



Spec. No.	PS-ND-0712
Rev.	A

PRODUCT SPECIFICATION

Model No : CSS-2310A9/CSS-2311A9

Descriptions:

- 2.3 Inch Single Digit Alphanumeric Display
- Emitting Color: Super-Bright Amber



CUSTOMER APPROVED	APPROVED BY	CHECKED BY	PREPARED BY
SIGNATURES			

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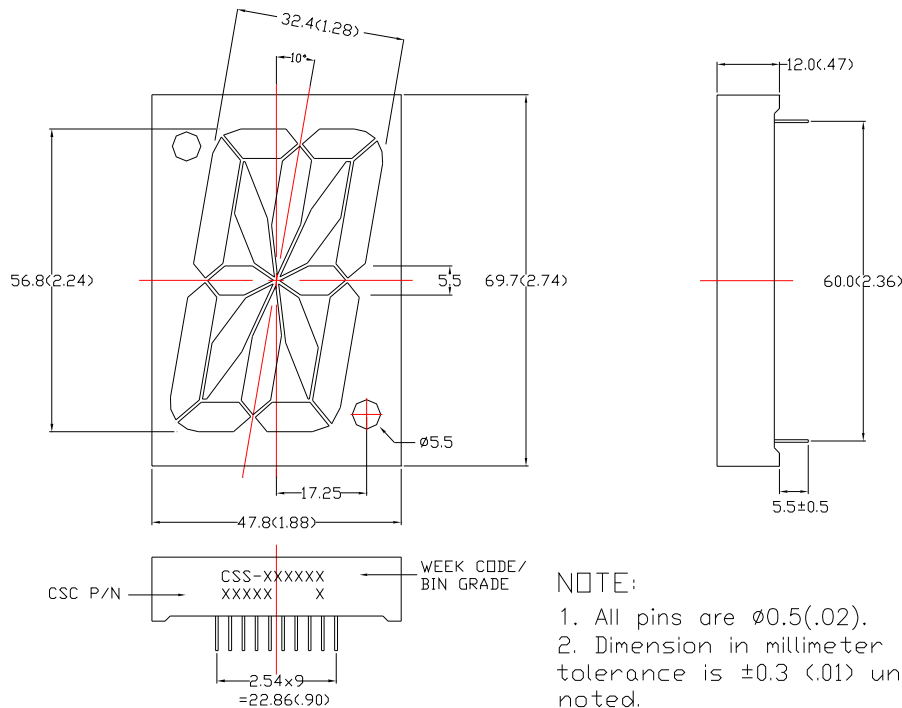
Features -

1. 2.24 inch (56.8 mm) 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-2310A9	AlGaInP	Super-Bright Amber	Common Anode
CSS-2311A9			Common Cathode

Package Dimensions -



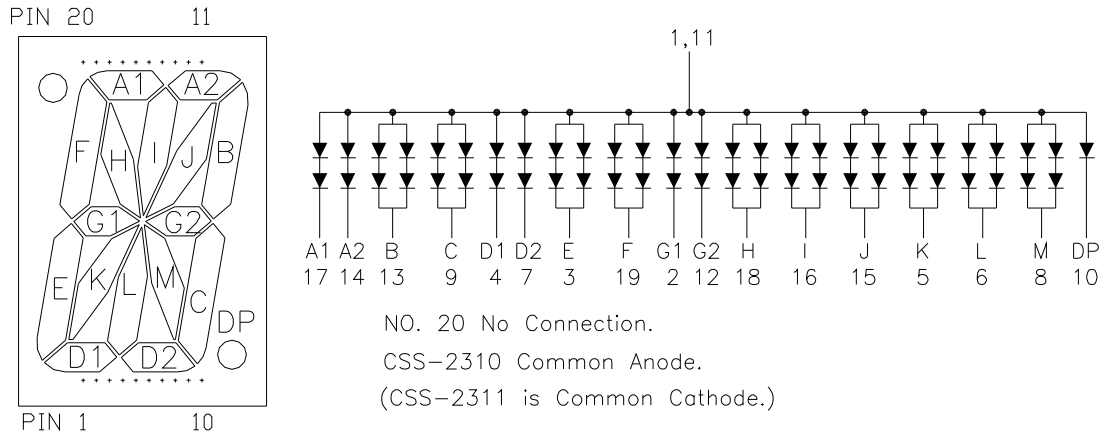
NOTE:

1. All pins are $\phi 0.5$ (.02).
2. Dimension in millimeter (inch), and tolerance is ± 0.3 (.01) unless otherwise noted.



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■ **Internal Circuit Diagrams -**



■ **Absolute Maximum Rating -**

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation Per Dice	Pd	65	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 Temperature	Topr	-25 ~ +85	°C
Storage Temperature	Tstg	-25 ~ +85	°C
Solder temperature 1/16 inch below seating plane for 3 seconds at 260 °C			



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■ Electro-optical Characteristics -

(Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage Per Segment (DP)	VF	-	4.0(2.0)	5.2(2.6)	V	IF=20mA
Luminous Intensity Per Segment	Iv	-	40	-	mcd	IF=10mA
Peak Emission Wavelength	λ_p	-	612	-	nm	IF=20mA
Spectrum Radiation Bandwidth	$\Delta \lambda$	-	20	-	nm	IF=20mA
Reverse Current	IR	-	-	100	μA	VR=10V
Luminous Intensity Matching Ratio	IV-m	-	-	2 : 1	-	IF=20mA



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Typical Electrical / Optical Characteristics Curves -

(Ta = 25°C Unless Otherwise Noted)

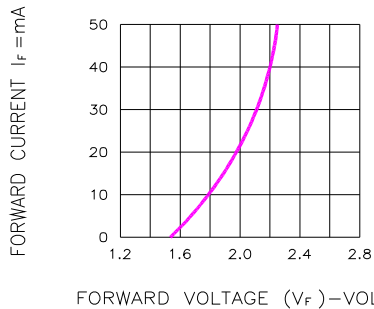


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

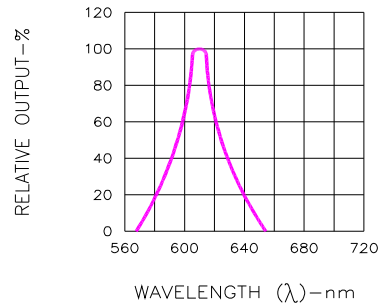


Fig.2 SPECTRAL RESPONSE

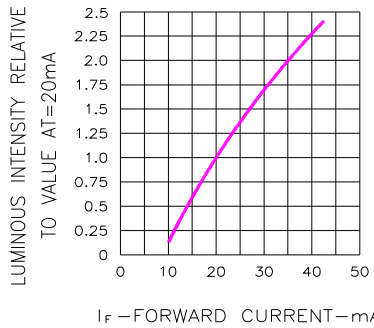


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

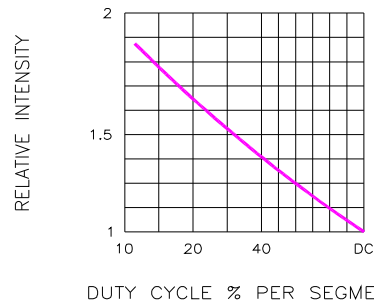


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

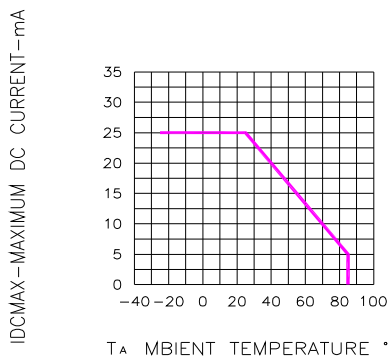


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

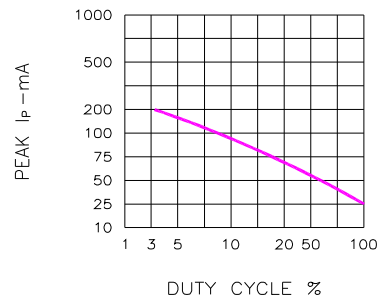


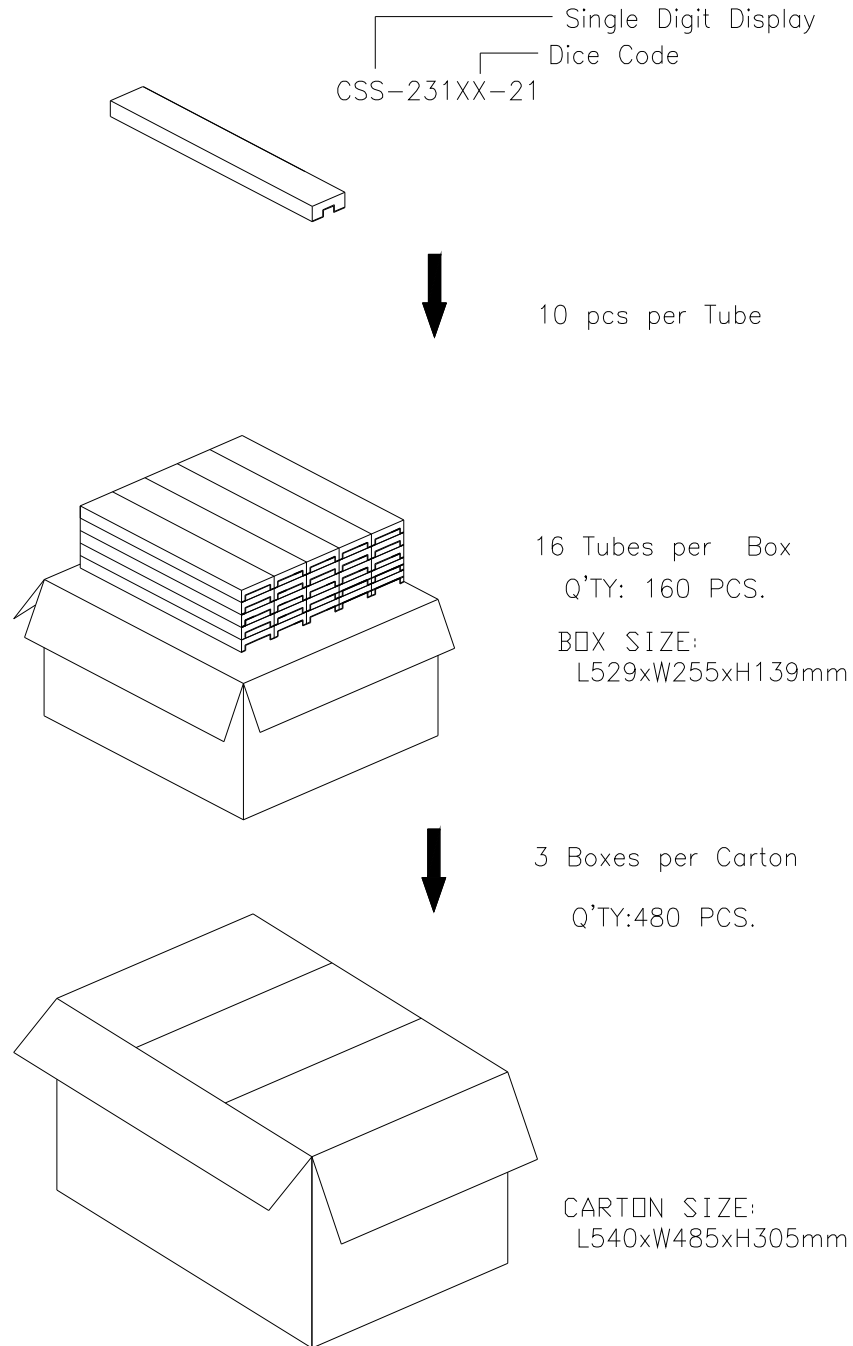
Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1 KHz)



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■ Package Dimensions



Note: The specifications may be changed without prior notice. Please contact us for the latest specifications.