

# PRODUCT SPECIFICATION

**Model No.: FYS-12012A/BX-XX**

Descriptions & Features:
<ul style="list-style-type: none"> <li>■ 1.20 Inch (30.50mm) 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

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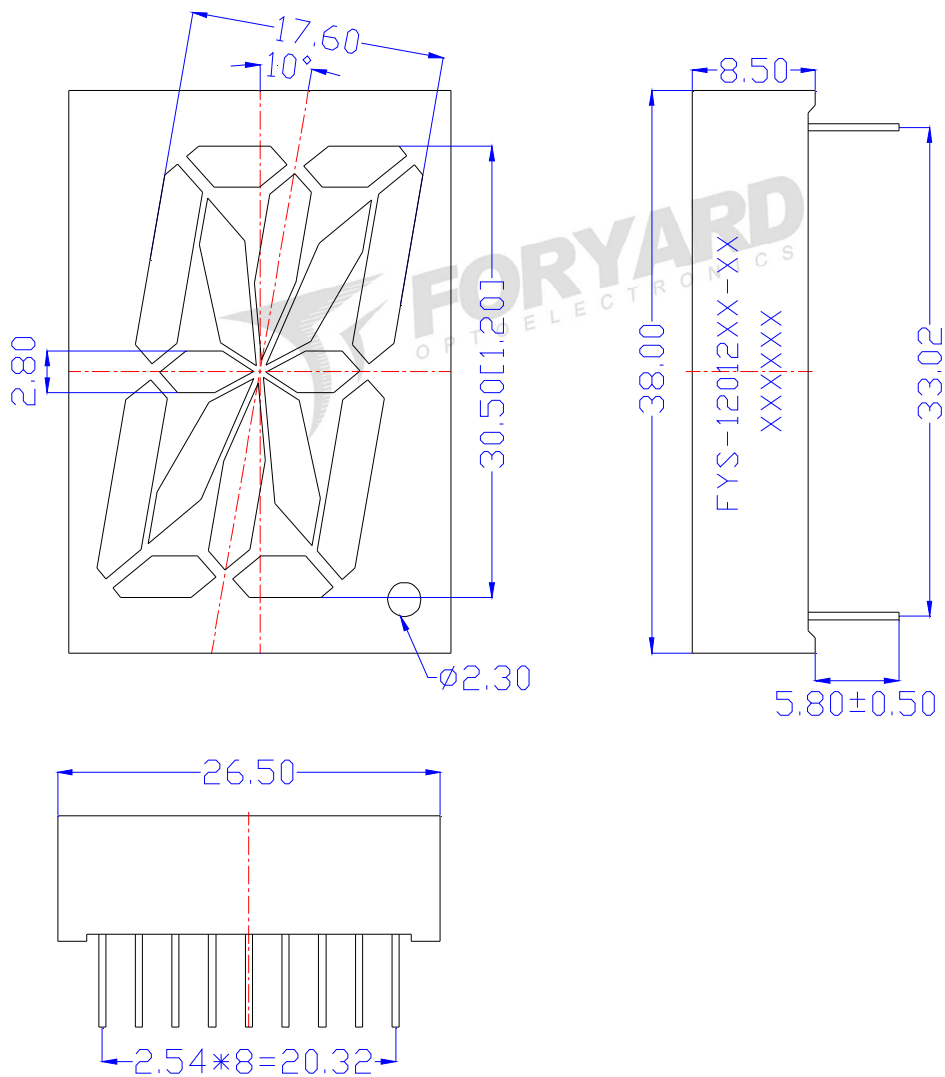
[Http://www.foryard.com](http://www.foryard.com)

Model No.: FYS-12012A/BX-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

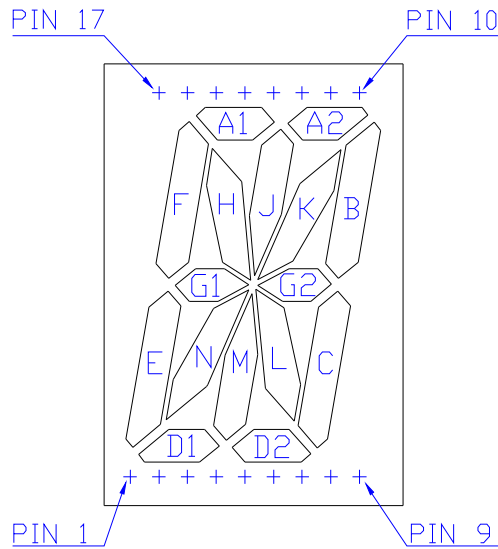


Notes:

1. All pins are  $\phi 0.51 [0.020]$  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.

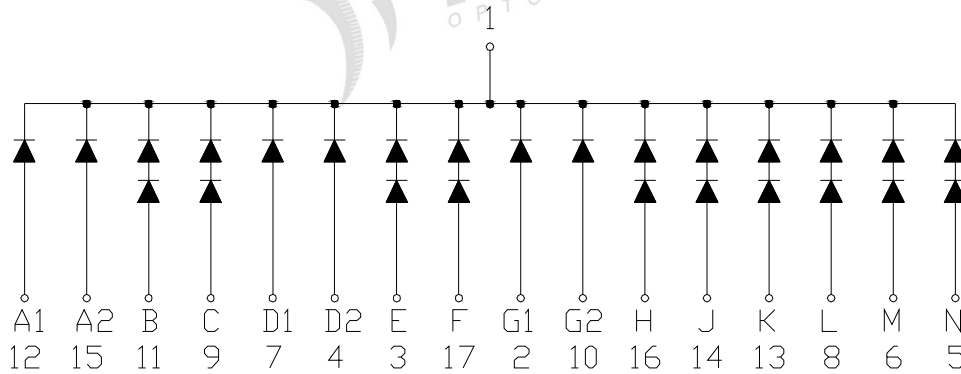
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**■ All Light On Segments Feature & Pin Position**



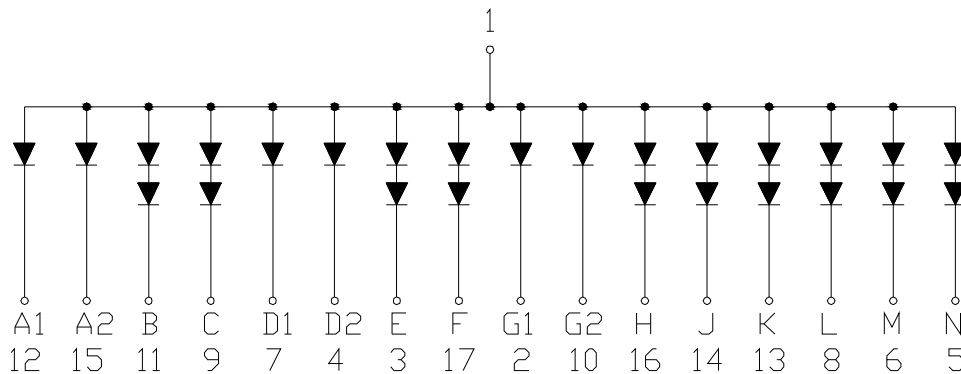
**■ Internal Circuit Diagrams**

FYS-12012AX



No.: 18 NO Pin  
Common Cathode

FYS-12012BX



No.: 18 NO Pin  
Common Anode

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**■ 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=20mA)

(Ta=25°C)

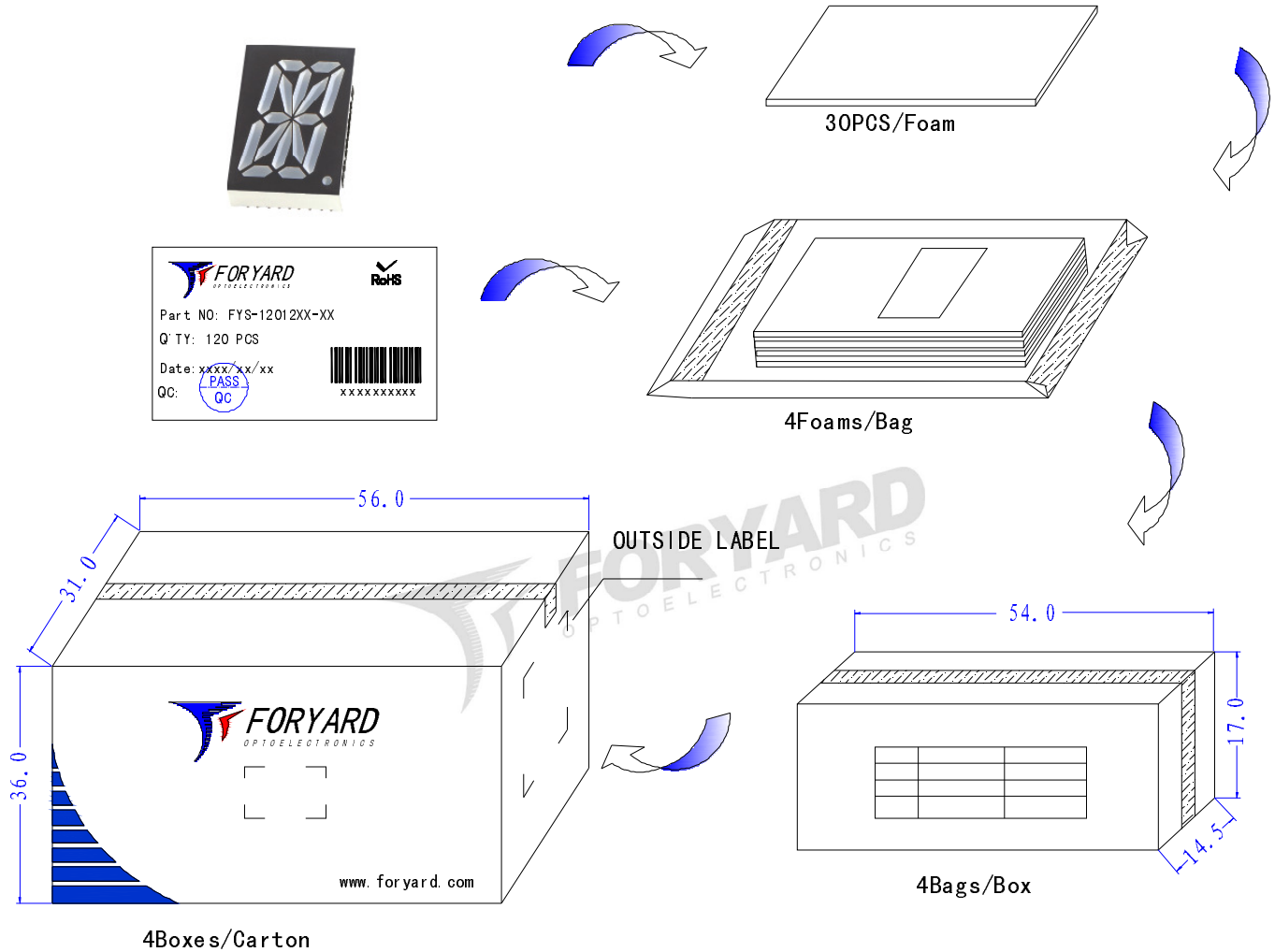
Emitting Color	Dice Material	Peak Wave Length( $\lambda_p$ )	Spectral Line halfwidth( $\Delta\lambda/2$ )	Forward Voltage(VF) Unit:V		Luminous Intensity (Iv) Unit:mcd	
				Typ	Max		
<b>Standard brightness</b>							
H	Red	GaP	700nm	90nm	2.00	2.50	1
S	Hi Red	AlGaAs/SH	660nm	20nm	1.80	2.50	15~20
D	Super 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
<b>Ultra brightness</b>							
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




**FORYARD**  
OPTOELECTRONICS

**LED**

PN: FYS-12012XX-XX

Qty: 1920 PCS

Date: xxxx/xx/xx

GW: 23KG      QC: **PASS**  
 QC

NW: 25KG

XXXXXXXXXX

RoHS      ATTENTION

OUTSIDE LABEL

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