



# PRODUCT SPECIFICATION

**Model No:CSD-S30228S/S30229S**

## Descriptions:

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



CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY

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**Model No : CSD-S30228/S30229S**

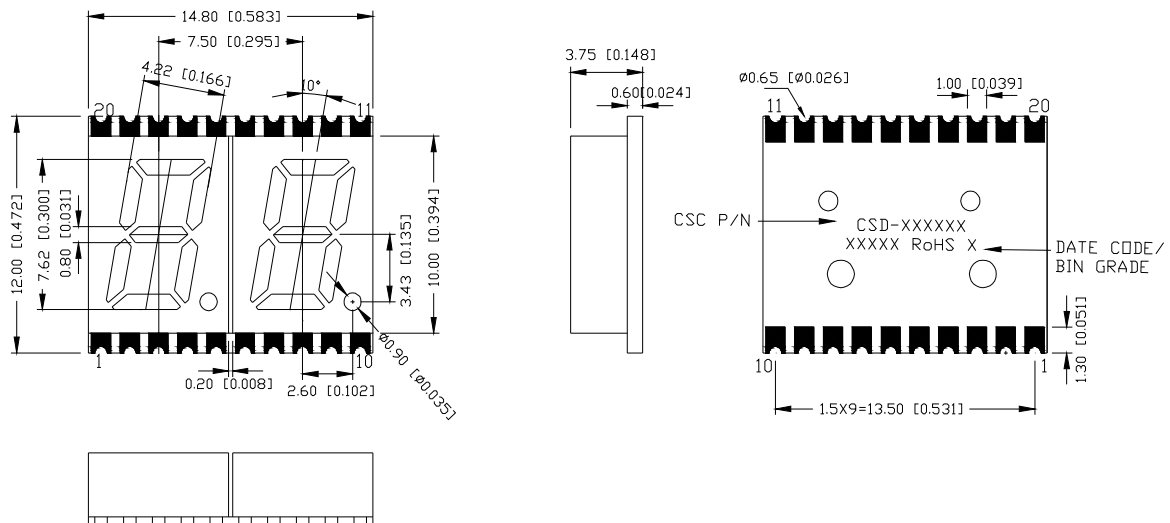
**Features -**

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	
CSD-S30228S	AlGaAs	Super Bright Red	Common Anode
CSD-S30229S	AlGaAs	Super Bright Red	Common Cathode

**Mechanical Dimensions -**



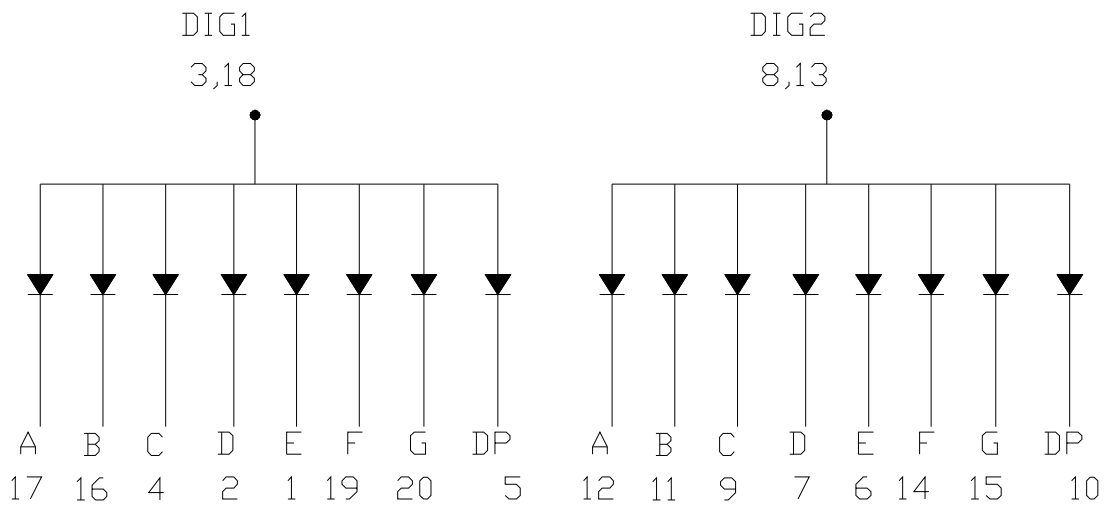
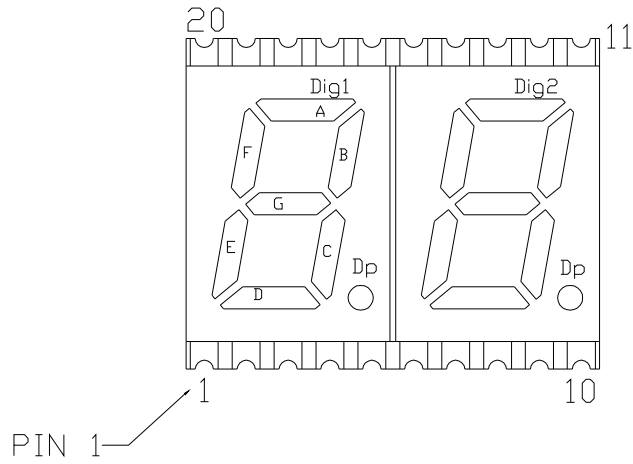
**Notes:**

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



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Internal Circuit Diagrams -



CSD-S30228 Common Anode  
(CSD-S30229 Common Cathode)



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■ Absolute Maximum Rating -

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation Per Dice	P <sub>AD</sub>	75	mW
Continuous Forward Current Per Dice	I <sub>AF</sub>	30	mA
Peak Current Per Dice(duty cycle 1/10,1KHz)	I <sub>PF</sub>	120	mA
Derating Linear From 25°C Per Dice	-	0.42	mA/°C
Reverse Voltage Per Dice	V <sub>R</sub>	5	V
Operating Temp.	T <sub>opr</sub>	-40 ~ +105	°C
Storage Temp.	T <sub>stg</sub>	-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	V <sub>F</sub>	-	1.8	2.5	V	I <sub>F</sub> =20mA
Luminous Intensity Per Segment	I <sub>v</sub>	2.5	6	-	mcd	I <sub>F</sub> =10mA
Peak Emission Wavelength	λ <sub>P</sub>	-	660	-	nm	I <sub>F</sub> =20mA
Spectrum Radiation Bandwidth	Δλ	-	20	-	nm	I <sub>F</sub> =20mA
Reverse Current	I <sub>R</sub>	-	-	100	μA	V <sub>R</sub> =5V
Luminous Intensity Matching Ratio	I <sub>v-m</sub>	-	-	2:1	-	I <sub>F</sub> =10mA



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**Typical Electrical / Optical Characteristics Curves -**

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

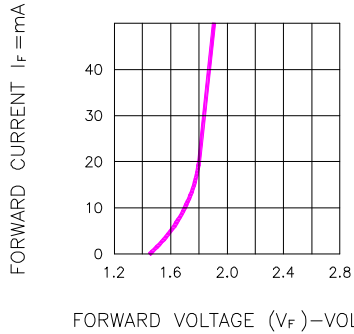


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

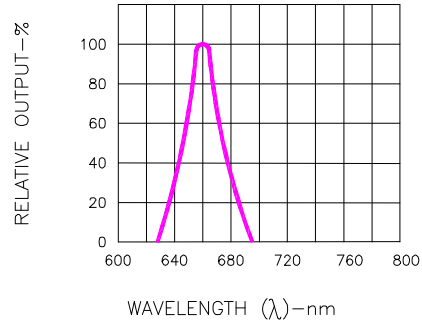


Fig.2 SPECTRAL RESPONSE

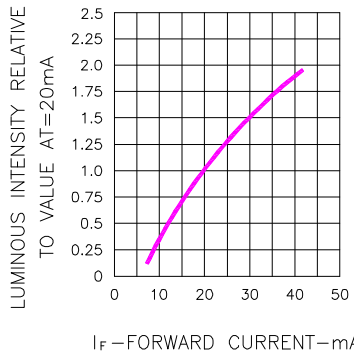


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

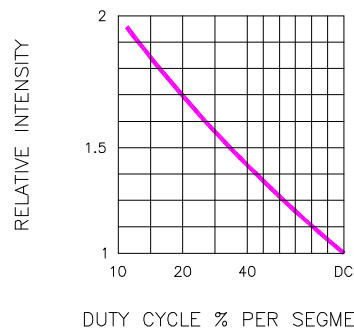


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

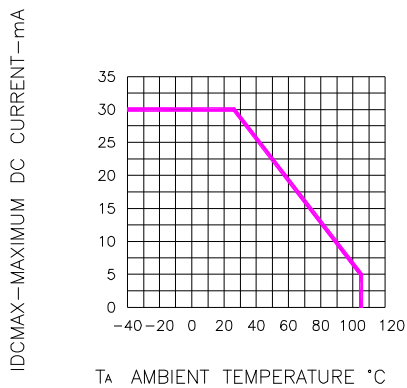


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

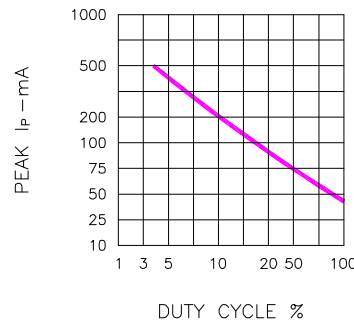


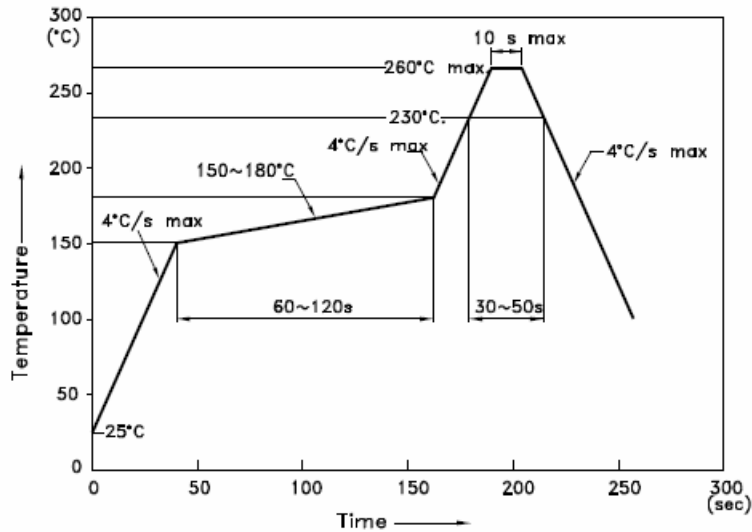
Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1 KHz)



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## SMT REFLOW SOLDERING INSTRUCTIONS

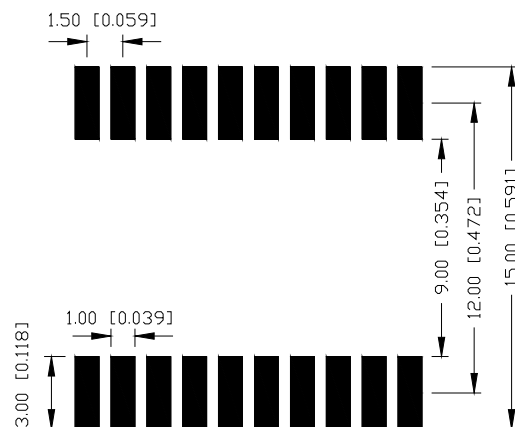
### ■ IR Reflow Temperature / Time :



#### 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

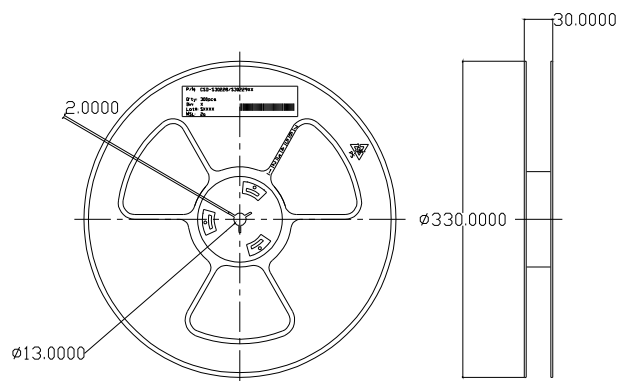




Spec. No.	PS-DD-S30228/S30229S
Rev.	A

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### REEL DIMENSIONS



### PACKING & LABEL SPECIFICATIONS

