



# PRODUCT SPECIFICATION

**Model No:CSS-S30120S/S30121S**

## Descriptions:

- 0.3 Inch Single Digit SMD Display
- Emitting Color : Super Bright Red



CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY

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**Model No : CSS-S30120/S30121S**

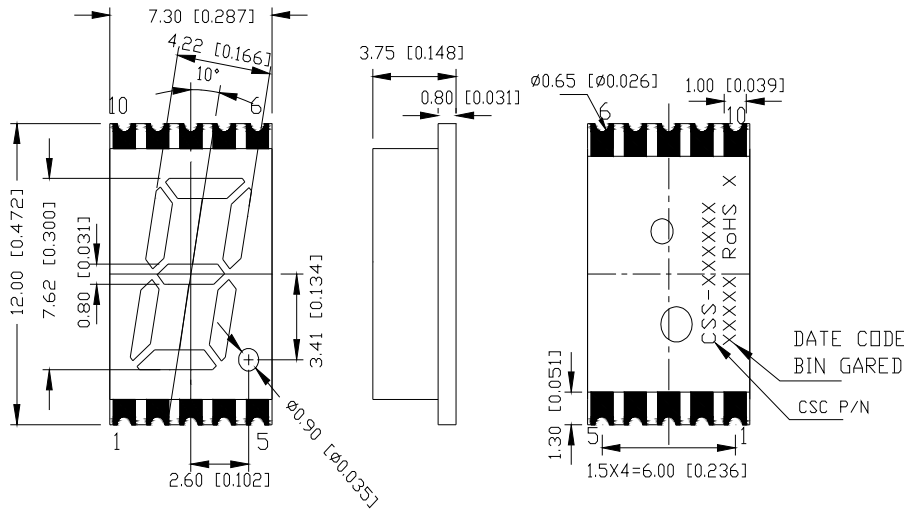
**Features -**

1. 0.3 inch (7.62mm) 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-S30120S	AlGaAs	Super Bright Red	Common Anode
CSS-S30121S	AlGaAs	Super Bright Red	Common Cathode

**Mechanical Dimensions -**



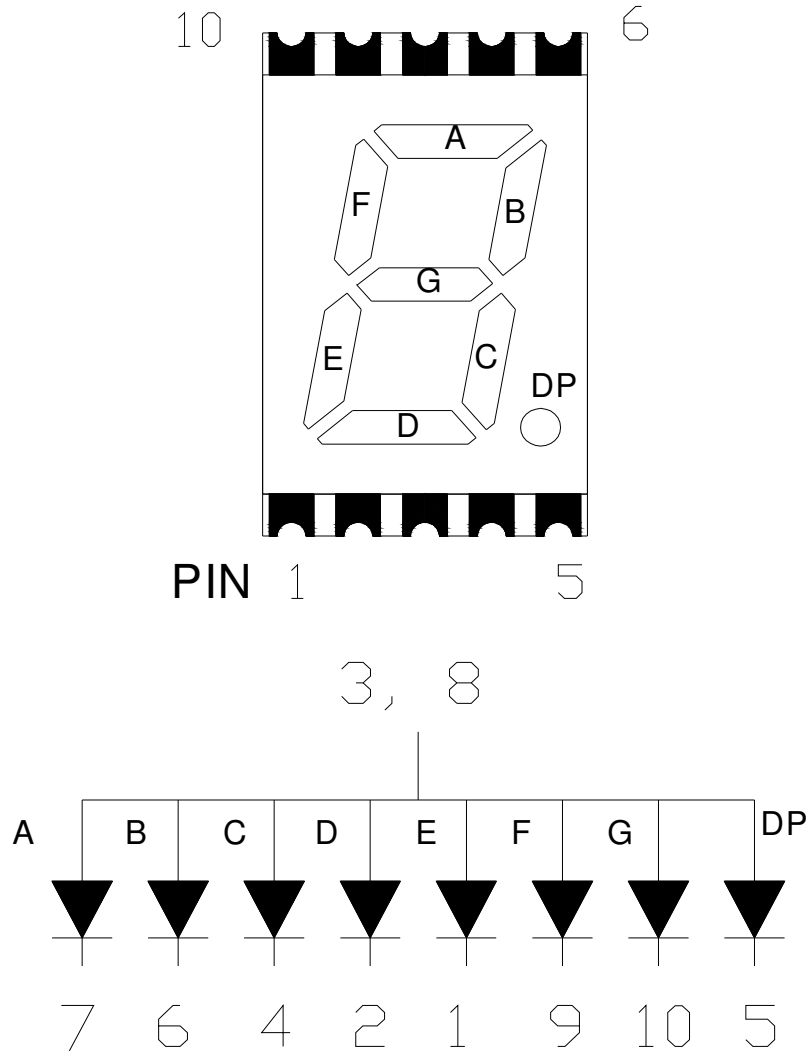
Notes:

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



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Internal Circuit Diagrams -



CSS-S30120 Common Anode  
(CSS-S30121 Common Cathode)



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■ Absolute Maximum Rating -

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation Per Dice	<b>P<sub>AD</sub></b>	75	mW
Continuous Forward Current Per Dice	<b>I<sub>AF</sub></b>	30	mA
Peak Current Per Dice(duty cycle 1/10,1KHz)	<b>I<sub>PF</sub></b>	120	mA
Derating Linear From 25°C Per Dice	-	0.42	mA/°C
Reverse Voltage Per Dice	<b>V<sub>R</sub></b>	5	V
Operating Temp.	<b>T<sub>opr</sub></b>	-40 ~ +105	°C
Storage Temp.	<b>T<sub>stg</sub></b>	-40 ~ +105	°C

Note:Solder temperature 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	<b>V<sub>F</sub></b>	-	1.8	2.5	V	I <sub>F</sub> =20mA
Luminous Intensity Per Segment	<b>I<sub>v</sub></b>	2.5	6	-	mcd	I <sub>F</sub> =10mA
Peak Emission Wavelength	<b>λ<sub>P</sub></b>	-	660	-	nm	I <sub>F</sub> =20mA
Spectrum Radiation Bandwidth	<b>Δλ</b>	-	20	-	nm	I <sub>F</sub> =20mA
Reverse Current	<b>I<sub>R</sub></b>	-	-	100	μA	V <sub>R</sub> =5V
Luminous Intensity Matching Ratio	<b>I<sub>V-m</sub></b>	-	-	2:1	-	I <sub>F</sub> =10mA



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**Typical Electrical / Optical Characteristics Curves -**

**(Ta = 25°C Unless Otherwise Noted)**

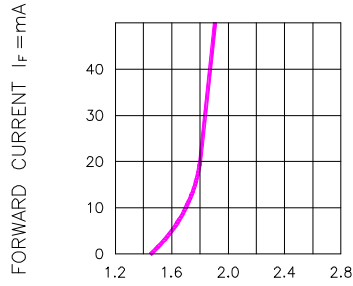


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

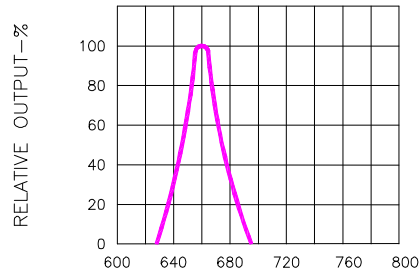


Fig.2 SPECTRAL RESPONSE

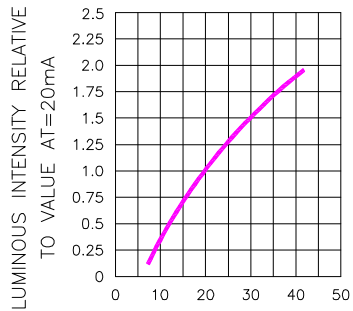


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

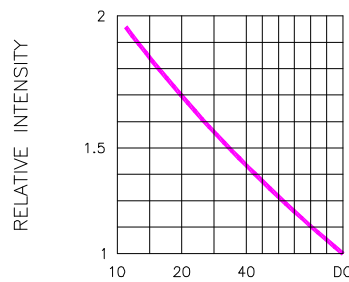


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE (AVERAGE I<sub>F</sub> = 10mA)

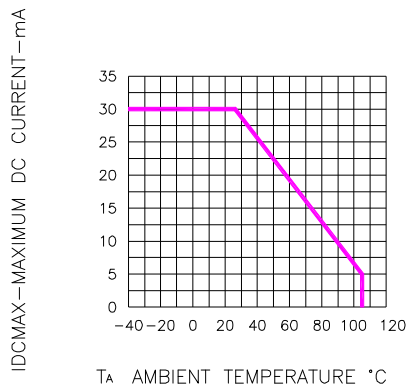


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

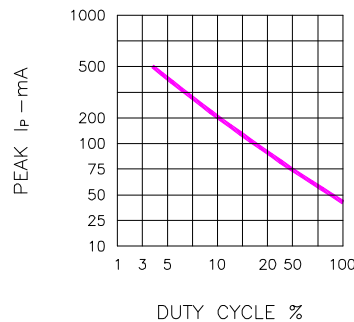


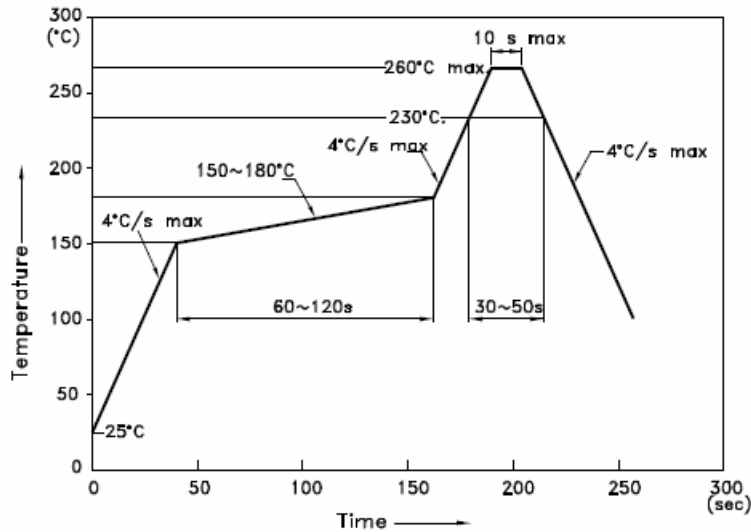
Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1 KHz)



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## SMT REFLOW SOLDERING INSTRUCTIONS

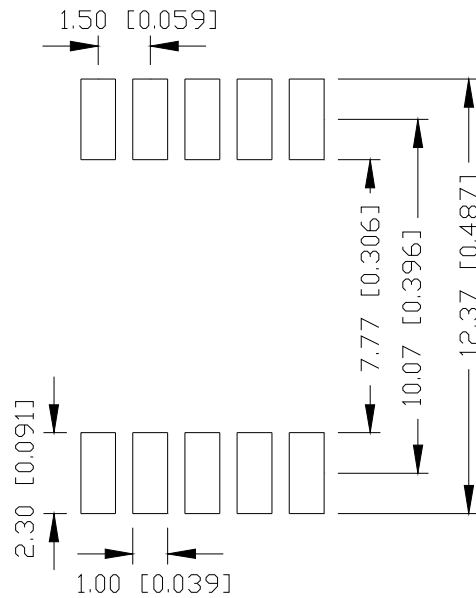
### IR Reflow Temperature / Time :



#### 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.

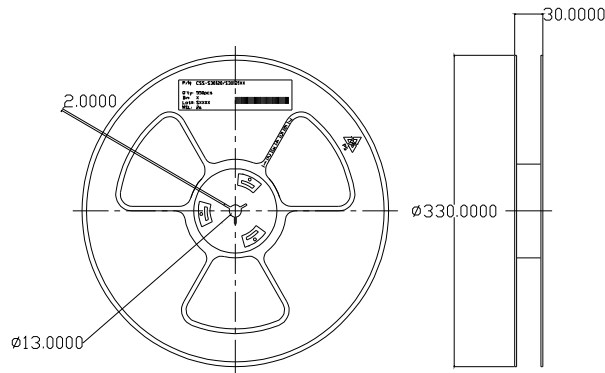
### Soldering Pad Size





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### REEL DIMENSIONS



### PACKING & LABEL SPECIFICATIONS

