

# AVA TECHNOLOGY CO.

## Technical Specification

Model: ND39G1

Name: .39"Seven-Segment Display

REV: A

Date: 2006-1-6

**AVA TECHNOLOGY CO.**

**2640 S. Myrtle Ave. Suite 6, Monrovia, CA 91016**

**Tel: 626-574-7726 Fax: 626-574-7732**

# AVA TECHNOLOGY CO.

## DESCRIPTION••

THE GREEN SOURCE COLOR DEVICES  
ARE MADE WITH InGaAlP ON GaAs  
SUBSTRATE LIGHT EMITTING DIODE

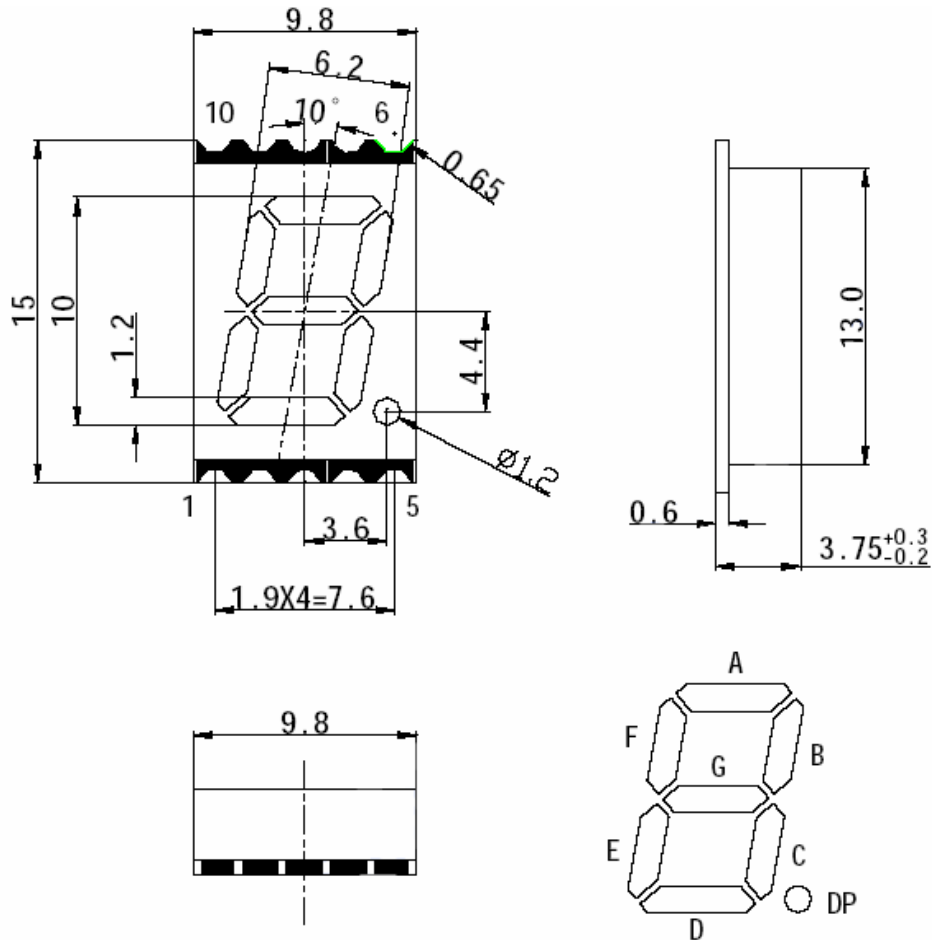


## FEATURES

- \* 0.39 inch (10.0 mm) DIGIT HEIGHT
- \* CONTINUOUS UNIFORM SEGMENTS
- \* LOW POWER REQUIREMENT
- \* EXCELLENT CHARACTERS APPEARANCE
- \* HIGH BRIGHTNESS & HIGH CONTRAST
- \* WIDE VIEWING ANGLE
- \* SOLID STATE RELIABILITY
- \* CATEGORIZED FOR LUMINOUS INTENSITY
- \* THE CHARACTERISTIC OF ENCAPXULATION  
METHOD IS USE THE CHIP ON BORAD OR SMT

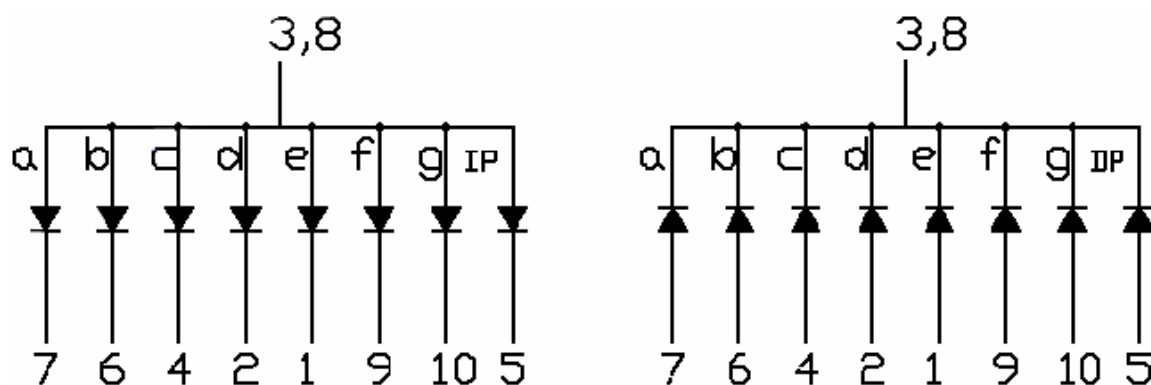
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## PACKAGE DIMENSIONS



NOTES: All dimensions are in millimeters. Tolerances are  $\pm 0.25$ -mm (0.01") unless otherwise noted.

## INTERNAL CIRCUIT DIAGRAM



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## Selection Guide

| Part No.    | Dice            | Lens Type         | Iv (mcd)<br>@10mA |       | Description    |
|-------------|-----------------|-------------------|-------------------|-------|----------------|
|             |                 |                   | Min.              | Typ.  |                |
| ND39G1AYG-S | GREEN (InGaAlP) | WHITE<br>DIFFUSED | 11.08             | 12.04 | Common Anode   |
| ND39G1CYG-S | GREEN (InGaAlP) | WHITE<br>DIFFUSED | 11.08             | 12.04 | Common Cathode |

## ABSOLUTE MAXIMUM RATING AT Ta = 25°C

| PARAMETER                     | MAXIMUM RATING | UNIT |
|-------------------------------|----------------|------|
| Power Dissipation Per Segment | 105            | mW   |
| DC Forward Current            | 25             | mA   |
| Peak Forward Current          | 140            | mA   |
| Reverse Voltage Per Segment   | 5              | V    |
| Operating Temperature Range   | -40°C to +85°C |      |

## ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta = 25°C

| PARAMETER                   | SYMBOL          | MIN. | TYP. | MAX. | UNIT | TEST CONDITION       |
|-----------------------------|-----------------|------|------|------|------|----------------------|
| Peak Emission Wavelength    | $\lambda_p$     |      | 573  |      | nm   | I <sub>F</sub> =20mA |
| Spectral Line Half-Width    | $\Delta\lambda$ |      | 30   |      | nm   | I <sub>F</sub> =20mA |
| Dominant Wavelength         | $\lambda_d$     |      | 570  |      | nm   | I <sub>F</sub> =20mA |
| Forward Voltage Per Segment | V <sub>F</sub>  |      | 2.15 | 2.5  | V    | I <sub>F</sub> =20mA |
| Reverse Current Per Segment | I <sub>R</sub>  |      |      | 10   | μA   | V <sub>R</sub> =5V   |

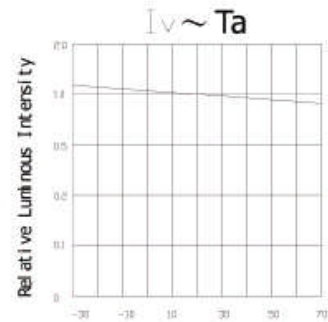
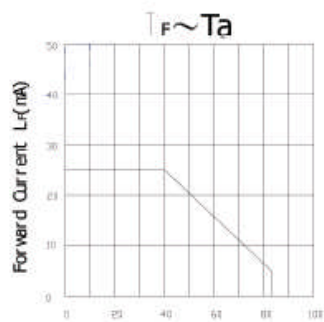
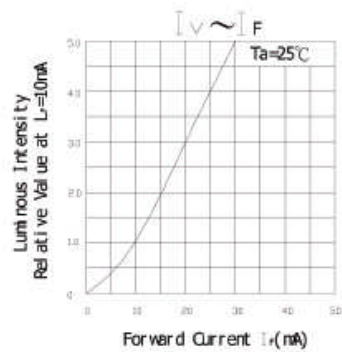
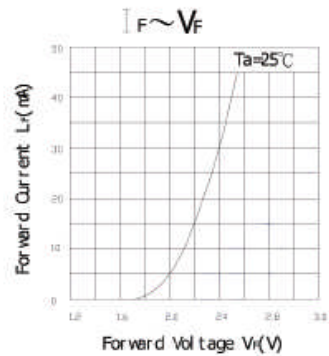
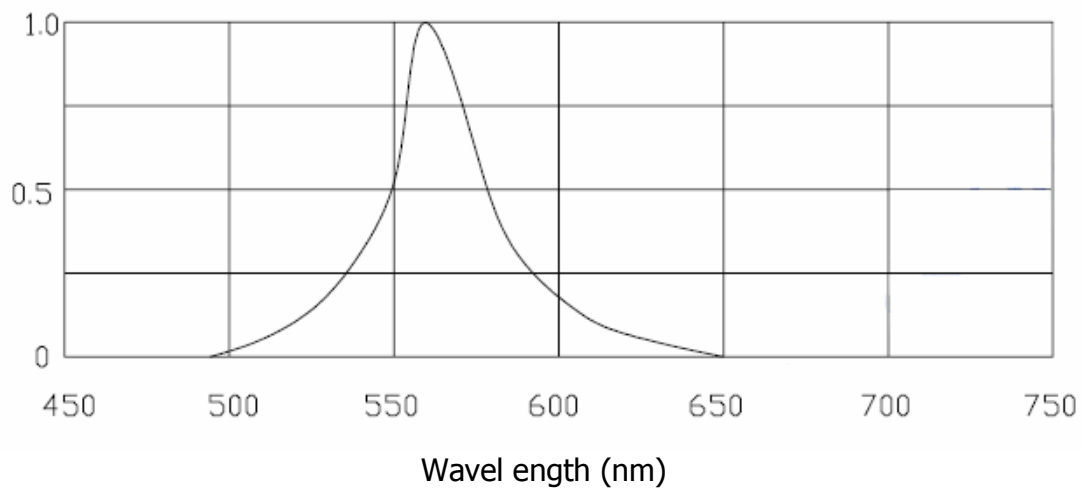
Note: Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commission Internationale De L'Eclairage) eye-response curve.

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## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

### RELATIVE INTENSITY vs WAVELENGTH



Ambient Temperature  $T_a$ (°C)

Ambient Temperature  $T_a$ (°C)

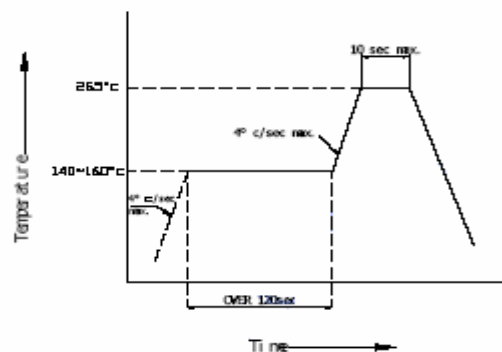
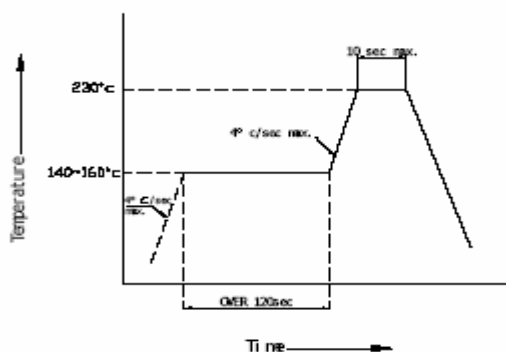
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## THE CHIP ON BOARD OR SMT Reflow Soldering Instructions

Number of reflow process shall be 2 times or less and cooling

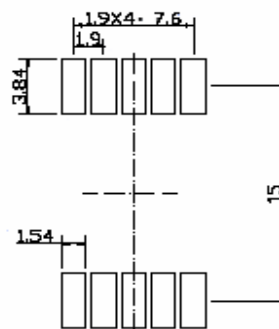
Process to normal temperature is required between first and

Second soldering process.



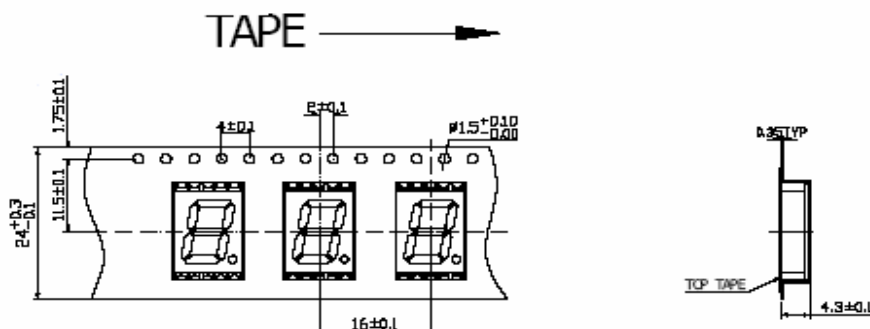
## Recommended Soldering Pattern

**(Units:mm)**



## Tape Specifications

**(Units:mm)**

**Remarks:**

**If special sorting is required (e.g. binning based on forward voltage, luminous intensity, or wavelength), the typical accuracy of the sorting process is as follow:**

1. Wavelength:  $\pm 1\text{nm}$
2. Luminous Intensity:  $\pm 15\%$
3. Forward Voltage:  $\pm 0.1\text{V}$

**Note:** Accuracy may depend on the sorting parameters.