CHINA
SEMICONDUCTOR
CORPORATION

Spec. No.	PS-DS-S20122/S20123A9
Rev.	A

PRODUCT SPECIFICATION

Model No:CSS-S20122A9/S20123A9

Descriptions:
■0.2 Inch Single Digit SMD Display
■Emitting Color：Super Bright Amber

CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY

CHINA SEMICONDUCTOR CORPORATION
Address:2FL. NO.909,Chung-Cheng Road,
Chung-Ho City Taipei Hsien,Taiwan.

Tel:886-2-2223-9696
Fax:886-2-2223-9377

OPTO PLUS TECHNOLOGIES CO.,LTD
Address:696 Shun jiang Rd.,Ji Shan St.Shaoxing,
ZheJiang,China

Tel:86-0575-88623888
Fax:86-0575-88623112

http://www.csctw.com.tw

Model No：CSS-S20122/S20123A9

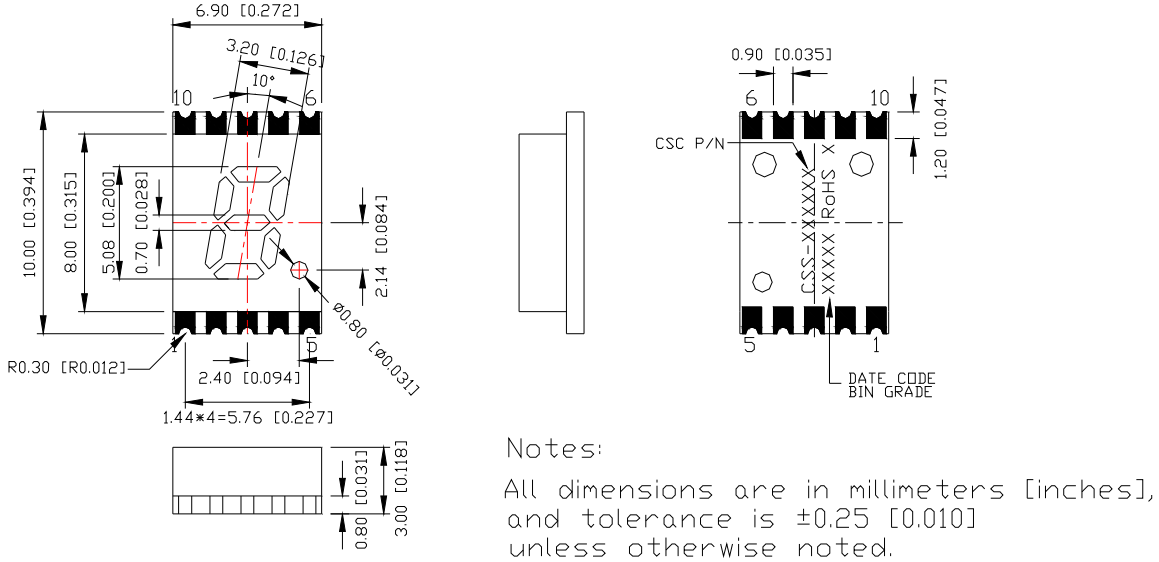
■ Features -

1. 0.2 inch (5.08mm) digit height.
2. Qualified according to JEDEC moisture sensitivity Level 2a.
3. RoHS compliant.
4. Low power consumption.
5. Easy mounting on P.C. board.

■ Device Selection Guide -

Model No.	Chip		Description
	Material	Emitting Color	
CSS-S20122A9	AlGaInP	Super Bright Amber	Common Anode
CSS-S20123A9	AlGaInP	Super Bright Amber	Common Cathode

■ Mechanical Dimensions -

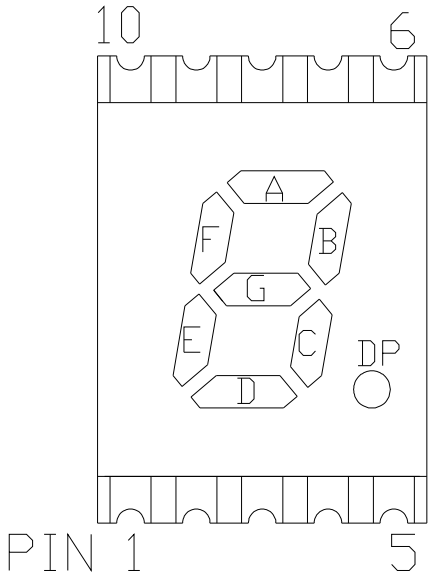


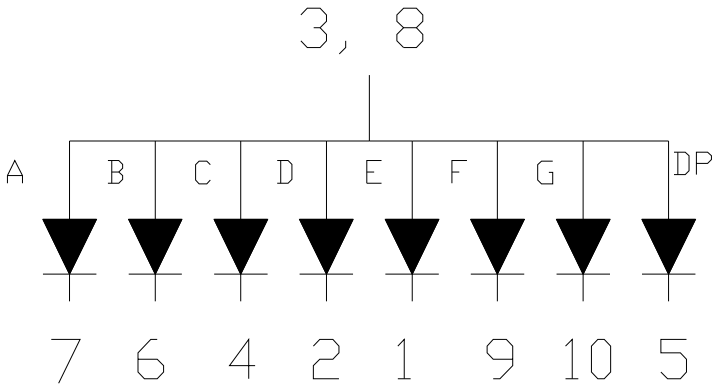
Notes:

All dimensions are in millimeters [inches], and tolerance is ±0.25 [0.010] unless otherwise noted.

Model No：CSS-S20122/S20123A9

■ Internal Circuit Diagrams -





CSS-S20122 Common Anode
(CSS-S20123 Common Cathode)

Model No：CSS-S20122/S20123A9

■ Absolute Maximum Rating -

(Ta=25℃)

Parameter	Symbol	Rating	Unit
Power Dissipation Per Dice	P_{AD}	70	mW
Continuous Forward Current Per Dice	I_{AF}	25	mA
Peak Current Per Dice(duty cycle 1/10,1KHz)	I_{PF}	90	mA
Derating Linear From 25℃ Per Dice	-	0.33	mA/℃
Reverse Voltage Per Dice	V_R	5	V
Operating Temp.	Topr	-40 ~ +105	℃
Storage Temp.	Tstg	-40 ~ +105	℃

Note:Solder temperature 1/16 inch below seating plane for 3 seconds at 260℃

■ Electro-optical Characteristics -

(Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage Per Segment	V_F	-	2.0	2.8	V	IF=20mA
Luminous Intensity Per Segment	Iv	3.6	9	-	mcd	IF=10mA
Peak Emission Wavelength	λP	-	612	-	nm	IF=20mA
Spectrum Radiation Bandwidth	$\Delta \lambda$	-	20	-	nm	IF=20mA
Reverse Current	I_R	-	-	100	μA	V_R=5V
Luminous Intensity Matching Ratio	IV-m	-	-	2:1	-	IF=10mA

Model No：CSS-S20122/S20123A9

■ Typical Electrical / Optical Charateristics Curves -

(Ta = 25℃ Unless Otherwise Noted)

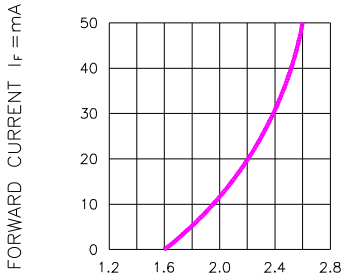


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

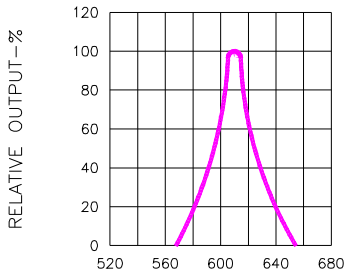


Fig.2 SPECTRAL RESPONSE

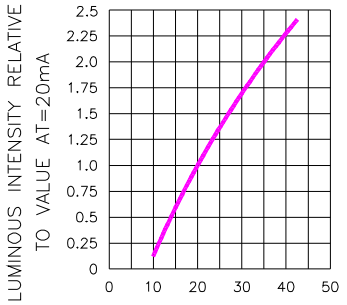


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

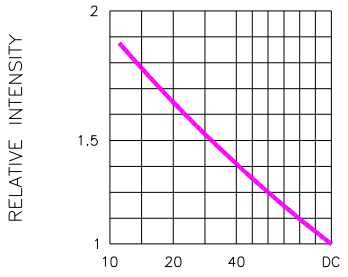


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

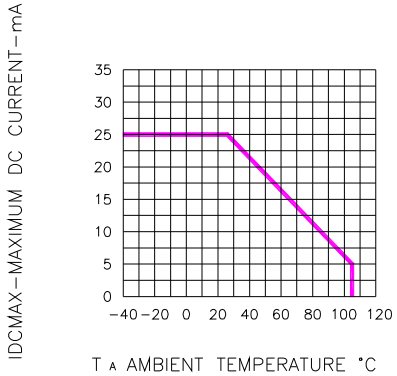


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

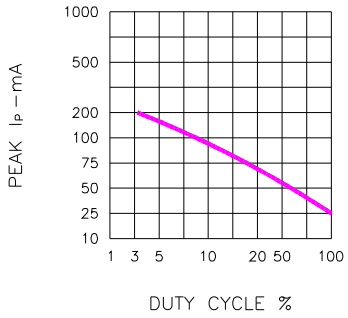
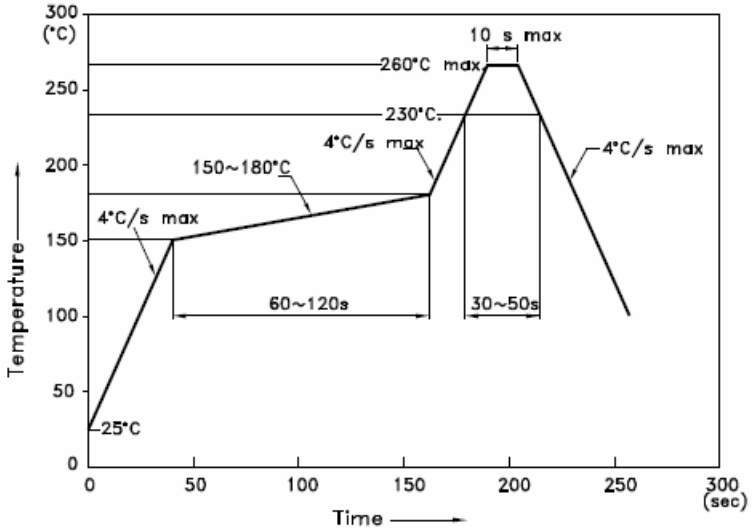


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1 KHz)

Model No：CSS-S20122/S20123A9

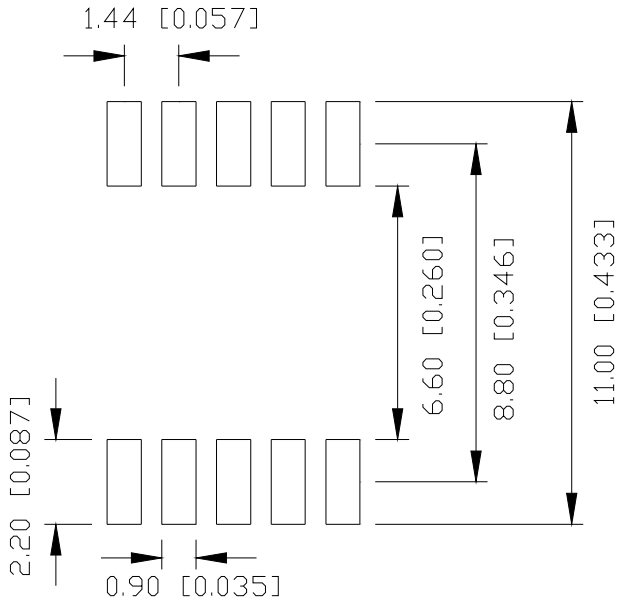
SMT REFLOW SOLDERING INSTRUCTIONS

■ IR Reflow Temperature / Time :



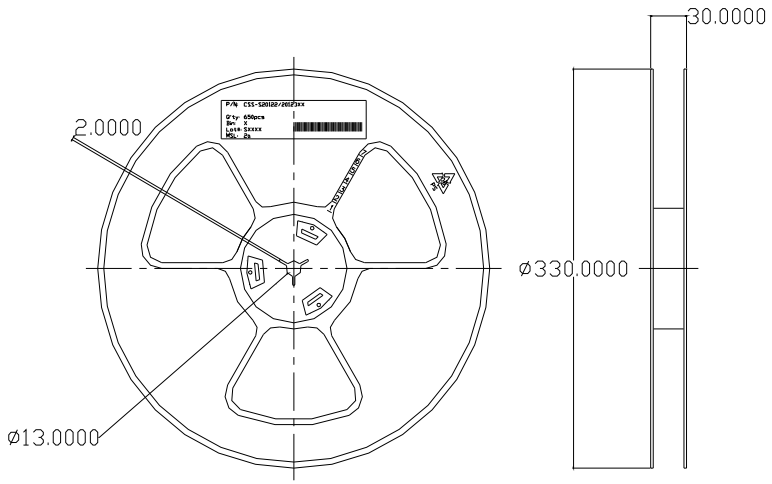
NOTES:
1. We recommend the reflow temperature 245°C(+/−5°C).The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

■ Soldering Pad Size



Model No：CSS-S20122/S20123A9

■ REEL DIMENSIONS



■ PACKING & LABEL SPECIFICATIONS