# Seven Segment Display Data Sheet

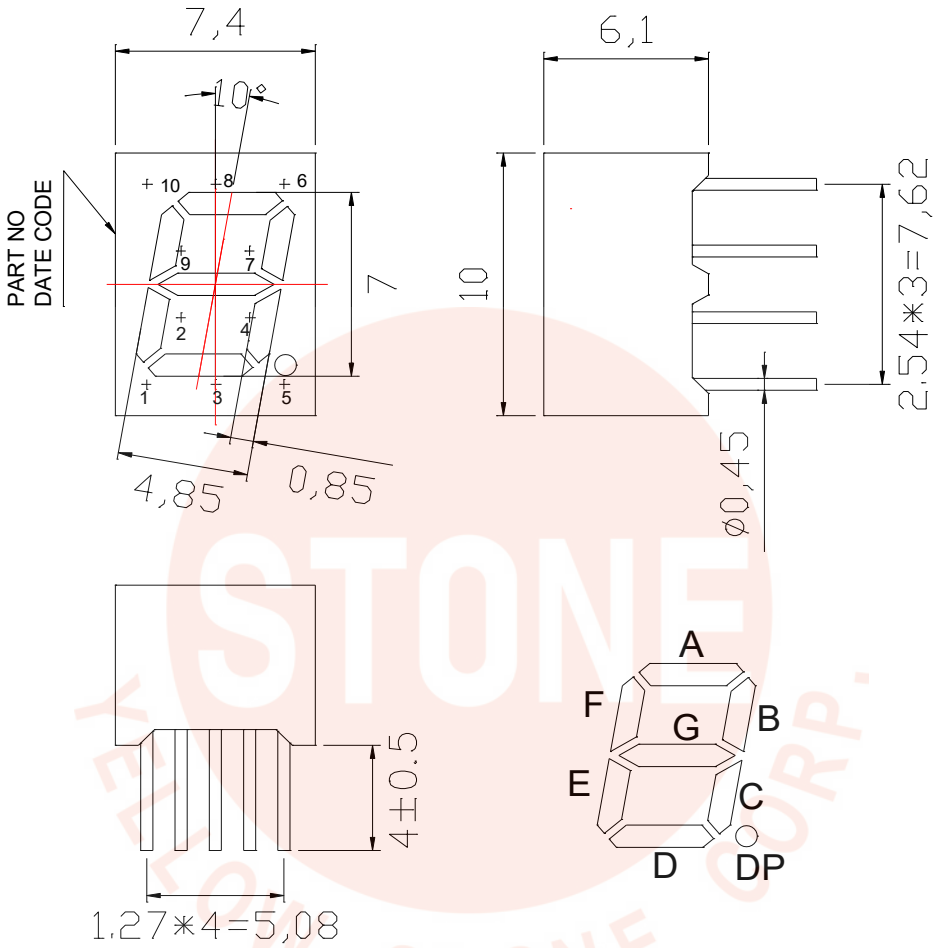
## Description

This YDS-2189AW-N is a 0.28 inch (7 mm)digit height single digit display .
This device uses blue LED chips(InGaN epi on a Sapphire substrate) and YAG, and has a black face and yellow segments.

## Features

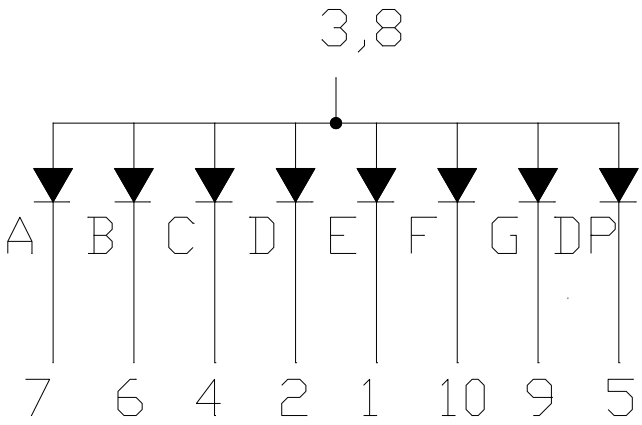
- 0.28 inch (7 mm) digit height
- Continuous uniform segments
- Low power requirement
- Excellent characters appearance
- High brightness & high contrast
- Wide viewing angle
- Solid state reliability
- Categorized for luminous intensity

## Package Dimensions




1.All dimensions are in millimeters. Tolerances are 0.25 mm (0.01") unless otherwise noted.

## Internal Circuit Diagrams



## Absolute Maximum Rating (Ta = 25°C)

| Parameter | Maximum Rating | Unit |
|---|---|---|
| Power Dissipation Per Segment | 70 | mW |
| Peak Forward Current Per Segment ( Frequency 1Khz, 15% duty cycle) | 100 | mA |
| Continuous Forward Current Per Segment | 20 | mA |
| Reverse Voltage Per Segment | 5 | V |
| Operating Temperature Range | -35°C to +85°C | |
| Storage Temperature Range | -35°C to +85°C | |
| Soldering Conditions: 1/16 inch below seating plane for 3 seconds at 260°C | | |

This product should be operated in forward bias. If a reverse voltage is continuously applied to the product, such operation can cause migration resulting in LED damage.

## Electrical / Optical Characteristics (Ta = 25°C)

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITION |
|---|---|---|---|---|---|---|
| Average Luminous Intensity | Iv | 35 | 70 | | mcd | IF=10mA |
| CIE | x | | 0.24 | | nm | IF=20mA |
| | y | | 0.22 | | | |
| Forward Voltage Per Segment | VF | - | 3.0 | 3.6 | V | IF=20mA |
| Reverse Current Per Segment | IR | | | 10 | uA | VR=5V |
| Luminous Intensity Matching Ratio | Iv-m | | | 1:2 | | IF=10mA |

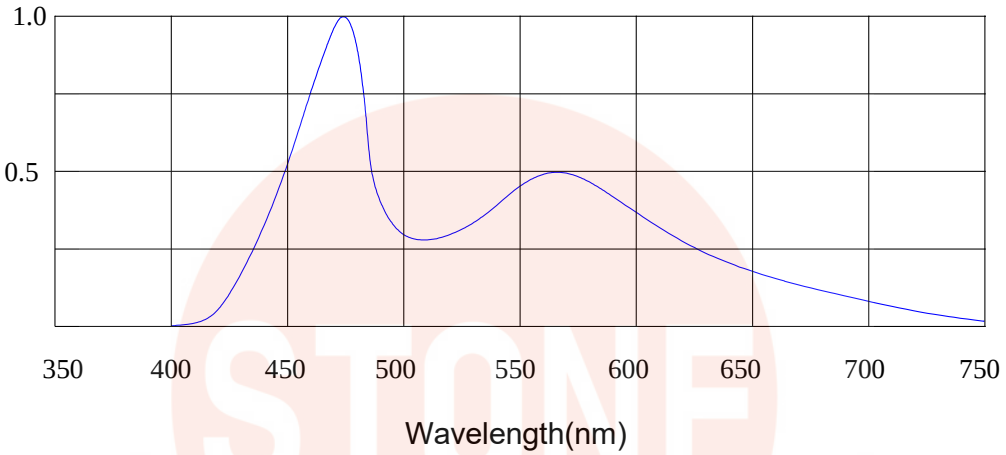
Note:1.Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commision Internationale De L'Eclairage) eye-response curve.

2.Wavelength: +/-1nm Luminous Intensity: +/-15% Forward Voltage: +/-0.1V

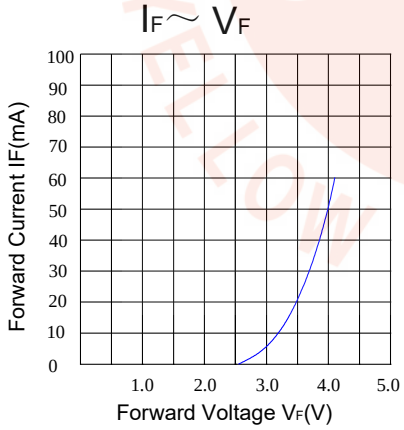
## Typical Electrical / Optical Characteristic Curves

(25°C Ambient Temperature Unless Otherwise Noted)

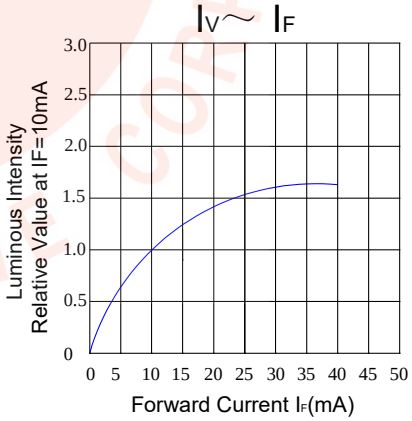
### RELATIVE INTENSITY vs WAVELENGTH



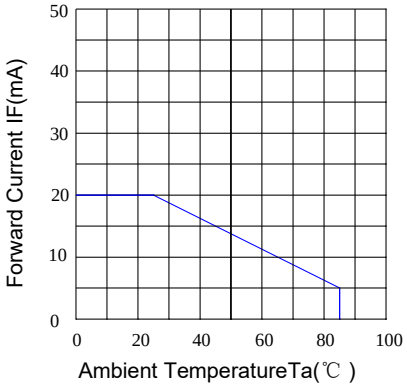

### $I_F \sim V_F$



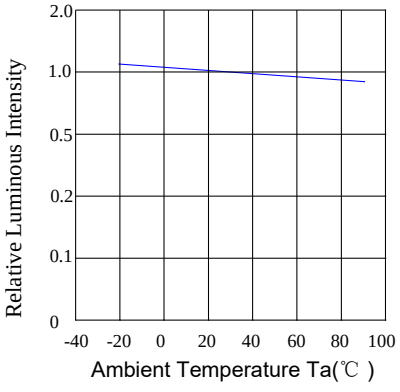

### $I_V \sim I_F$




### $I_F \sim Ta$




### $I_V \sim Ta$



## Package Flow