

PRODUCT SPECIFICATION

Model No.: CSOD-40202B CSOD-40203B

| Descriptions: |
|---|
| <ul style="list-style-type: none"> ■ 0.4 Inch Dual Digit Display ■ CSOD-40202 is Common Anode ■ CSOD-40203 is Common Cathode ■ Emitting Color: Blue ■ Standard: -11: Gray face, white segment. -21: Black face, white segment. |



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

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Model No.: CSOD-40202B CSOD-40203B

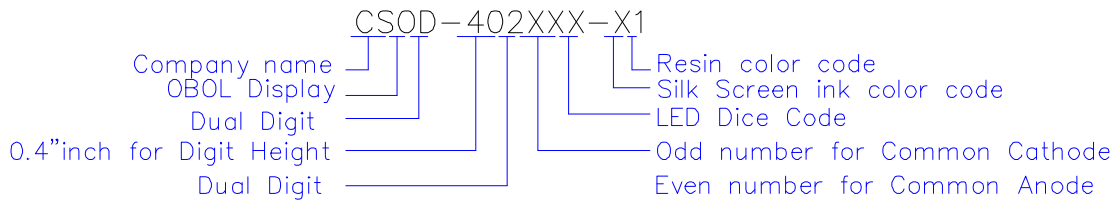
Features -

1. 0.4 inch (10.20mm) digit height.
2. Case mold type.
3. RoHS compliant.
4. Low power consumption.
5. Easy mounting on P.C. board or socket.

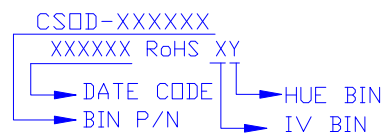
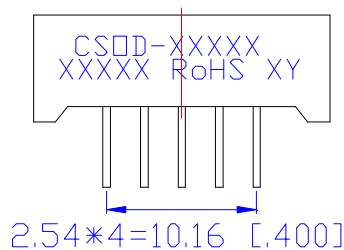
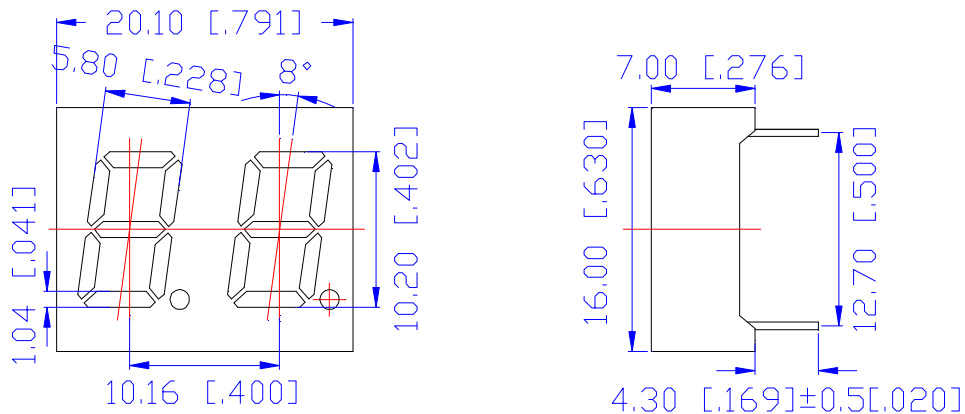
Device Selection Guide -

| Model No. | Chip | |
|-------------|----------|----------------|
| | Material | Emitting Color |
| CSOD-4020XB | InGaN | Blue |

LED Numeric/Alphanumeric Display



Mechanical Dimensions -

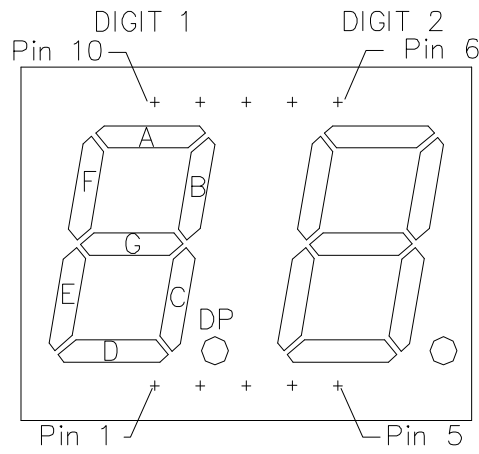


Notes:

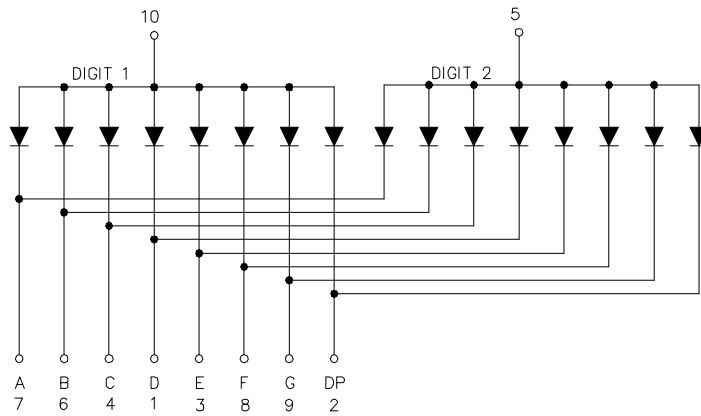
1. All pins are $\Phi 0.51 [0.020] \pm 0.1 [0.004]$
2. Dimension in millimeter [inch], tolerance is $\pm 0.25 [0.010]$ and angle is $\pm 1^\circ$ unless otherwise noted.
3. Bending \leq Length*1%.

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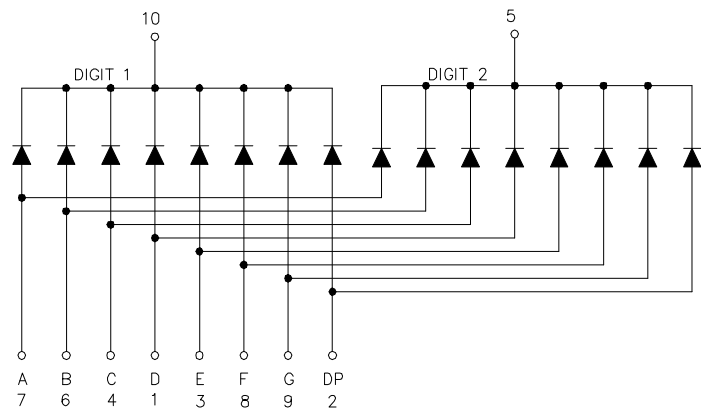
■ All Light On Segments Feature & Pin Position



■ Internal Circuit Diagrams -



CSOD-40202 is Common Anode



CSOD-40203 is Common Cathode

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■ Absolute Maximum Rating -

(Ta=25°C)

| Parameter | Symbol | Rating | Unit |
|---|--------|-----------|-------|
| Power Dissipation Per Dice | PAD | 114 | mW |
| Derating Liner from 25°C per Dice | - | 0.4 | mA/°C |
| Continuous Forward Current Per Dice | IAF | 30 | mA |
| Peak Current Per Dice(duty cycle 1/10,1KHz) | IPF | 100 | mA |
| Reverse Voltage Per Dice | VR | 5 | V |
| Electrostatic discharge(HBM) | ESD | 1000 | V |
| Operating Temp. | Topr | -35 ~ +85 | °C |
| Storage Temp. | Tstg | -35 ~ +85 | °C |
| Hand Soldering Temp. | Tsol | 350 | °C |

■ Electro-optical Characteristics -

(Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Condition |
|-----------------------------------|------------------|------|------|------|------|----------------------|
| Forward Voltage Per Segment | V _F | - | 3.2 | 3.8 | V | I _F =20mA |
| Luminous Intensity Per Segment | I _v | - | 17 | - | mcd | I _F =10mA |
| Dominant Wavelength | λ _d | - | 465 | - | nm | I _F =20mA |
| Reverse Current | I _R | - | - | 50 | μA | VR=5V |
| Luminous Intensity Matching Ratio | I _{v-m} | - | - | 2:1 | - | I _F =10mA |

Notes:The device can not operated under continuous reverse voltage.

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Typical Electrical / Optical Characteristics Curves -

(Ta = 25°C Unless Otherwise Noted)

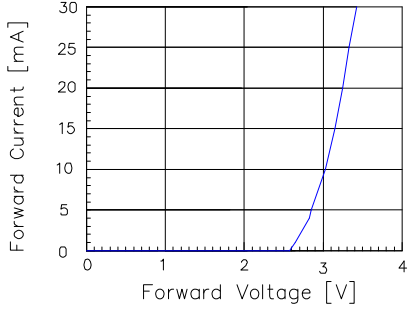


Fig 1. Forward Current vs. Forward Voltage

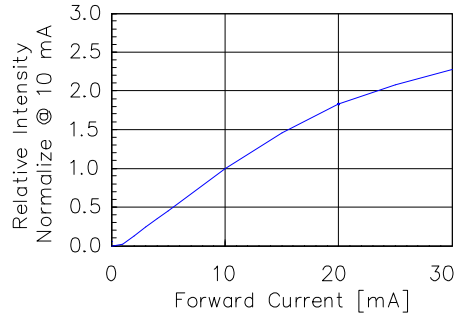


Fig 2. Relative Intensity vs. Forward Current

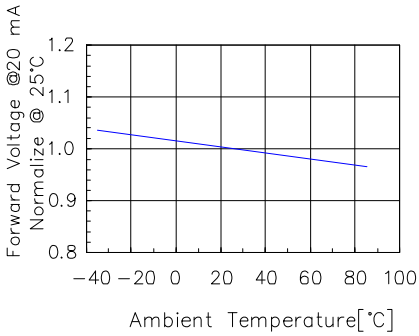


Fig 3. Forward Voltage vs. Temperature

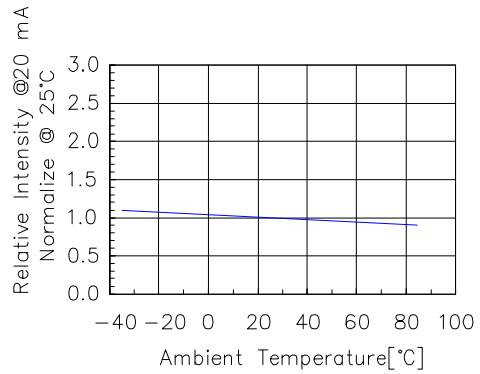


Fig 4. Relative Intensity vs. Temperature

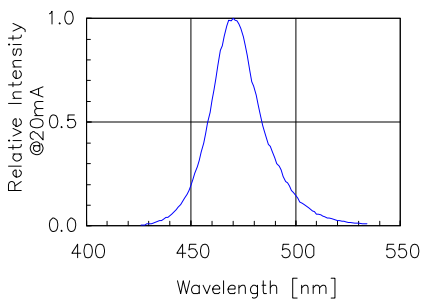


Fig 5. Relative Intensity vs. Wavelength

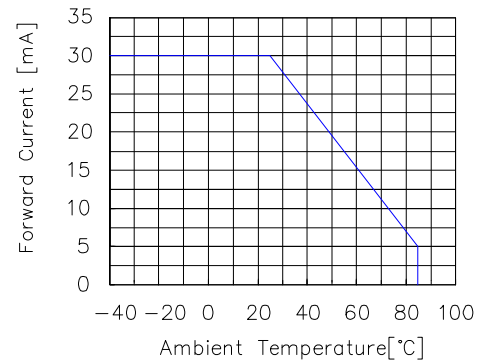


Fig 6. Forward current vs. Temperature

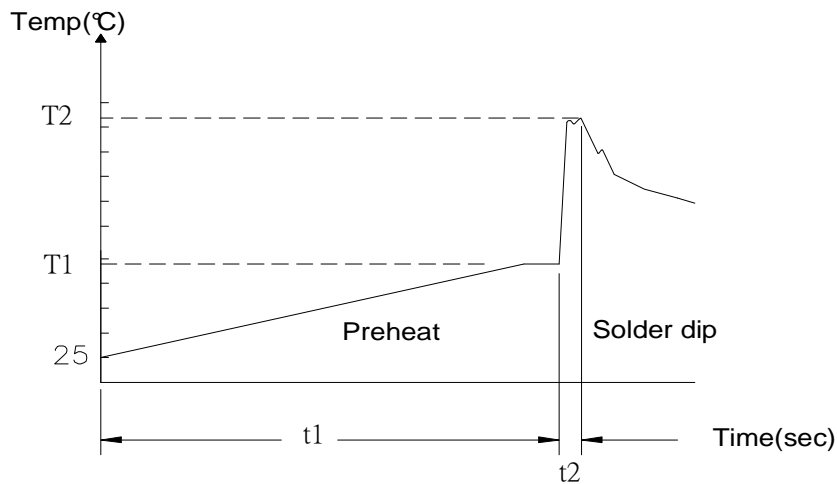
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■ Precautions For Use -

1.Wave Soldering Profile

Distance:1.6mm min(From seating plane)

| Item | Condition | | Note |
|------------|----------------|-------------|---|
| Preheat | Temperature T1 | 80 – 120°C | PWB temperature (Soldering side surface) |
| | Time t1 | 60 – 180sec | |
| Solder Dip | Temperature T2 | 230 – 260°C | Bath temperature |
| | Time t2 | 2 – 4sec | Solder tank passage time |



2.Hand Soldering (Iron Condition)

Soldering Iron:30W Max

Temperature 350°C Max

Soldering Time:3 Seconds Max(One Time)

Distance:1.6mm min(From seating plane)