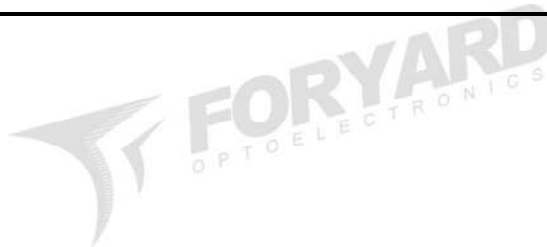


# PRODUCT SPECIFICATION

**Model No.: FYS-5012A/BXX-XX**

| Descriptions & Features:   |
|--|
| <ul style="list-style-type: none"> <li>■ 0.50 Inch (12.70mm) digit height Single Digit Display</li> <li>■ Case mold type.</li> <li>■ RoHS compliant.</li> <li>■ Low current operation</li> <li>■ Low power consumption.</li> <li>■ Easy mounting on P.C. board or socket.</li> </ul> |



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

**NINGBO FORYARD OPTOELECTRONICS CO.,LTD.**

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**Zip:**315103

**Tel:** 0086-574-87933652 87922206 87927870

**Fax:** 0086-574-87927917

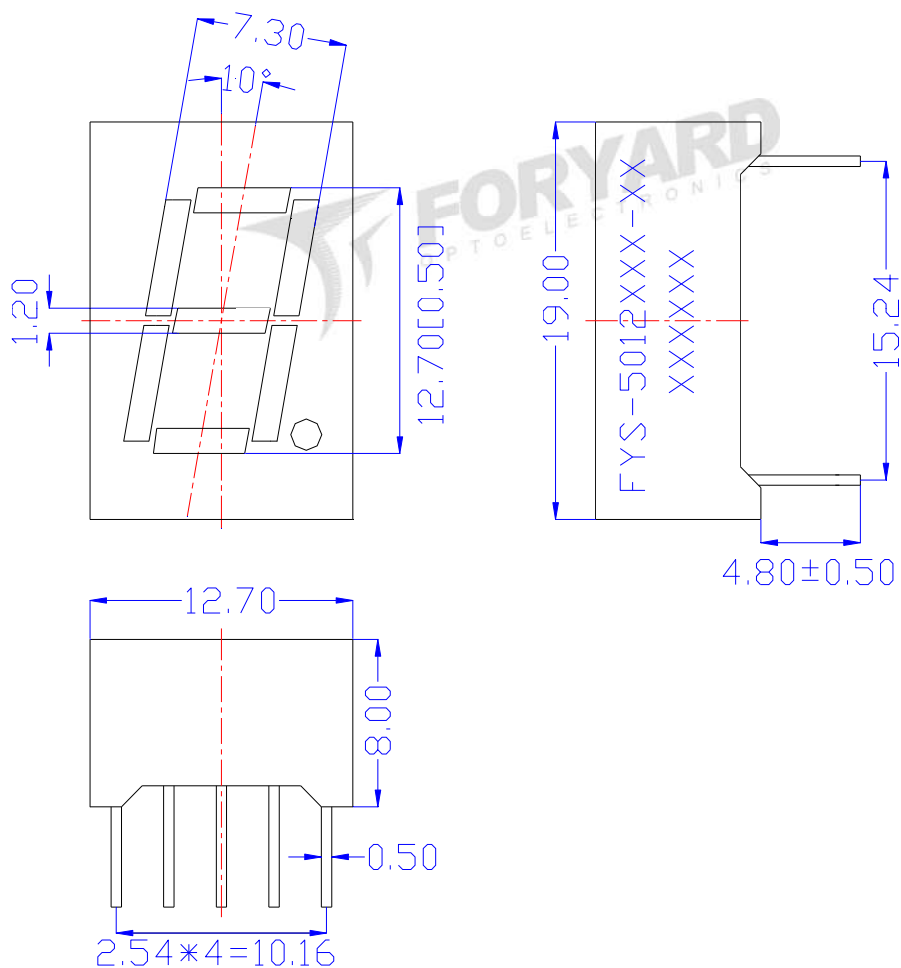
**E-mail:**Sales@foryard.com (General)

Model No.: FYS-5012A/BXX-XX

■ -XX: REF Surface / Epoxy color

| Color \ Number    | 0                                 | 1                           | 2                          | 3                           | 4                            |
|-------------------|-----------------------------------|-----------------------------|----------------------------|-----------------------------|------------------------------|
| REF Surface Color | <input type="radio"/> White       | <input type="radio"/> Black | <input type="radio"/> Gray | <input type="radio"/> Red   | <input type="radio"/> Green  |
| Epoxy Color       | <input type="radio"/> Water Clear | <input type="radio"/> White | <input type="radio"/> Red  | <input type="radio"/> Green | <input type="radio"/> Yellow |

■ Mechanical Dimensions

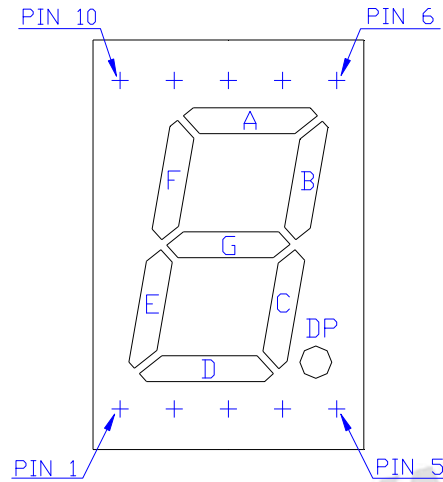


Notes:

1. All pins are  $\Phi 0.50 [0.020]$  mm
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%.
4. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
5. The drawing is different from the actual one, please refer to the sample.

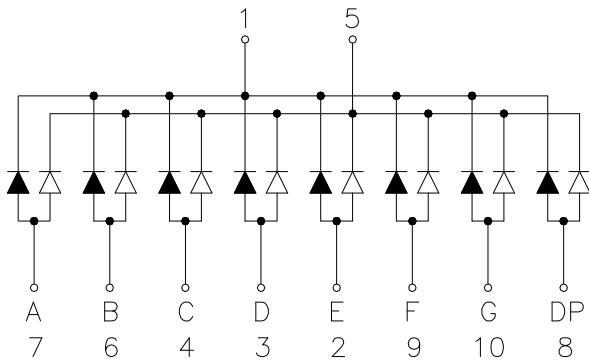
Model No.: FYS-5012A/BXX-XX

■ All Light On Segments Feature & Pin Position



■ Internal Circuit Diagrams

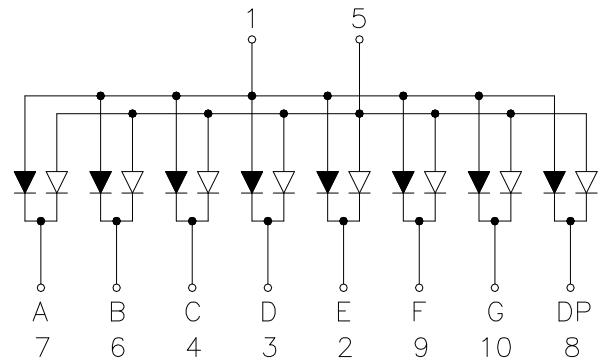
FYS-5012AXX



—▶—=Red    —▷—=Green

Common Cathode

FYS-5012BXX



—▶—=Red    —▷—=Green

Common Anode

Model No.: FYS-5012A/BXX-XX

■ Absolute maximum ratings

(Ta=25°C)

| 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 | °C   |
| Storage Temperature   | Tstr   | —               | -40   | +85 | °C   |

■ Electrical-Optical Characteristics

● Color Code & Chip Characteristics:(Test Condition:IF=10mA)

(Ta=25°C)

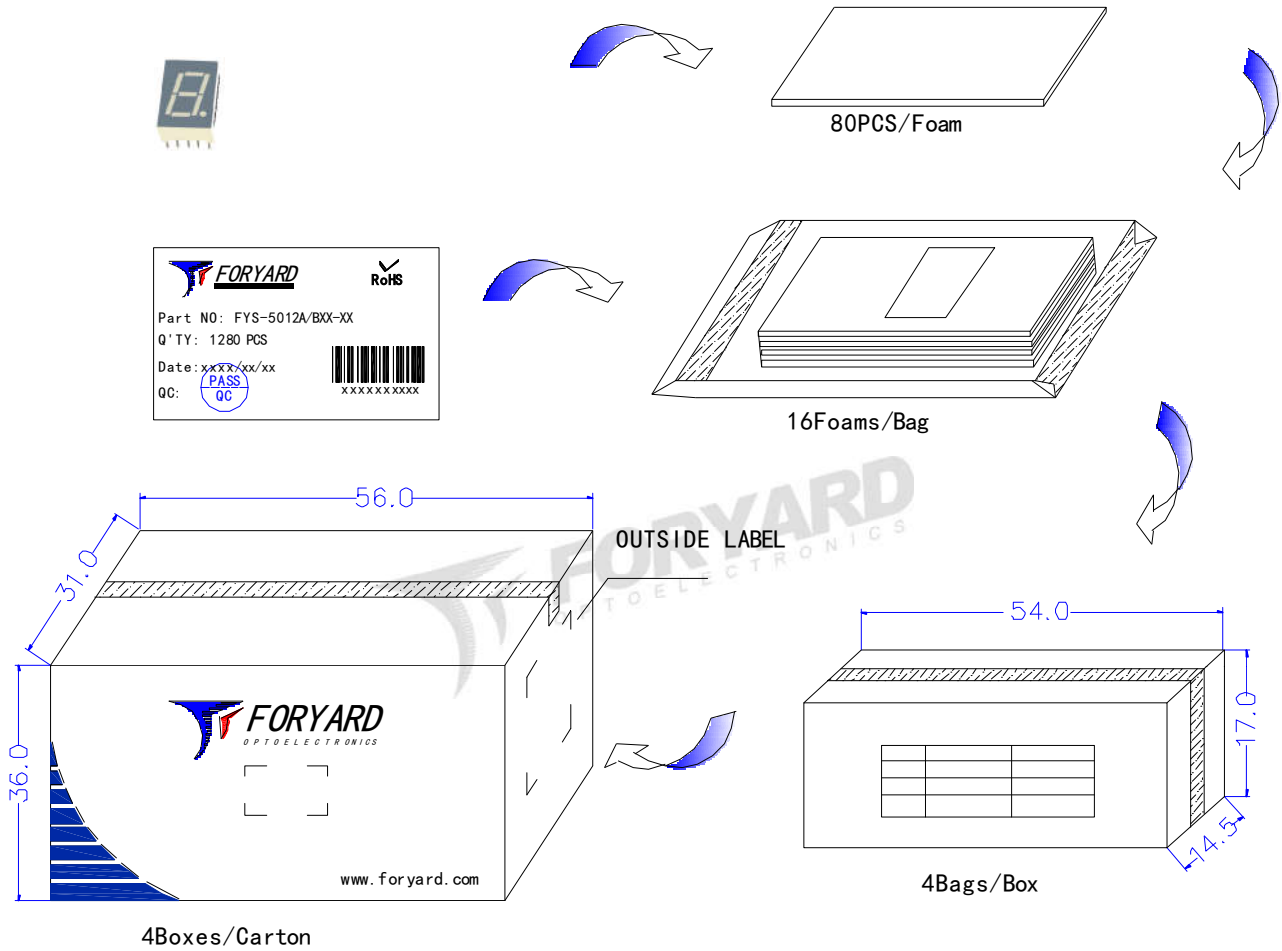
| Emitting Color                                    | Dice Material      | Peak Wave Length( $\lambda_p$ ) | Spectral Line halfwidth ( $\Delta\lambda_{1/2}$ ) | Forward Voltage(VF) Unit:V |      | Luminous Intensity (Iv) Unit:mcd |            |
|---|--------------------|---------------------------------|---|----------------------------|------|----------------------------------|------------|
|   |                    |                                 |   | Typ                        | Max  |                                  |            |
| <b>Standard brightness</b>                        |                    |                                 |   |                            |      |                                  |            |
| S   | Hi Red             | AlGaInP                         | 660nm   | 20nm                       | 2.00 | 2.50                             | 10~20      |
| D   | Super Red          | AlGaAs/DH                       | 650nm   | 20nm                       | 2.00 | 2.50                             | 15~30      |
| E   | Orange             | GaAsP                           | 625nm   | 35nm                       | 2.00 | 2.50                             | 10~21      |
| A   | Amber              | GaAsP                           | 610nm   | 35nm                       | 2.00 | 2.50                             | 10~20      |
| Y   | Yellow             | GaAsP                           | 590nm   | 35nm                       | 2.00 | 2.50                             | 10~20      |
| G   | Yellow Green       | AlGaInP                         | 570nm   | 10nm                       | 2.00 | 2.50                             | 10~20      |
| B   | Blue               | InGaN                           | 460nm   | 60nm                       | 3.00 | 3.80                             | 9~20(mw)   |
|   |                    |                                 | 470nm   |                            | 3.00 | 3.80                             | 9~20(mw)   |
| W   | White              | InGaN/GaN                       | X=0.29,Y=0.30                                     | CCT:9500K                  | 3.00 | 3.80                             | 60~120~180 |
| <b>Ultra brightness</b>                           |                    |                                 |   |                            |      |                                  |            |
| UHR   | Ultra Hi Red       | AlGaInP                         | 640nm   | 20nm                       | 2.00 | 2.50                             | 20~50      |
| UR  | Ultra Red          | AlGaInP                         | 635nm   | 20nm                       | 2.00 | 2.50                             | 40~70      |
| UE  | Ultra Orange       | AlGaInP                         | 625nm   | 20nm                       | 2.00 | 2.50                             | 40~85      |
| UA  | Ultra Amber        | AlGaInP                         | 610nm   | 20nm                       | 2.00 | 2.50                             | 30~105     |
| UY  | Ultra Yellow       | AlGaInP                         | 590nm   | 20nm                       | 2.00 | 2.50                             | 30~135     |
| UG  | Ultra Yellow Green | AlGaInP                         | 570nm   | 30nm                       | 2.00 | 2.50                             | 20~60      |
| PG  | Pure Green         | InGaN                           | 520nm   | 36nm                       | 3.00 | 3.80                             | 350~450    |
| UB  | Ultra Blue         | InGaN/GaN                       | 460nm   | 30nm                       | 3.00 | 3.80                             | 120~180    |
|   |                    | InGaN/GaN                       | 470nm   | 30nm                       | 3.00 | 3.80                             | 120~180    |
| UW  | Ultra White        | InGaN/GaN                       | X=0.29,Y=0.30                                     | CCT:9500K                  | 3.00 | 3.80                             | 280~600    |
| 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

Model No.: FYS-5012A/BXX-XX

■ Packing Diagram




**FORYARD**  
OPTOELECTRONICS

**LED**

PN: FYS-5012A/BXX-XX

Qty: 5120 PCS

Date: xxxx/xx/xx

GW: XX KG      QC: **PASS QC**

NW: XX KG

XXXXXXXXXX

RoHS      ATTENTION

OUTSIDE LABEL

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