



NINGBO FORYARD OPTO  
ELECTRONICS CO.,LTD.

# LED DIGIT DISPLAY

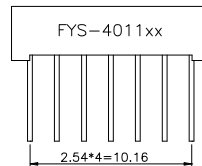
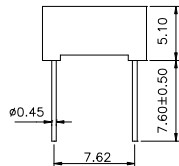
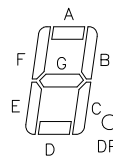
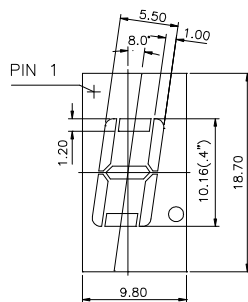
PartNO.: FYS-4011CX/DX-XX

## DESCRIPTION

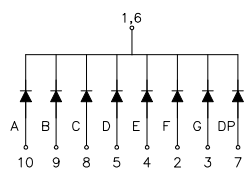
- 10.16mm (0.4") Single digit numeric display series.
- Standard brightness.
- Low current operation.
- Excellent character appearance.
- Easy mounting on P.C.boards or sockets

## Package Dimensions & Internal Circuit Diagram

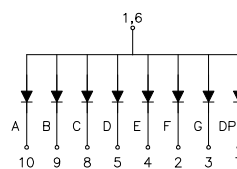
FYS-4011 Series



FYS-4011Cx



FYS-4011Dx



### Notes:

- All dimensions are in millimeters (inches)
- Tolerance is  $\pm 0.25(0.01)$  unless otherwise noted.
- Specifications are subject to change without notice.

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**PartNO.: FYS-4011CX/DX-XX**

: Absolute maximum ratings (Ta=25°C)

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

• -XX: Surface / Lens color:

| Number            | 0           | 1              | 2            | 3              | 4               | 5 |
|-------------------|-------------|----------------|--------------|----------------|-----------------|---|
| Ref Surface Color | White       | Black          | Gray         | Red            | Green           |   |
| Epoxy Color       | Water clear | White diffused | Red Diffused | Green Diffused | Yellow Diffused |   |



**PartNO.: FYS-4011CX/DX-XX**

■ **Description:**

• Color Code & Chip characteristics: **(Test Condition: IF=20mA)**

| 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   |                                     |         |
| H   | Red              | GaP                             | 700nm  | 90nm                          | 2.20  | 2.50                                | 5.0     |
| S, SR   | Hi Red           | AlGaAs,SH                       | 660nm  | 20nm                          | 1.80  | 2.20                                | 15-20   |
| D   | Super Red        | AlGaAs,DH                       | 660nm  | 20nm                          | 1.80  | 2.20                                | 20-30   |
| LR  | Ultra Red        | AlGaAs,DDH                      | 660nm  | 20nm                          | 1.90  | 2.40                                | 26-38   |
| HR  | HE Red           | GaAsP                           | 640nm  | 45nm                          | 1.90  | 2.40                                | 50-80   |
| E   | Orange           | GaAsP                           | 630nm  | 35nm                          | 2.10  | 2.50                                | 10-20   |
| A   | Amber            | GaAsP                           | 610nm  | 35nm                          | 2.10  | 2.50                                | 15-20   |
| Y   | Yellow           | GaAsP                           | 590nm  | 35nm                          | 2.10  | 2.50                                | 15-20   |
| G   | Green            | GaP                             | 570nm  | 30nm                          | 2.20  | 2.50                                | 14-18   |
| Ultra brightness                                  |                  |                                 |  |                               |       |                                     |         |
| UH R  | Ultra Hi Red     | AlGaInP                         | 645nm  | 20nm                          | 2.10  | 2.50                                | 80-150  |
| UE  | Ultra Orange     | AlGaInP                         | 630nm  | 20nm                          | 2.10  | 2.50                                | 180-210 |
| UA  | Ultra Amber      | AlGaInP                         | 610nm  | 20nm                          | 2.10  | 2.50                                | 90-120  |
| UY  | Ultra Yellow     | AlGaInP                         | 590nm  | 20nm                          | 2.10  | 2.50                                | 150-200 |
| UG  | Ultra Green      | AlGaInP                         | 570nm  | 30nm                          | 2.20  | 2.50                                | 60-100  |
| PG  | Ultra Pure Green | InGaN                           | 520nm  | 36nm                          | 2.80  | 3.80                                | 260-310 |
| BG  | Ultra Blue Green | InGaN                           | 505nm  | 36nm                          | 2.80  | 3.80                                | 260-310 |
| B   | Blue             | InGaN                           | 430nm  | 30nm                          | 2.80  | 3.80                                | 10-20   |
| UB  | Ultra Blue       | InGaN                           | 470nm  | 30nm                          | 2.80  | 3.80                                | 80-90   |
| V   | UV               | InGaN                           | 405nm  |                               | 2.80  | 3.80                                | 5-8     |
| W   | White            | InGaN                           | X=0.29,y=0.30                                    |                               | 2.80  | 3.80                                | 180-200 |
| U W   | Ultra White      | InGaN                           | X=0.29,y=0.30                                    |                               | 2.80  | 3.80                                | 180-200 |
| Segment-to-Segment Luminous Intensity ratio(Iv-M) |                  |                                 |  |                               | 1.5:1 |                                     |         |



**PartNO.: FYS-4011CX/DX-XX**



- |   |                                      |
|---|--------------------------------------|
| (1) - GaAsP/GaAs 655nm/Red                | (9) - GaAlAs 880nm                   |
| (2) - GaP 570nm/Yellow Green              | (10) - GaAs/GaAs & GaAlAs/GaAs 940nm |
| (3) - GaAsP/GaP 585nm/Yellow              | (A) - GaN/SiC 430nm/Blue             |
| (4) - GaAsP/GaP 635nm/Orange & Hi-Eff Red | (B) - InGaN/SiC 470nm/Blue           |
| (5) - GaP 700nm/Bright Red                | (C) - InGaN/SiC 505nm/Ultra Green    |
| (6) - GaAlAs/GaAs 660nm/Super Red         | (D) - InGaAl/SiC 525nm/Ultra Green   |
| (8) - GaAsP/GaP 610nm/Super Red           |                                      |



FORWARD VOLTAGE (Vf)  
FORWARD CURRENT VS.  
FORWARD VOLTAGE



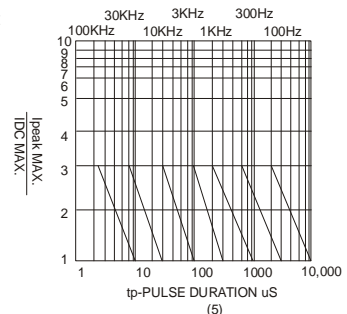
FORWARD CURRENT (mA)  
RELATIVE LUMINOUS  
INTENSITY VS. FORWARD  
CURRENT



AMBIENT TEMPERATURE Ta(°C)  
FORWARD CURRENT VS. AMBIENT  
TEMPERATURE



AMBIENT TEMPERATURE Ta(°C)



NOTE: 25°C free air temperature unless otherwise specified



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# LED DIGIT DISPLAY

**PartNO.: FYS-4011CX/DX-XX**



| type            | QTY/foam(pcs) | QTY /Bundle (pcs) | QTY /CARTONDimension |
|-----------------|---------------|-------------------|----------------------|
| FYS-4011C/Dx-xx | 14*13=182     | 182*16=2912       | 2912*4=11648         |
|                 |               |                   |                      |
|                 |               |                   |                      |

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