

# PRODUCT SPECIFICATION

**Model No.: FYS-23011A/BX-XX**

## Descriptions & Features:

- 2.30 Inch (56.80mm) digit height Single Digit Display
- Case mold type.
- RoHS compliant.
- Low current operation
- Low power consumption.
- Easy mounting on P.C. board or socket.



| CUSTOMER APPROVED<br>SIGNATURES | APPROVED BY | CHECKED BY | PREPARED BY |
|---------------------------------|-------------|------------|-------------|
|                                 |             |            |             |

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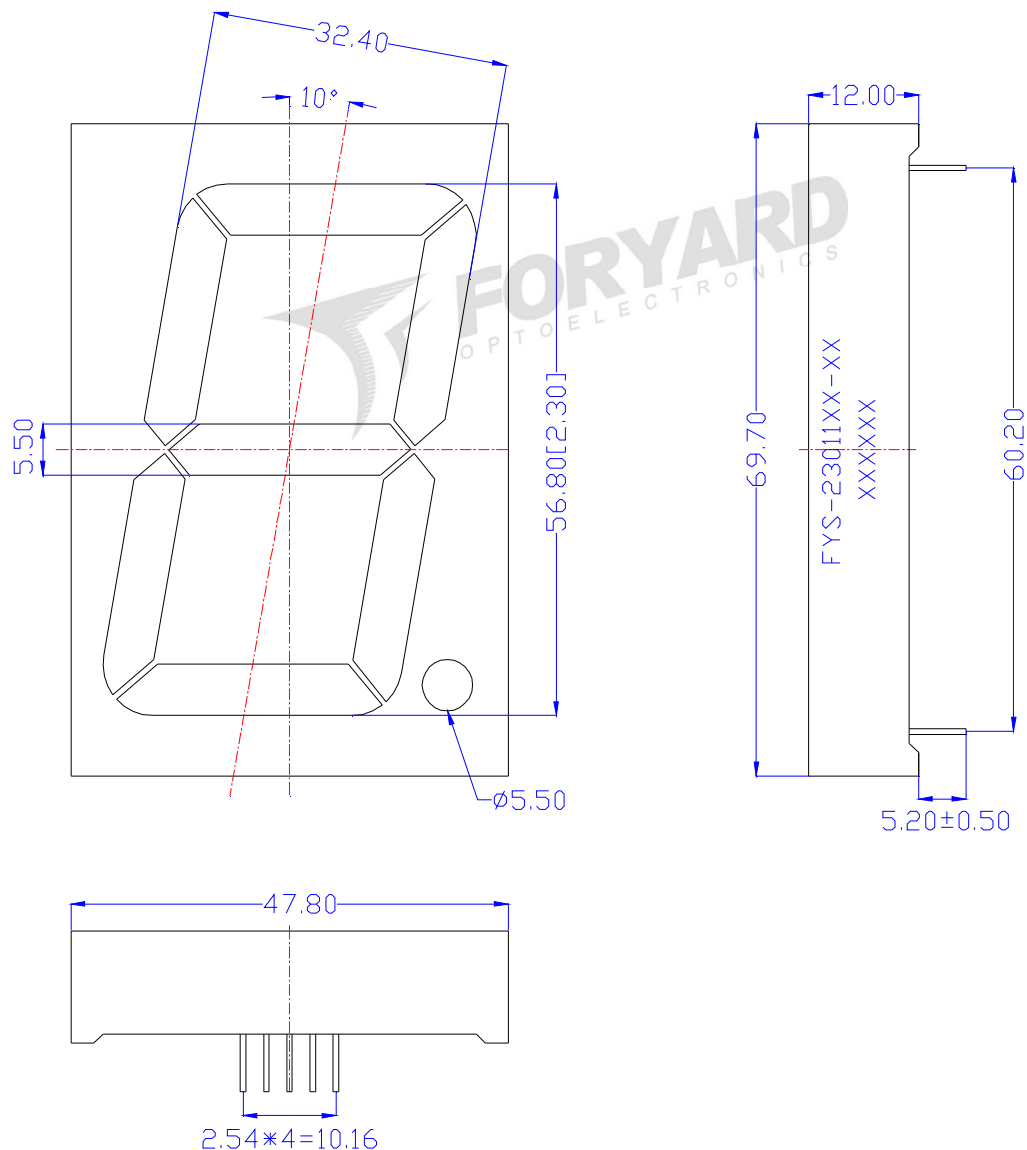
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■ -XX: REF Surface / Epoxy color

| Color \ Number    | 0             | 1       | 2      | 3       | 4        |
|-------------------|---------------|---------|--------|---------|----------|
| REF Surface Color | ○ White       | ○ Black | ○ Gray | ○ Red   | ○ Green  |
| Epoxy Color       | ○ Water Clear | ○ White | ○ Red  | ○ Green | ○ Yellow |

■ Mechanical Dimensions

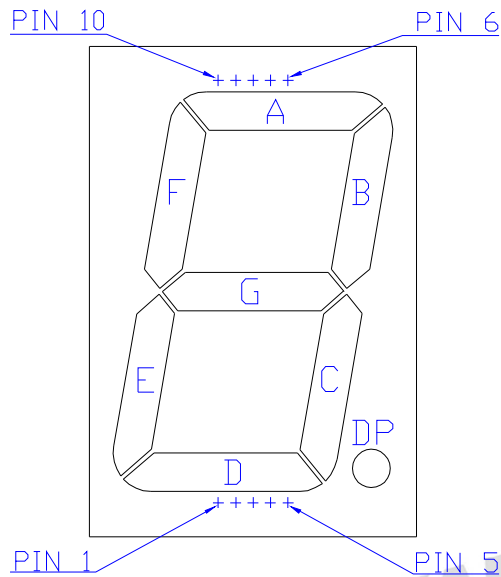


Notes:

1. All pins are  $\phi 0.60[.023]$ mm
2. Dimension in millimeter [inch], tolerance is  $\pm 0.25 [ .010 ]$  and angle is  $\pm 1^\circ$  unless otherwise noted.
3. Bending  $\leq$  Length\*1%.
4. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

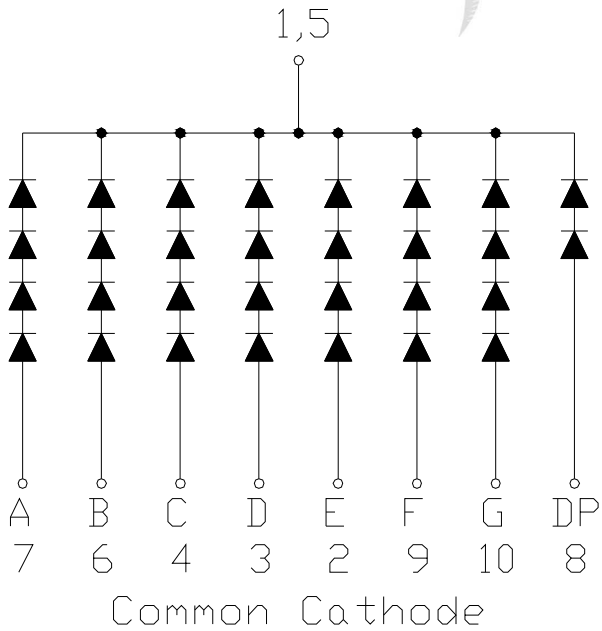
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### ■ All Light On Segments Feature & Pin Position

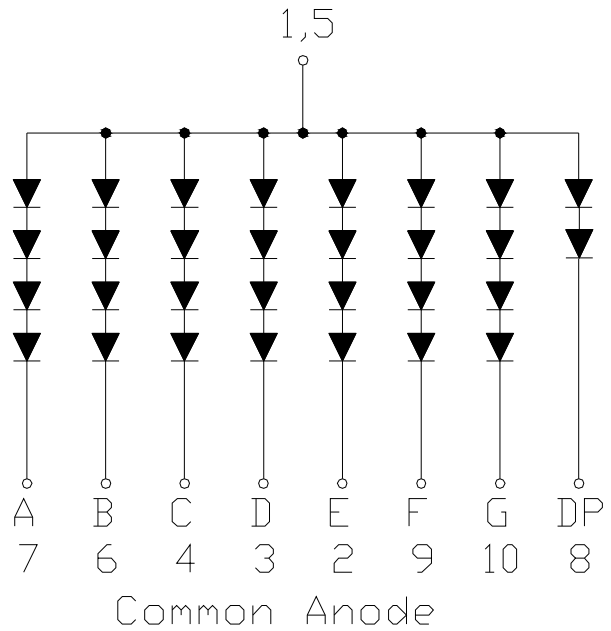


### ■ Internal Circuit Diagrams

FYS-23011AX



FYS-23011BX



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### ■ Absolute maximum ratings

(Ta=25℃)

| Parameter             | Symbol | Test Condition  | Value |     | Unit |
|-----------------------|--------|-----------------|-------|-----|------|
|                       |        |                 | Min   | Max |      |
| Reverse Voltage       | VR     | IR=30           | 5     | —   | V    |
| Forward Current       | IF     | —               | —     | 30  | mA   |
| Power Dissipation     | Pd     | —               | —     | 100 | mW   |
| Pulse Current         | Ipeak  | Duty=0.1mS,1KHz | —     | 150 | mA   |
| Operating Temperature | Topr   | —               | -40   | +85 | ℃    |
| Storage Temperature   | Tstr   | —               | -40   | +85 | ℃    |

### ■ Electrical-Optical Characteristics

#### ● Color Code & Chip Characteristics:(Test Condition:IF=20mA)

(Ta=25℃)

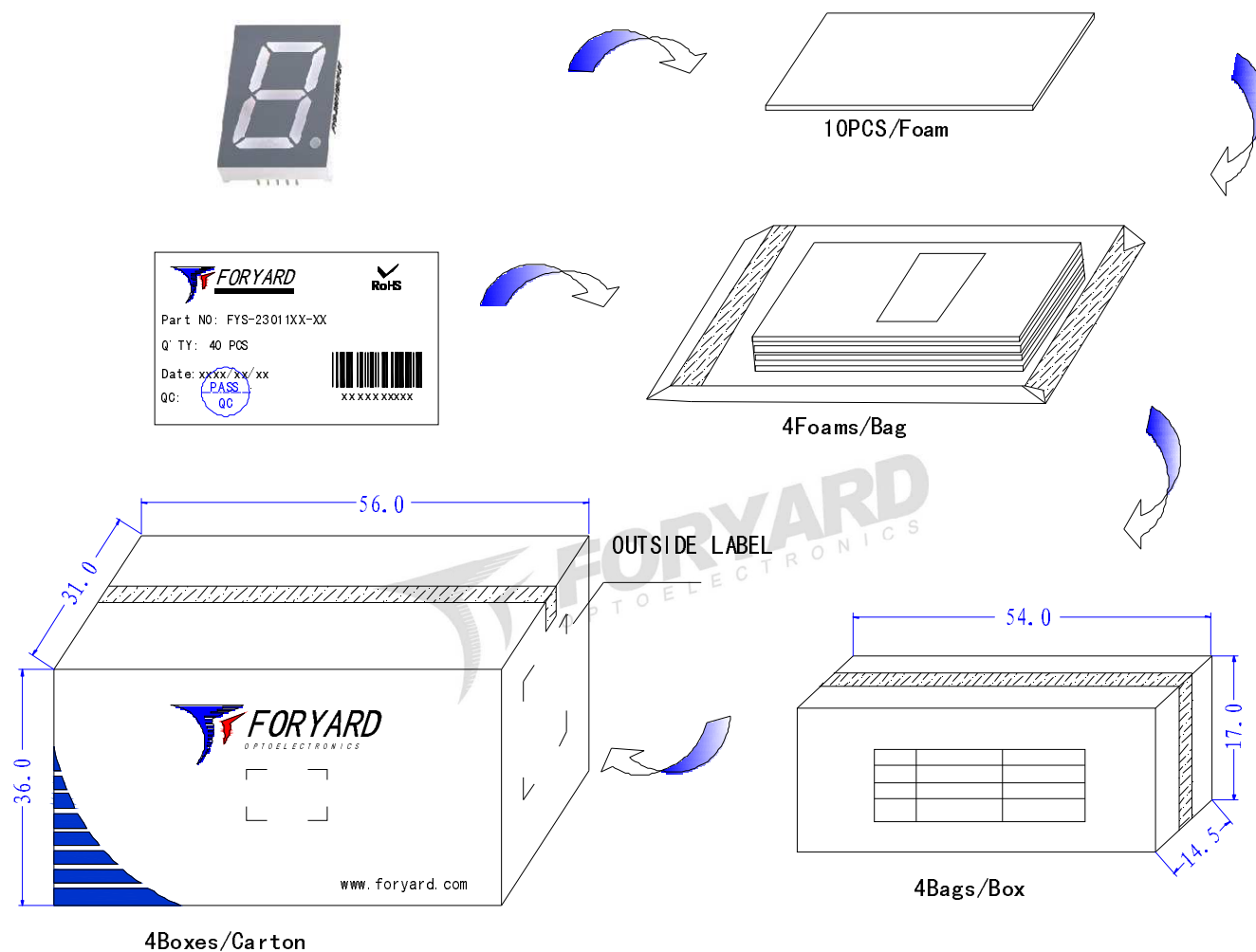
| Emitting Color                                    |                    | Dice Material | Peak Wave Length( $\lambda_P$ ) | Spectral Line halfwidth( $\Delta \lambda_{1/2}$ ) | Forward Voltage(VF)<br>Unit:V |      | Luminous Intensity (Iv)<br>Unit:mcd |
|---------------------------------------------------|--------------------|---------------|---------------------------------|---------------------------------------------------|-------------------------------|------|-------------------------------------|
|                                                   |                    |               |                                 |                                                   | Typ                           | Max  |                                     |
| Standard brightness                               |                    |               |                                 |                                                   |                               |      |                                     |
| H                                                 | Red                | GaP           | 700nm                           | 90nm                                              | 2.00                          | 2.50 | 1                                   |
| S                                                 | Hi Red             | AlGaAs/SH     | 660nm                           | 20nm                                              | 1.80                          | 2.50 | 15~20                               |
| D                                                 | Super Red          | AlGaAs/DH     | 650nm                           | 20nm                                              | 1.90                          | 2.50 | 26~38                               |
| E                                                 | Orange             | GaAsP         | 625nm                           | 35nm                                              | 1.90                          | 2.50 | 14~20                               |
| A                                                 | Amber              | GaAsP         | 610nm                           | 35nm                                              | 1.90                          | 2.50 | 13~18                               |
| Y                                                 | Yellow             | GaAsP         | 590nm                           | 35nm                                              | 1.90                          | 2.50 | 13~18                               |
| G                                                 | Green              | GaP           | 570nm                           | 10nm                                              | 1.90                          | 2.50 | 14~18                               |
| B                                                 | Blue               | InGaN         | 430nm                           | 60nm                                              | 3.40                          | 4.40 | 0.7~1(mw)                           |
|                                                   |                    |               | 460nm                           |                                                   | 2.80                          | 3.80 | 6~12(mw)                            |
|                                                   |                    |               | 470nm                           |                                                   | 2.80                          | 3.80 | 6~12(mw)                            |
| PG                                                | Pure Green         | InGaN         | 520nm                           | 36nm                                              | 2.80                          | 3.80 | 4~6(mw)                             |
| W                                                 | White              | InGaN         | X=0.29,Y=0.30                   | CCT:9500K                                         | 2.80                          | 3.80 | 20~30                               |
| Ultra brightness                                  |                    |               |                                 |                                                   |                               |      |                                     |
| UHR                                               | Ultra Hi Red       | AlGaInP       | 640nm                           | 20nm                                              | 1.90                          | 2.50 | 30~60                               |
| UR                                                | Ultra Red          | AlGaInP       | 635nm                           | 20nm                                              | 1.90                          | 2.50 | 60~100                              |
| UE                                                | Ultra Orange       | AlGaInP       | 625nm                           | 20nm                                              | 1.90                          | 2.50 | 60~120                              |
| UA                                                | Ultra Amber        | AlGaInP       | 610nm                           | 20nm                                              | 1.90                          | 2.50 | 40~100~150                          |
| UY                                                | Ultra Yellow       | AlGaInP       | 590nm                           | 20nm                                              | 1.90                          | 2.50 | 50~140~190                          |
| UG                                                | Ultra Green        | AlGaInP       | 570nm                           | 30nm                                              | 1.90                          | 2.50 | 30~60~80                            |
| PG                                                | Ultra Pure Green   | InGaN         | 520nm                           | 36nm                                              | 2.80                          | 3.80 | 260~310                             |
| BG                                                | Ultra Bluish Green | InGaN         | 505nm                           | 36nm                                              | 2.80                          | 3.80 | 260~310                             |
| UB                                                | Ultra Blue         | InGaN         | 460nm                           | 30nm                                              | 2.80                          | 3.80 | 80~90~120                           |
|                                                   |                    |               | 470nm                           | 30nm                                              | 2.80                          | 3.80 | 80~90~120                           |
| UW                                                | Ultra White        | InGaN         | X=0.29,Y=0.30                   | CCT:9500K                                         | 2.80                          | 3.80 | 180~200                             |
| Segment-to-Segment Luminous Intensity ratio(Iv-M) |                    |               |                                 | 1.5:1                                             |                               |      |                                     |

Note:

- 1.Luminous Intensity is based on the Foryard standards.
- 2.Pay attention about static for InGaN

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## ■ Packing Diagram



OUTSIDE LABEL

Note: The specifications are subject to change without notice. Please contact us for updated information.

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