



Spec. No.	PS-ND-0710
Rev.	A

# PRODUCT SPECIFICATION

**Model No : CSS-4018EG/4019EG**

## Descriptions:

- 4.0 Inch Single Digit Display
- Emitting Color : Orange & Yellow Green



CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY

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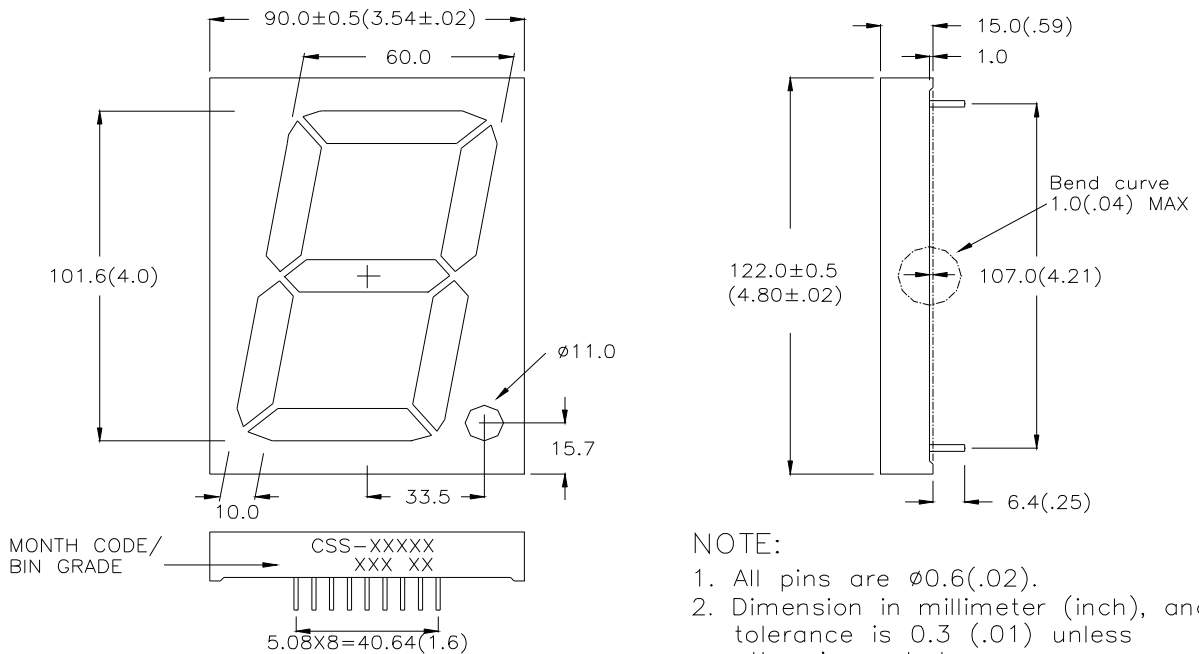
**Features -**

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-4018EG	AlGaAs	Orange	Common Anode
	GaP	Yellow Green	
CSS-4019EG	AlGaAs	Orange	Common Cathode
	GaP	Yellow Green	

**Mechanical Dimensions -**

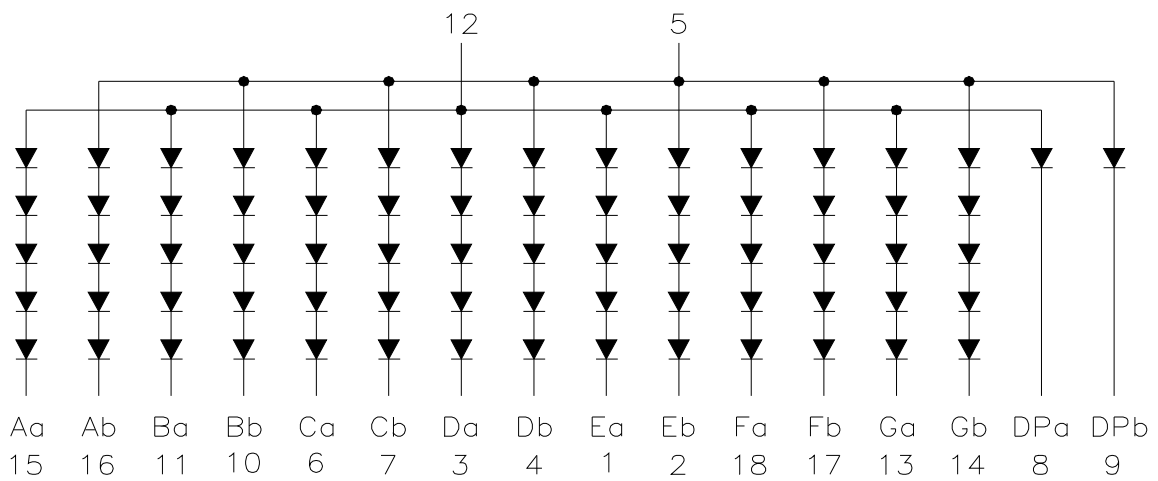
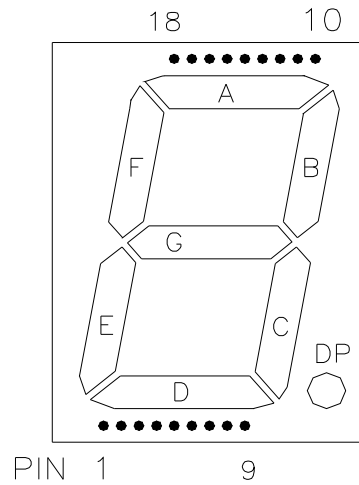




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Internal Circuit Diagrams -



" 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	Orange	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	-	25	-	mcd	IF=10mA
Peak Emission Wavelength	$\lambda P$	-	660	-	nm	IF=20mA
Spectrum Radiation Bandwidth	$\Delta \lambda$	-	20	-	nm	IF=20mA
Reverse Current	IR	-	-	100	$\mu A$	VR=20V
Luminous Intensity Matching Ratio	IV-m	-	-	2:1	-	IF=20mA



Model No : CSS-4018EG/4019EG

■ 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	$\lambda P$	-	570	-	nm	IF=20mA
Spectrum Radiation Bandwidth	$\Delta \lambda$	-	30	-	nm	IF=20mA
Reverse Current	IR	-	-	100	$\mu A$	VR=20V
Luminous Intensity Matching Ratio	IV-m	-	-	2:1	-	IF=10mA



**Model No : CSS-4018EG/4019EG**

**Typical Electrical / Optical Characteristics Curves -Orange**  
( $T_a = 25^\circ\text{C}$  Unless Otherwise Noted)

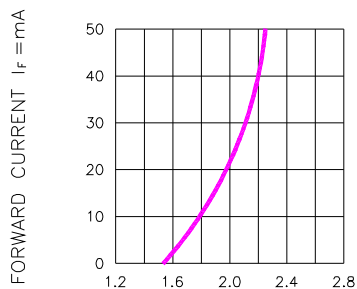


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

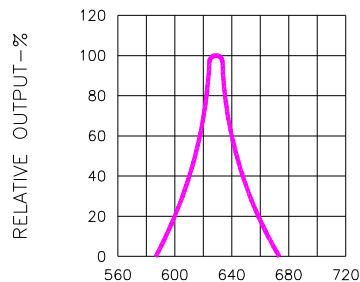


Fig.2 SPECTRAL RESPONSE

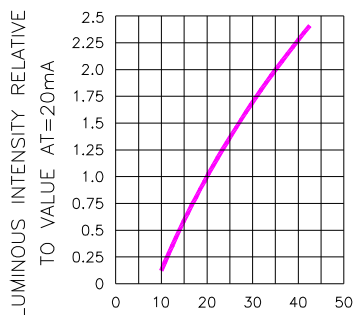


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

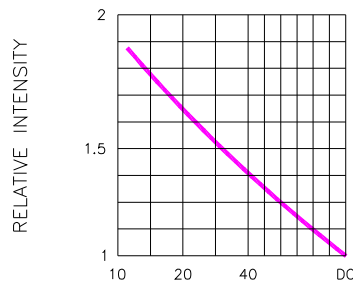


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

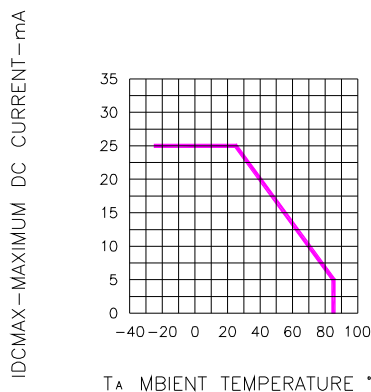


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT

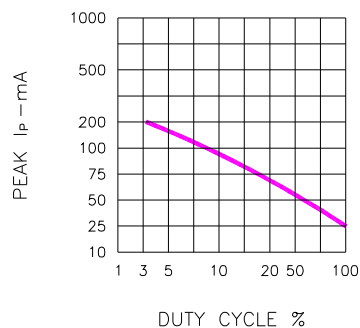


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE  $f=1\text{ KHz}$ )



**Model No : CSS-4018EG/4019EG**

**Typical Electrical / Optical Characteristics Curves -Yellow-Green**  
( $T_a = 25^\circ\text{C}$  Unless Otherwise Noted)

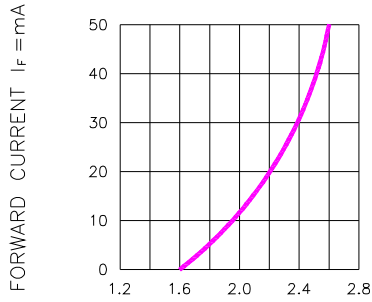


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

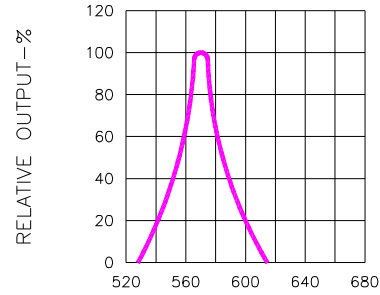


Fig.2 SPECTRAL RESPONSE

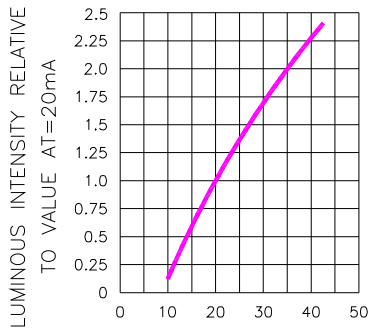


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

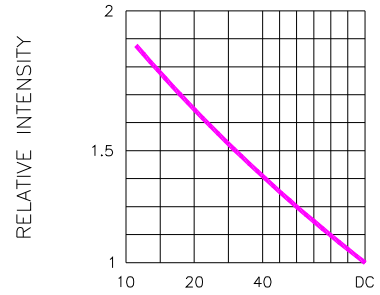


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

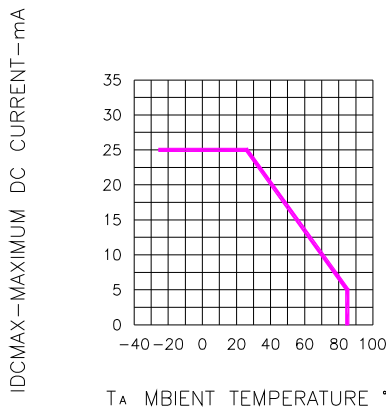


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

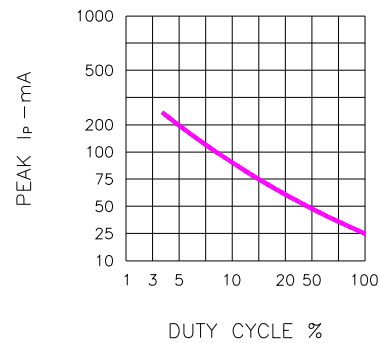


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE  $f=1$  KHz)