

PRODUCT SPECIFICATION

Model No.: FYA-C20HZX-XX

Descriptions & Features:

- Bargraph Digit Display
- Case mold type.
- RoHS compliant.
- Low current operation
- Low power consumption.
- Easy mounting on P.C. board or socket.



CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY

NINGBO FORYARD OPTOELECTRONICS CO.,LTD

Add:NO.115 Qixin Road Ningbo Zhejiang China

Zip:315051

Tel: 0086-574-87933652 87927870 87922206

Fax: 0086-574-87927917

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

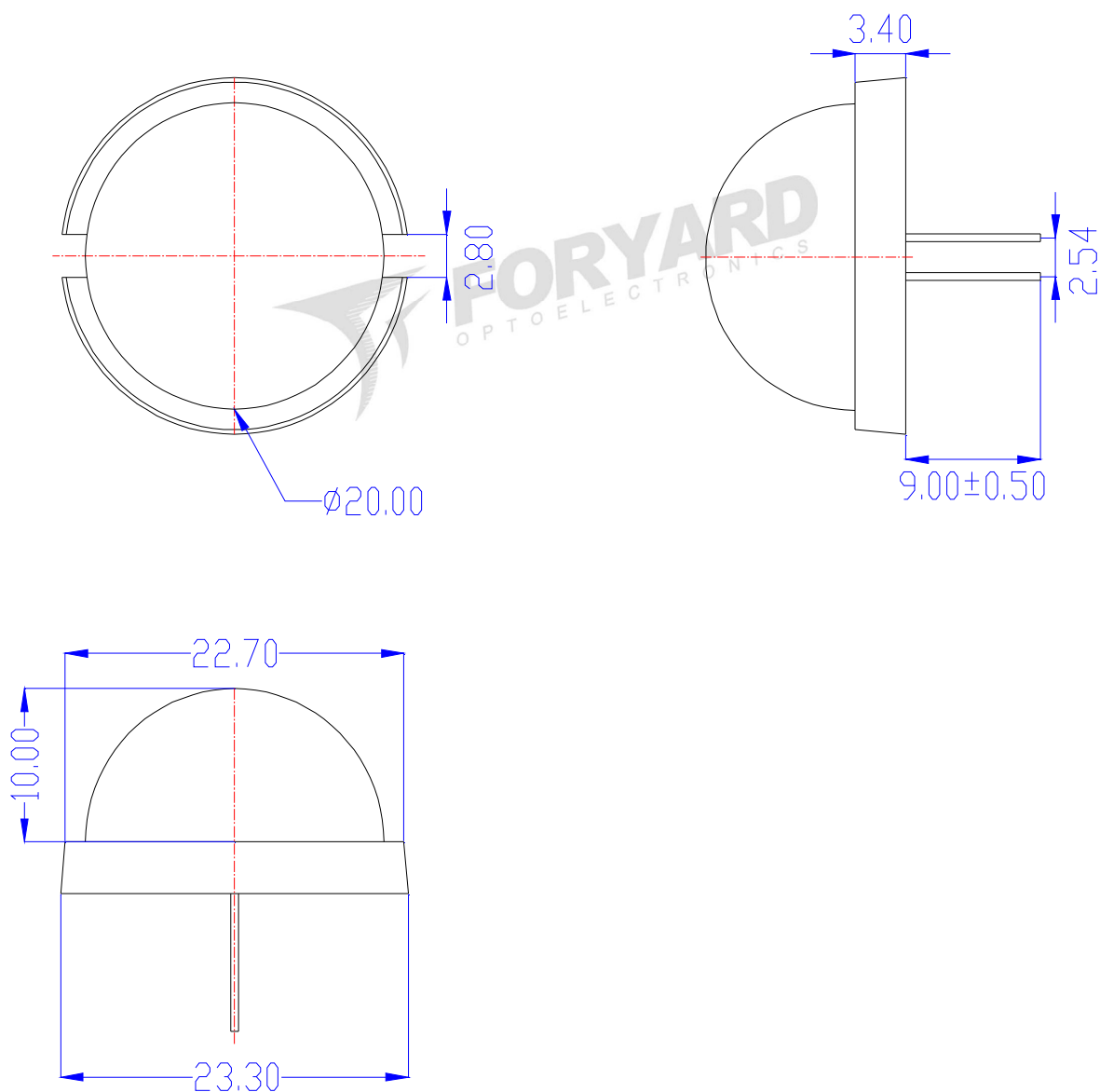
[Http://www.foryard.com](http://www.foryard.com)

Model No.: FYA-C20HZX-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

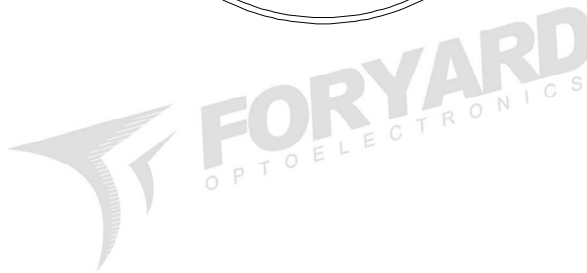
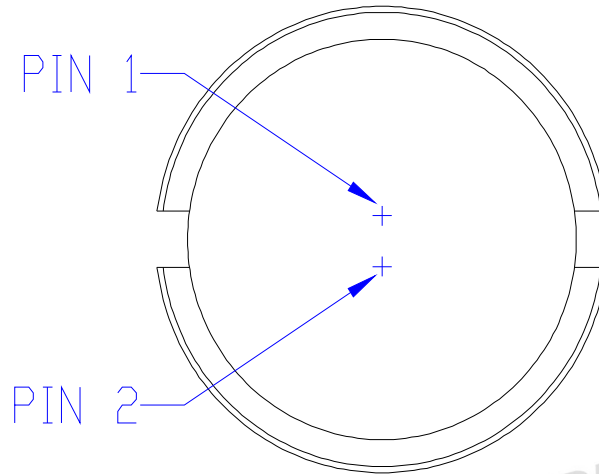


Notes:

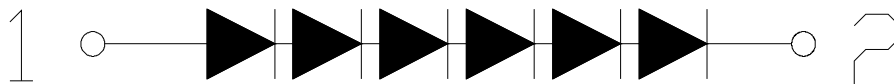
1. All pins are $\Phi 0.51 [.020]$ mm
2. Dimension in millimeter [inch], tolerance is $\pm 0.25 [.010]$ and angle is $\pm 1^\circ$ unless otherwise noted.
3. Bending \leq Length * 1%.
4. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

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■ All Light On Segments Feature & Pin Position



■ Internal Circuit Diagrams



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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(λ_p)	Spectral Line halfwidth($\Delta\lambda_{1/2}$)	Forward Voltage(VF) Unit:V		Luminous Intensity (Iv) 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	14~19
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			

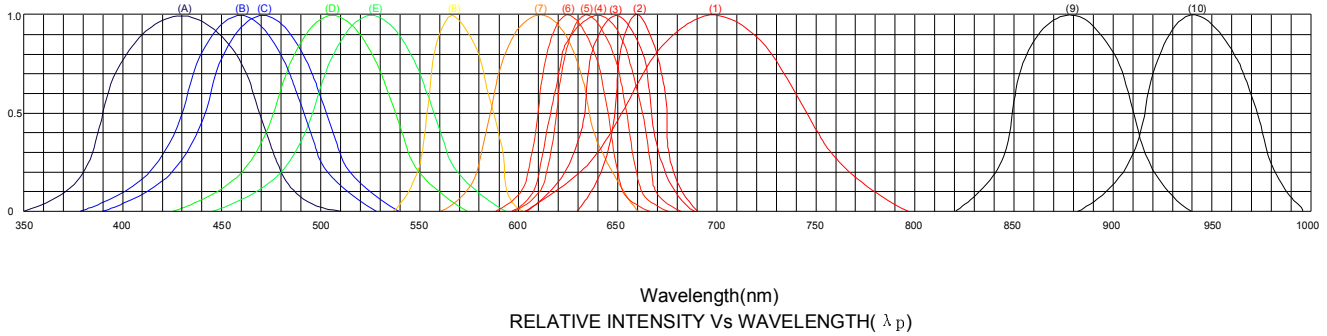
Note:

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

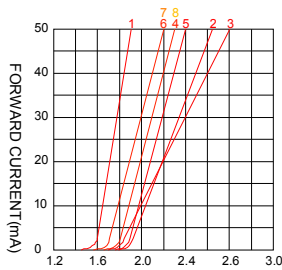
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Typical Electrical / Optical Characteristics Curves

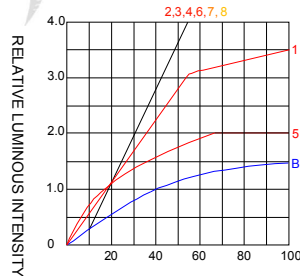
(Ta = 25°C Unless Otherwise Noted)



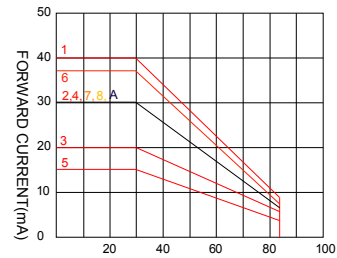
- (1)-GaP 700nm/Red
- (2)-AlGaAs/SH 660nm/Hi Red
- (3)-AlGaAs/DH 650nm/Super Red
- (4)-AlGaInP/640nm/Ultra Hi Red
- (5)-AlGaInP/635nm/Ultra Red
- (6)-GaAlP/AlGaInP/625nm/Orange
- (7)-GaAsP/AlGaInP 610nm/Amber
- (8)-GaP 570nm/Yellow Green
- (9)-GaAlAs 880nm
- (10)-GaAs/GaAs & GaAlAs/GaAs 940nm
- (A)-GaN/SiC 430nm/Blue
- (B)-InGaN/SiC 460nm/Blue
- (C)-InGaN/SiC 470nm/Blue
- (D)-InGaN/SiC 505nm/Ultra Green
- (E)-InGaN/SiC 525nm/Ultra Green



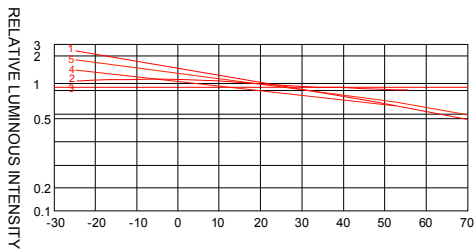
FORWARD VOLTAGE(V_f)
FORWARD CURRENT VS.
FORWARD VOLTAGE



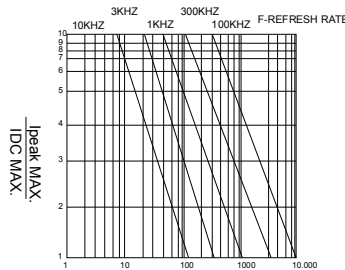
FORWARD CURRENT (mA)
RELATIVE LUMINOUS
INTENSITY VS FORWARD
CURRENT



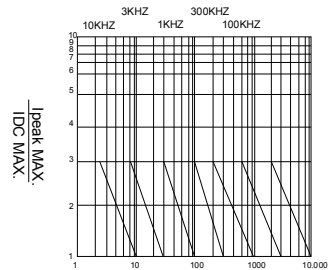
AMBIENT TEMPERATURE Ta(°C)
FORWARD CURRENT VS. AMBIENT
TEMPERATURE



**AMBIENT TEMPERATURE
Ta(°C)**



tp-PULSE DURATION μs
(1,2,3,4,6,8,B,D,J,K)



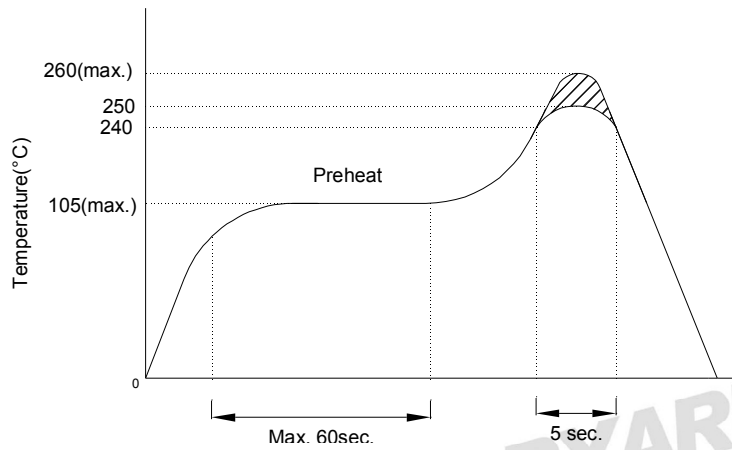
tp-PULSE DURATION μs
(5)

NOTE: 25°C free air temperature unless otherwise specified

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■ Precautions For Use -

1. Recommended Soldering conditions-Wave Soldering



2. Soldering Iron

Basic SPEC. is ≤ 5 sec. When 260°C . If temperature is higher, time should be shorter ($+10^{\circ}\text{C} \rightarrow -1$ sec.).

Power dissipation of iron should be smaller than 15W, and temperature should be controllable.

Surface temperature of the device should be under 230°C .

