



# PRODUCT SPECIFICATION

**Model No:CST-S30320A9/S30321A9**

## Descriptions:

- 0.3 Inch Triad Digit SMD Display
- Emitting Color : Super Bright Amber



| CUSTOMER APPROVED<br>SIGNATURES | APPROVED BY | CHECKED BY | PREPARED BY |
|---------------------------------|-------------|------------|-------------|
|                                 |             |            |             |

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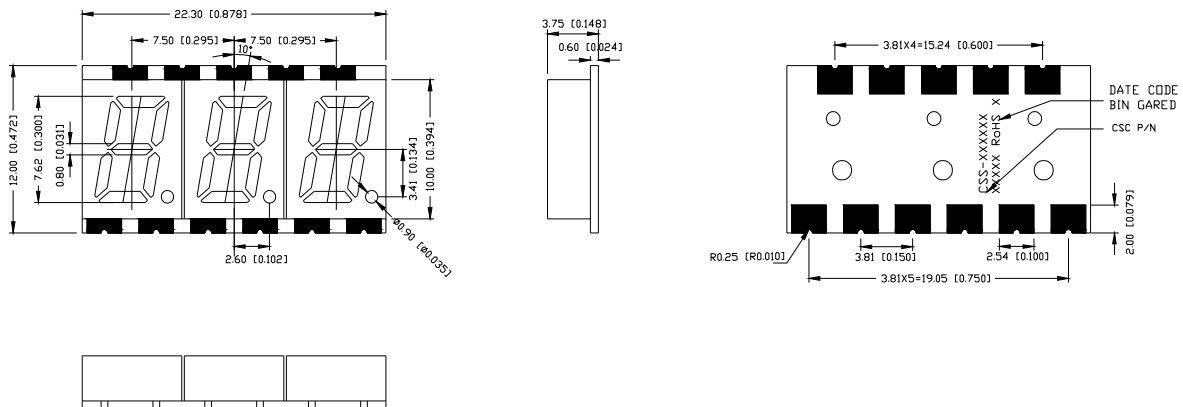
**Features -**

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            |                       |
| <b>CST-S30320A9</b> | <b>AlGaInP</b> | <b>Super Bright Amber</b> | <b>Common Anode</b>   |
| <b>CST-S30321A9</b> | <b>AlGaInP</b> | <b>Super Bright Amber</b> | <b>Common Cathode</b> |

**Mechanical Dimensions -**



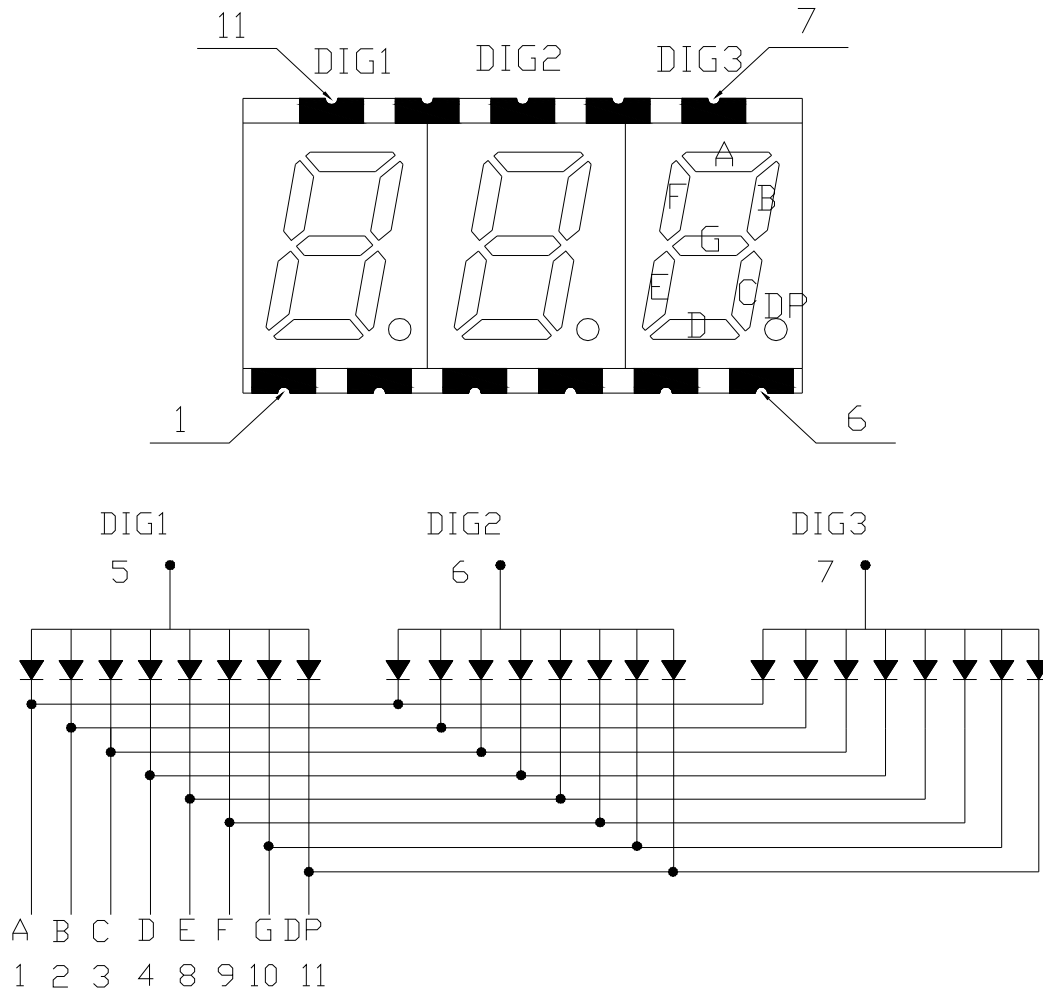
**Notes:**

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



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Internal Circuit Diagrams -



CST-S30320 Common Anode  
(CST-S30321 Common Cathode)



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■ Absolute Maximum Rating -

(Ta=25°C)

| Parameter                                   | Symbol           | Rating     | Unit  |
|---|------------------|------------|-------|
| Power Dissipation Per Dice                  | P <sub>AD</sub>  | 70         | mW    |
| Continuous Forward Current Per Dice         | I <sub>AF</sub>  | 25         | mA    |
| Peak Current Per Dice(duty cycle 1/10,1KHz) | I <sub>PF</sub>  | 90         | mA    |
| Derating Linear From 25°C Per Dice          | -                | 0.33       | 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    |

■ Electro-optical Characteristics -

(Ta=25°C)

| Parameter                         | Symbol           | Min. | Typ. | Max. | Unit | Condition            |
|-----------------------------------|------------------|------|------|------|------|----------------------|
| Forward Voltage Per Segment       | V <sub>F</sub>   | -    | 2.0  | 2.8  | V    | I <sub>F</sub> =20mA |
| Luminous Intensity Per Segment    | I <sub>v</sub>   | 6    | 15   | -    | mcd  | I <sub>F</sub> =10mA |
| Peak Emission Wavelength          | λ <sub>P</sub>   | -    | 612  | -    | 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)**

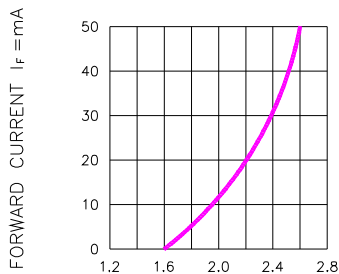


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

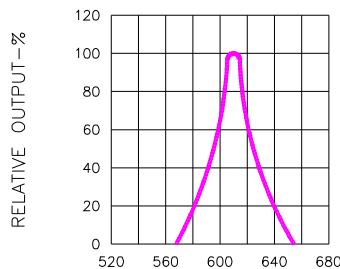


Fig.2 SPECTRAL RESPONSE

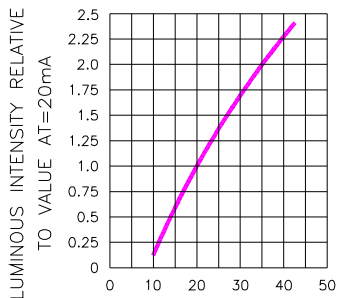


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

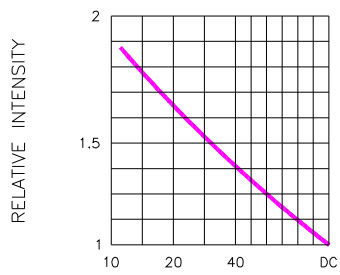


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE  
(AVERAGE I<sub>F</sub> = 10mA)

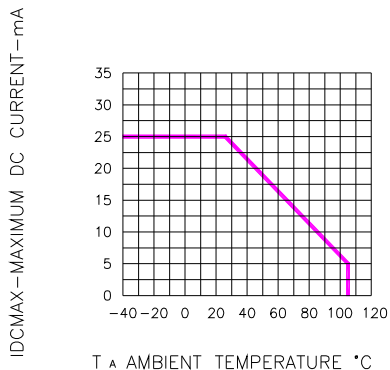


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

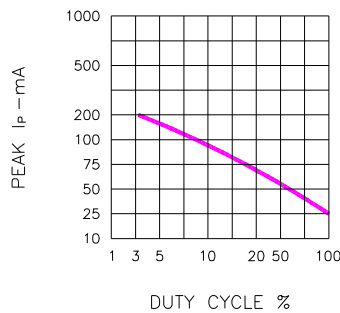


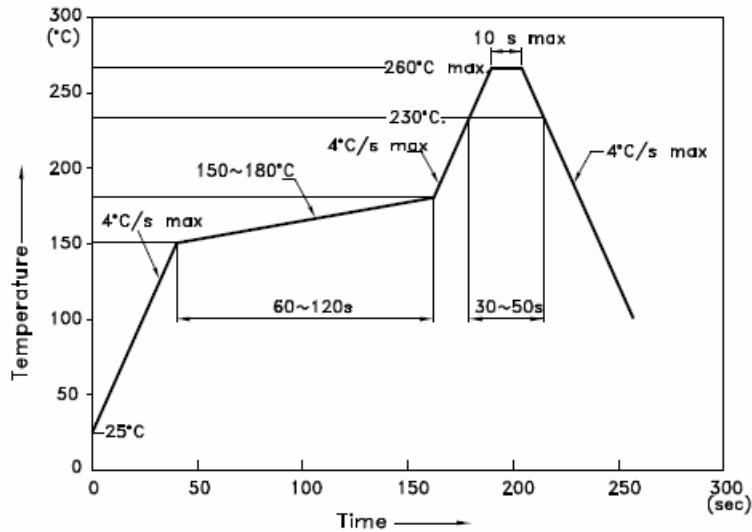
Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE %  
(REFRESH RATE f = 1 KHz)



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## SMT REFLOW SOLDERING INSTRUCTIONS

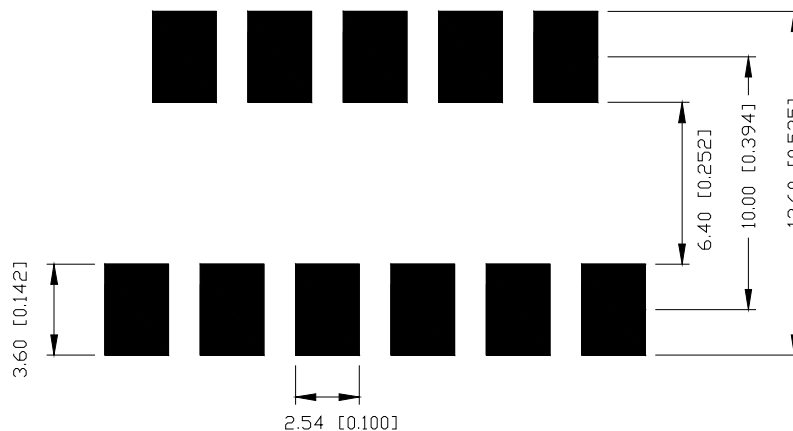
### ■ IR Reflow Temperature / Time :



#### 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.

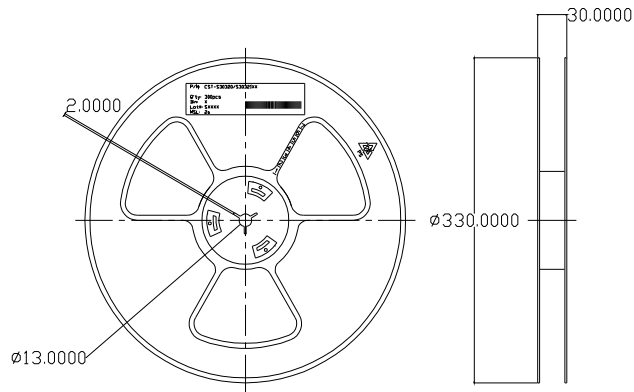
### ■ Soldering Pad Size



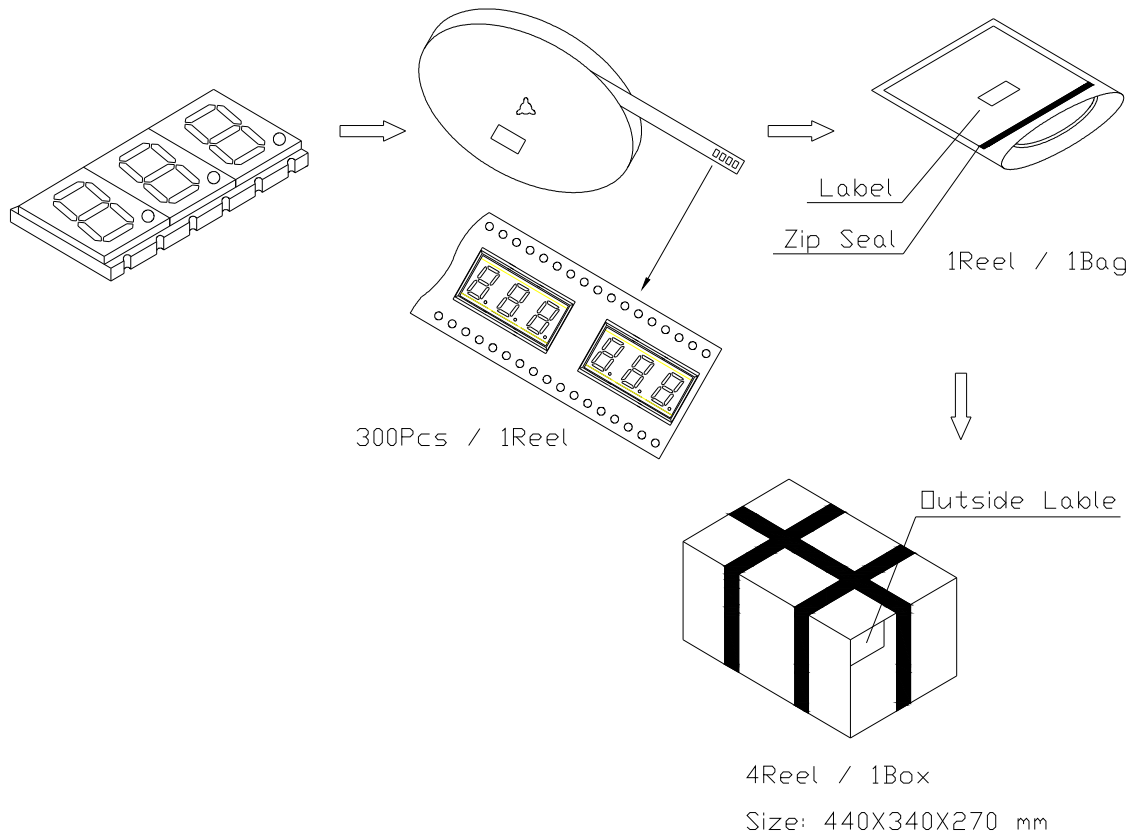


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### REEL DIMENSIONS



### PACKING & LABEL SPECIFICATIONS



Note: The specifications are subject to change without notice. Please contact us for updated