



CHINA  
SEMICONDUCTOR  
CORPORATION

|           |            |
|-----------|------------|
| Spec. No. | PS-ND-0711 |
| Rev.      | A          |

# PRODUCT SPECIFICATION

**Model No : CSS-1014S/1015S**

## Descriptions:

- 1.0 Inch Single Digit Display
- Emitting Color : Super Bright Red



| CUSTOMER APPROVED | APPROVED BY | CHECKED BY | PREPARED BY |
|-------------------|-------------|------------|-------------|
| SIGNATURES        |             |            | 陳新強         |

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:86-0575-8623888  
Fax:86-0575-8623112



**Model No : CSS-1014S/1015S**

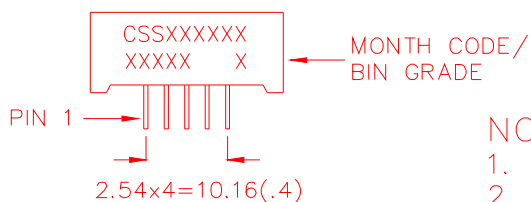
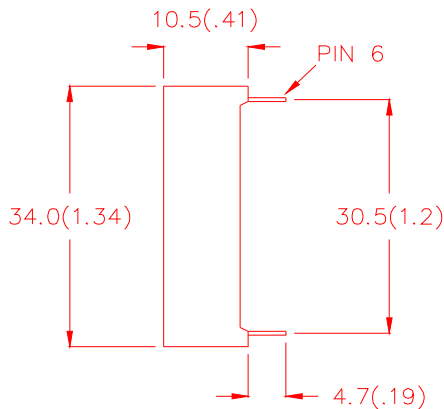
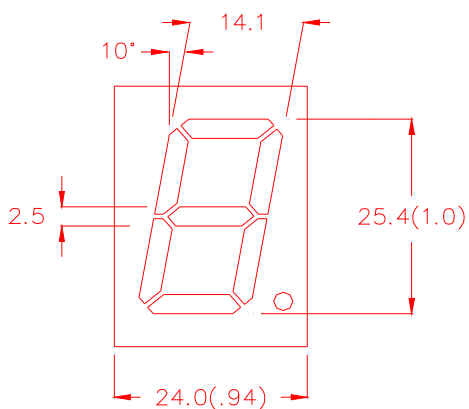
■ **Features -**

1. 1.0 inch (25.4mm) digit height.
2. Case mold type.
3. RoHs compliant.
4. Low power consumption.
5. ESD>1KV(HBM)
6. Easy mounting on P.C. board or socket.

■ **Device Selection Guide -**

| Part No.  | Chip     |                  | Description    |
|-----------|----------|------------------|----------------|
|           | Material | Emitted Color    |                |
| CSS-1014S | AlGaAs   | Super Bright Red | Common Anode   |
| CSS-1015S | AlGaAs   | Super Bright Red | Common Cathode |

■ **Mechanical Dimensions -**



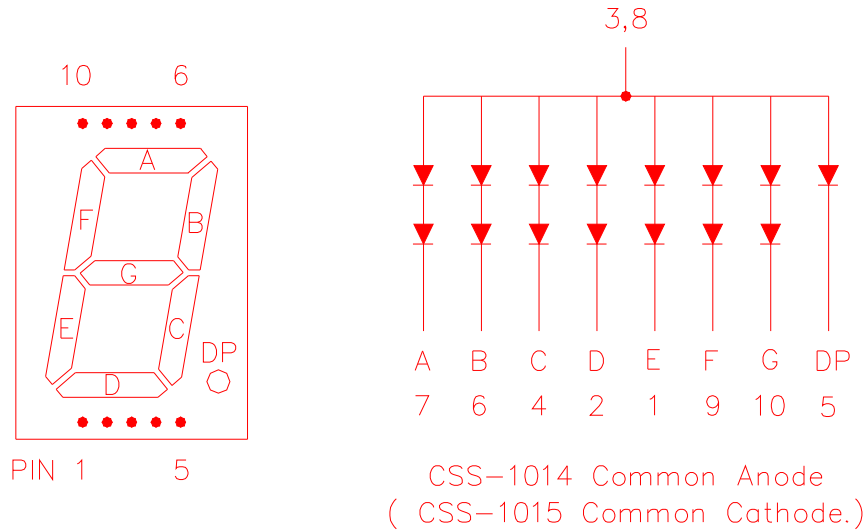
**NOTE:**

1. All pins are  $\phi 0.5(.02)$ .
2. Dimension in millimeter (inch), and tolerance is  $\pm 0.25 (.01)$  unless otherwise noted.



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Internal Circuit Diagrams -



Absolute Maximum Rating -

(Ta=25°C)

| Parameter                                                               | Symbol      | Rating    | Unit  |
|-------------------------------------------------------------------------|-------------|-----------|-------|
| Power Dissipation Per Dice                                              | <b>Pd</b>   | 75        | mW    |
| Continuous Forward Current Per Dice                                     | <b>IAF</b>  | 30        | mA    |
| Peak Current Per Dice (duty cycle 1/10, 1KH)                            | <b>IPF</b>  | 120       | mA    |
| Derating Linear From 25°C Per Dice                                      | -           | 0.42      | mA/°C |
| Reverse Voltage Per Dice                                                | <b>VR</b>   | 5         | V     |
| Operating Temp.                                                         | <b>Topr</b> | -35 ~ +85 | °C    |
| Storage Temp.                                                           | <b>Tstg</b> | -35 ~ +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)  | $V_F$            | -    | 3.6(1.8) | 5.0(2.5) | V       | $I_F=20mA$ |
| Luminous Intensity Per Segment    | $I_v$            | -    | 12       | -        | mcd     | $I_F=20mA$ |
| Peak Emission Wavelength          | $\lambda_p$      | -    | 660      | -        | nm      | $I_F=20mA$ |
| Dominant Wavelength               | $\lambda_d$      | -    | 643      | -        | nm      | $I_F=20mA$ |
| Spectrum Radiation Bandwidth      | $\Delta \lambda$ | -    | 20       | -        | nm      | $I_F=20mA$ |
| Reverse Current                   | $I_R$            | -    | -        | 100      | $\mu A$ | $V_R=10V$  |
| Luminous Intensity Matching Ratio | IV-m             | -    | -        | 2:1      | -       | $I_F=20mA$ |



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## Typical Electrical / Optical Characteristics Curves -

(Ta = 25°C Unless Otherwise Noted)

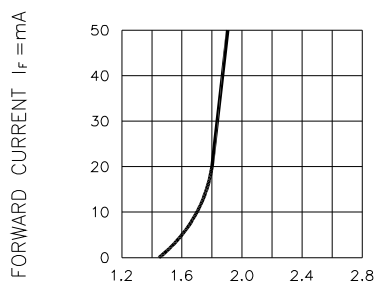


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

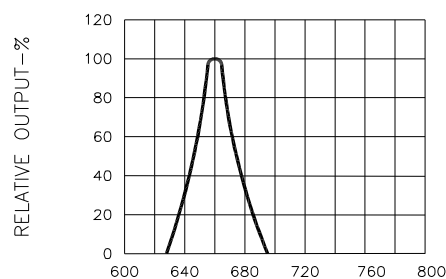


Fig.2 SPECTRAL RESPONSE

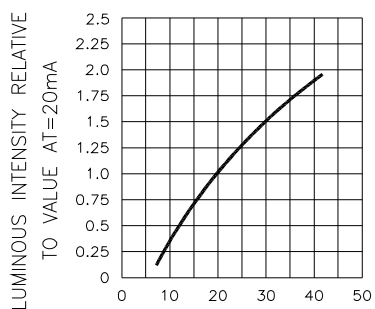


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

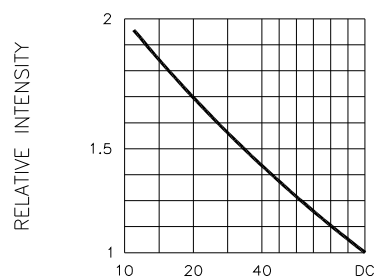


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

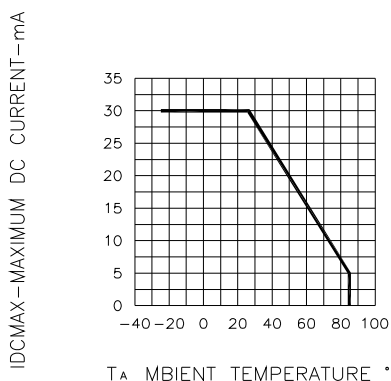


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

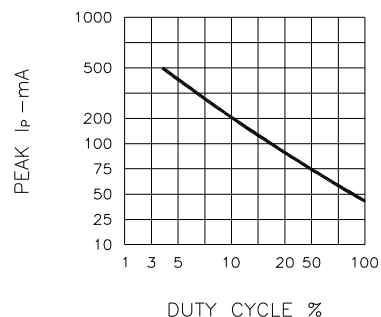


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1 KHz)



|           |            |
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## ■ Package Dimensions

