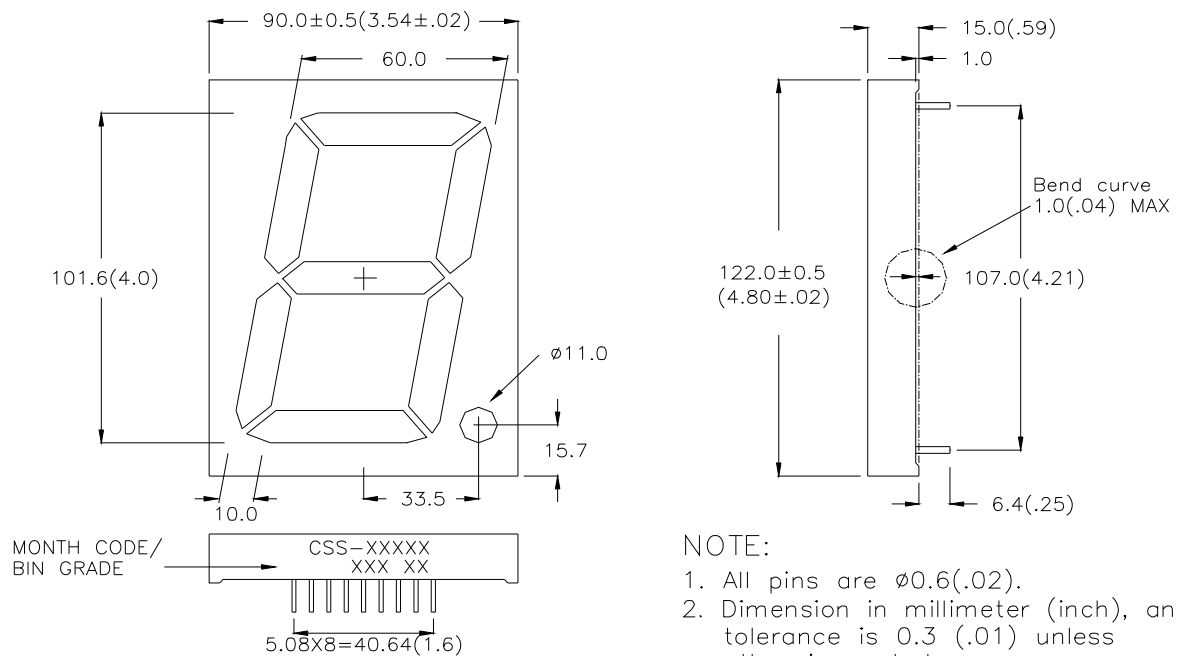
Features -

1. 4.0 inch (101.6mm) digit 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	
CSS-4018SG	GaAsP	Super Bright Red	Common Anode
	GaP	Yellow Green	
CSS-4019SG	GaAsP	Super Bright Red	Common Cathode
	GaP	Yellow Green	

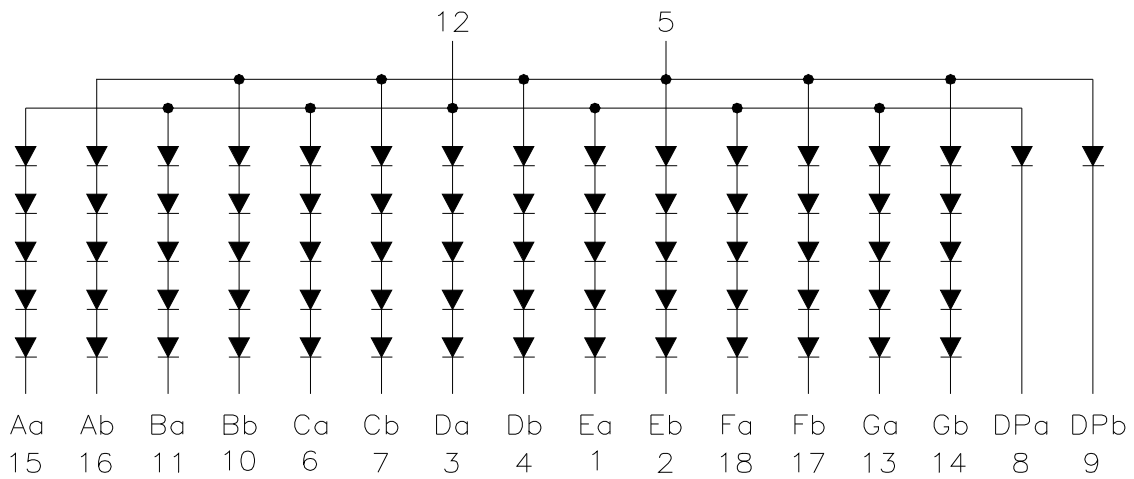
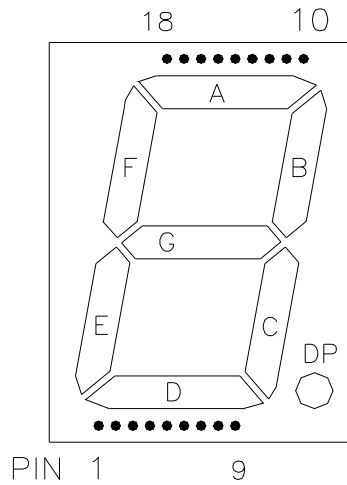
Mechanical Dimensions -





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Internal Circuit Diagrams -



" a " for Red color chip, " b " for Green color chip.

CSS-4018 Common Anode

(CSS-4019 Common Cathode)



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■ Absolute Maximum Rating -

(Ta=25°C)

Parameter	Symbol	Super-Bright Red	Unit
Power Dissipation Per Dice	Pd	75	mW
Continuous Forward Current Per Dice	IAF	30	mA
Peak Current Per Dice	IPF	200	mA
Reverse Voltage Per Dice	VR	5	V
Operating Temperature	Topr	-35 ~ +85	°C
Storage Temperature	Tstg	-35 ~ +85	°C

Solder emperature 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	VF	-	9.0(1.8)	12.5(2.5)	V	IF=20mA
Luminous Intensity Per Segment	Iv	-	35	-	mcd	IF=10mA
Peak Emission Wavelength	λP	-	635	-	nm	IF=20mA
Spectrum Radiation Bandwidth	$\Delta \lambda$	-	35	-	nm	IF=20mA
Reverse Current	IR	-	-	100	μA	VR=25V
Luminous Intensity Matching Ratio	IV-m	-	-	2:1	-	IF=10mA



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■ **Absolute Maximum Rating -**

(Ta=25°C)

Parameter	Symbol	Yellow-Green	Unit
Power Dissipation Per Dice	Pd	70	mW
Continuous Forward Current Per Dice	IAF	25	mA
Peak Current Per Dice	IPF	90	mA
Reverse Voltage Per Dice	VR	5	V
Operating Temperature	Topr	-35 ~ +85	°C
Storage Temperature	Tstg	-35 ~ +85	°C
Solder emperature 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	VF	-	10.5(2.1)	14.0(2.8)	V	IF=20mA
Luminous Intensity Per Segment	Iv	-	30	-	mcd	IF=10mA
Peak Emission Wavelength	λP	-	570	-	nm	IF=20mA
Spectrum Radiation Bandwidth	$\Delta \lambda$	-	30	-	nm	IF=20mA
Reverse Current	IR	-	-	100	μA	VR=25V
Luminous Intensity Matching Ratio	IV-m	-	-	2:1	-	IF=10mA



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**Typical Electrical / Optical Characteristics Curves -Orange
(Ta = 25°C Unless Otherwise Noted)**

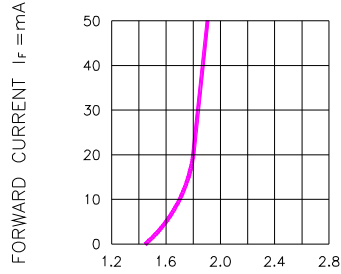


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

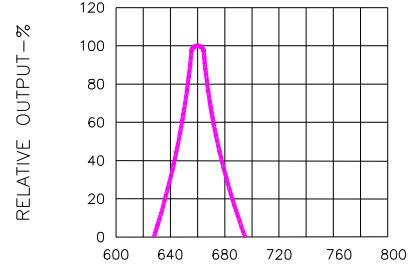


Fig.2 SPECTRAL RESPONSE

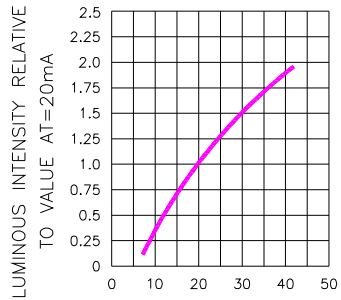


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

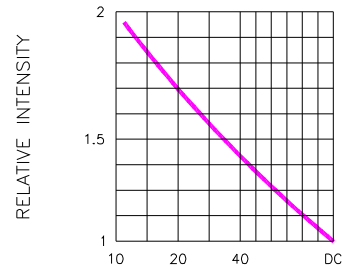


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE
(AVERAGE $I_f = 10\text{mA}$)

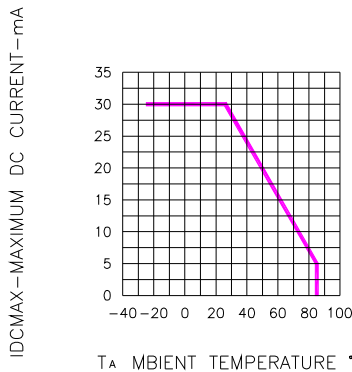


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

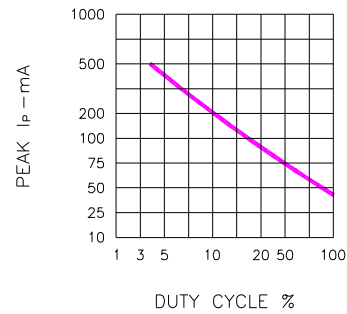


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE %
(REFRESH RATE $f = 1\text{ kHz}$)



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**Typical Electrical / Optical Characteristics Curves -Yellow-Green
(Ta = 25°C Unless Otherwise Noted)**

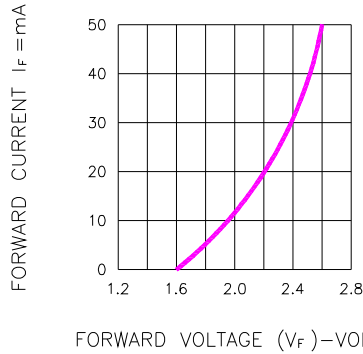


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

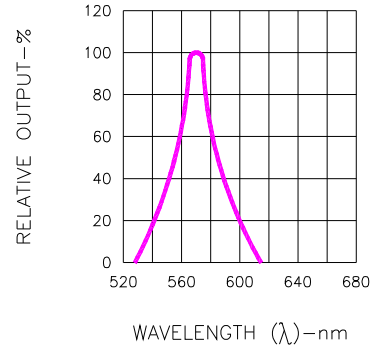


Fig.2 SPECTRAL RESPONSE

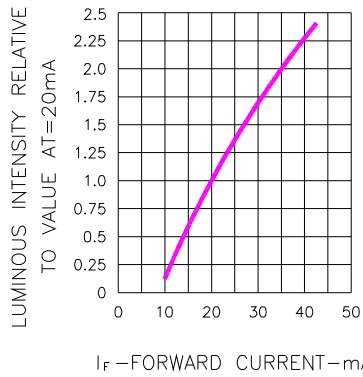


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

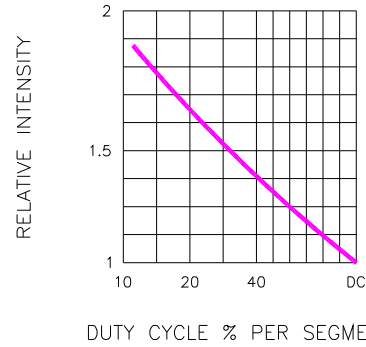


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

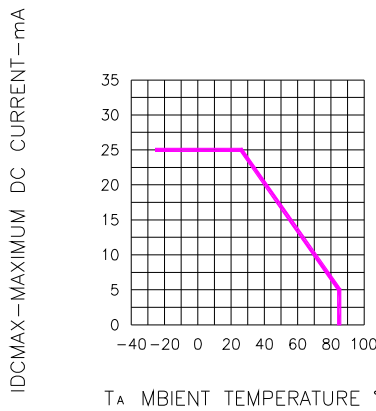


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

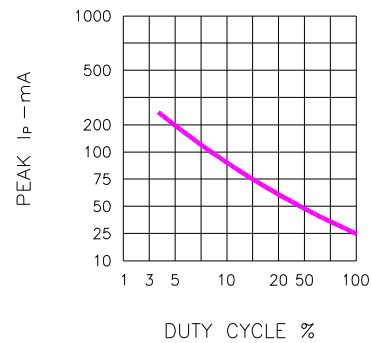


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1 KHz)