# YDS-A31RBWK

**0.31inch (8.00mm) Red LED Display**

**Single Digit 7-segment LED Display**

## Technical Data Sheet

### Features

- 0.31″ (inch) digit height
- Low power consumption
- High reliability
- Excellent characters appearance
- Available in common cathode or common anode
- The product itself will remain within RoHS compliant Version.

### Descriptions

- The YDS-A31RBWK is a 0.31inch (8.00mm) height single digit display.
- The display provides excellent reliability in bright ambient light.
- The device is made with white segments and black surface.

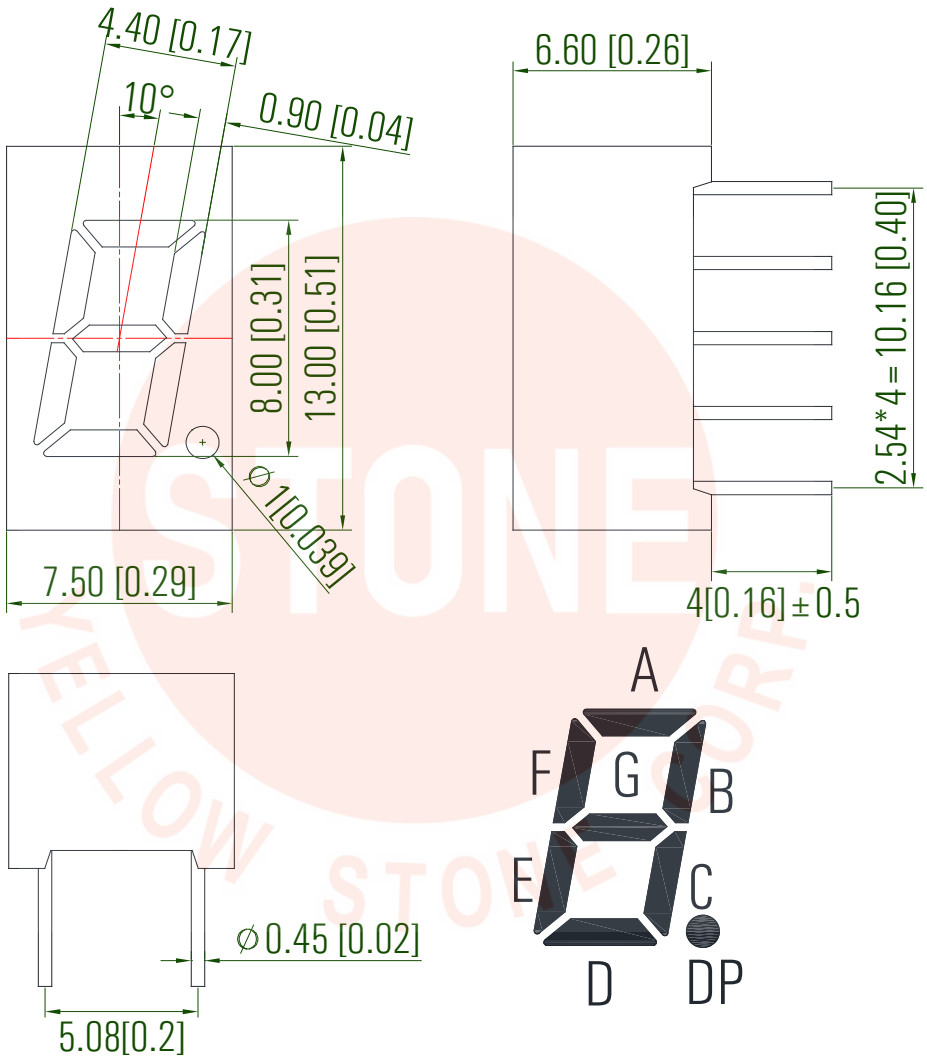
### Applications

- Home and smart appliances
- Display time and digital combination
- Industrial and instrumental applications
- Numeric status

### Device Selection Guide

| Part No. | Emitting Color | Polarity |
|---|---|---|
| YDS-A31RBWK | Red | Common anode |

**Package Dimension**



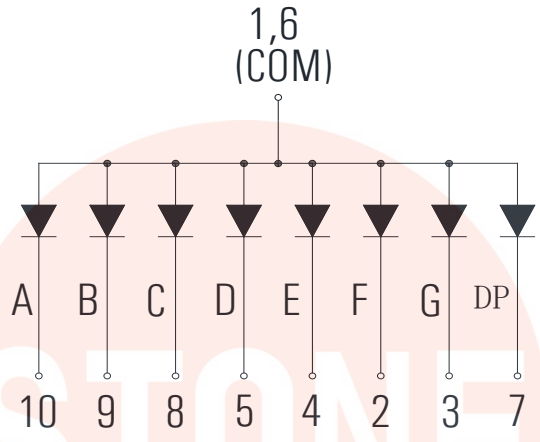

*Notes:*

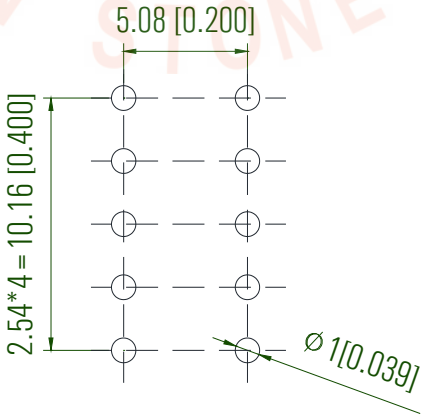
*1. All dimensions are in millimeters (inches).*

*2. Tolerance is ± 0.25 mm (.010") unless otherwise noted.*

*3.The gap between the reflector and PCB shall not exceed 0.25mm.*

**Internal Circuit Diagram:**



## Absolute Maximum Ratings at Ta=25℃

| Parameters | Symbol | Max | Unit |
|---|---|---|---|
| Power Dissipation Per Segment | $P_d$ | 48 | mW |
| Peak Forward Current Per Segment (1/10 Duty Cycle, 0.1ms Pulse Width) | $I_{FP}$ | 40 | mA |
| Forward Current Per Segment | $I_F$ | 20 | mA |
| Reverse Voltage Per Segment | $V_R$ | 5 | V |
| Operating Temperature Range | $T_{opr}$ | -40℃ to +80℃ | |
| Storage Temperature Range | $T_{stg}$ | -40℃ to +85℃ | |
| Soldering Temperature | $T_{sld}$ | 260℃ for 5 Seconds | |

## Electrical Optical Characteristics at Ta=25℃

| Parameters | Symbol | Min. | Typ. | Max. | Unit | Test Condition |
|---|---|---|---|---|---|---|
| Average Luminous Intensity | Iv | 4.5 | 9.0 | --- | mcd | IF=10mA (Note a) |
| | | 9.0 | 18.0 | --- | mcd | IF=20mA (Note a) |
| Luminous Intensity Matching Ratio | $I_{v-m}$ | --- | --- | 2:1 | | IF=20mA |
| Peak Emission Wavelength | λp | --- | 645 | --- | nm | IF=20mA |
| Dominant Wavelength | λd | --- | 630 | --- | nm | IF=20mA (Note b) |
| Spectral Line Half-Width | △λ | --- | 20 | --- | nm | IF=20mA |
| Forward Voltage Per Segment | $V_F$ | --- | 2.0 | 2.4 | V | IF=20mA |
| Reverse Current Per Segment | $I_R$ | --- | --- | 50 | μA | VR=5V |

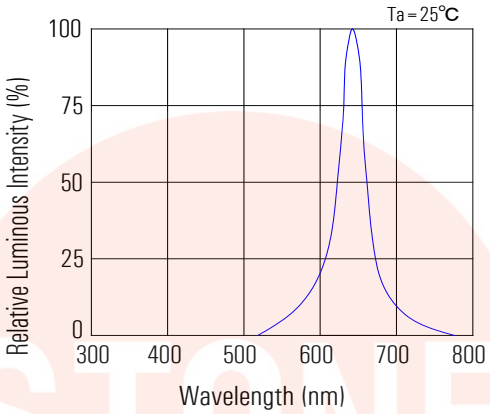
*Notes:*

*a. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.*

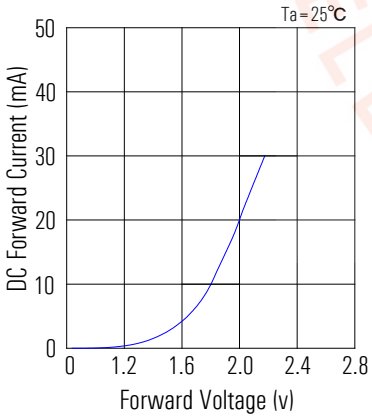
*b. The dominant wavelength (λd) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.*

**Typical Electrical/Optical Characteristics Curves**

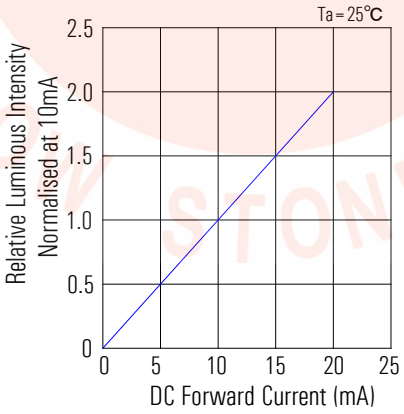
Relative Luminous Intensity Vs Wavelength



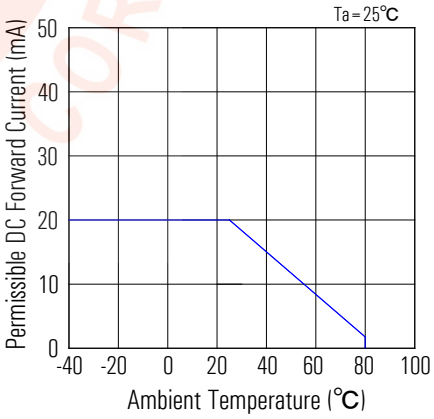

Forward Current vs Forward Voltage




Relative Luminous Intensity vs Forward Current




Forward Current Derating Curve



**Packing & Label Specifications:**