



## 2.30"(56.80mm)Single Digit Alphanumeric Display

### Features:

- \*High segment intensity
- \*Wide viewing angle
- \*Range of colors
- \*Gray face White segment
- \*RoHS compliant

### Available option:

- \*Alternative face and segment color
- \*Cropped terminal pins
- \*Available emitting color
- \*Low current version

### Electro/Optical Characteristics If=20mA Ta=25°C

Part Number Common Cathode	Part Number Common Anode	Emitting Color	Peak Wavelength	Forward Voltage V <sub>F</sub> /Seg.(DP)		Luminous Intensity I <sub>v</sub> /Seg.(DP)	
				Typ.	Max.	Min.	Typ.
NFD-23012AH-21	NFD-23012BH-21	GaP/GaP Red	700	4.50(2.25)	5.00(2.50)	1.60 (0.40)	3.20 (0.80)
NFD-23012AS-21	NFD-23012BS-21	GaAlAs/GaAs SH Hi-Red	660	3.60(1.80)	4.40(2.20)	32.00 (8.00)	48.00 (12.00)
NFD-23012AD-21	NFD-23012BD-21	GaAlAs/GaAs DH Super Red	660	3.60(1.80)	4.40(2.20)	88.00 (22.00)	112.00 (53.00)
NFD-23012AE-21	NFD-23012BE-21	GaAsP/GaP Orange	632	4.20(2.10)	5.00(2.50)	32.00 (8.00)	48.00 (12.00)
NFD-23012AY-21	NFD-23012BY-21	GaAsP/GaP Yellow	585	4.20(2.10)	5.00(2.50)	16.00 (4.00)	28.00 (7.00)
NFD-23012AG-21	NFD-23012BG-21	GaP/GaP Green	568	4.40(2.20)	5.00(2.50)	28.00 (7.00)	44.00 (11.00)
Units			nm	V		mcd	

### Maximum Ratings Ta=25°C (Derate above 25°C)

Characteristic	Test Condition	Symbol	H	S	D	E	Y	G	Units
Pulse Forward Current Per Seg.	1/10 duty cycle 0.1ms Pulse width	I <sub>FP</sub>	50/100	100/200	100/200	100/200	100/200	100/200	mA
DC Forward Current Per Seg.		I <sub>F</sub>	15	25	25	30	30	30	mA
Reverse Current Per Seg.	V <sub>R</sub> =10V	I <sub>R</sub>	10	10	10	10	10	10	μA
Power Dissipation		P <sub>D</sub>	40*53	60*53	60*53	80*53	80*53	80*53	mW
Operating Temperature		T <sub>OPR</sub>	-40 to +80						°C
Storage Temperature		T <sub>TSG</sub>	-40 to +85						°C
Lead soldering temperature	1.60mm from body maximum 3 seconds		260						°C

Checked

Chen N.H.

Approved

Jason Chen

Date

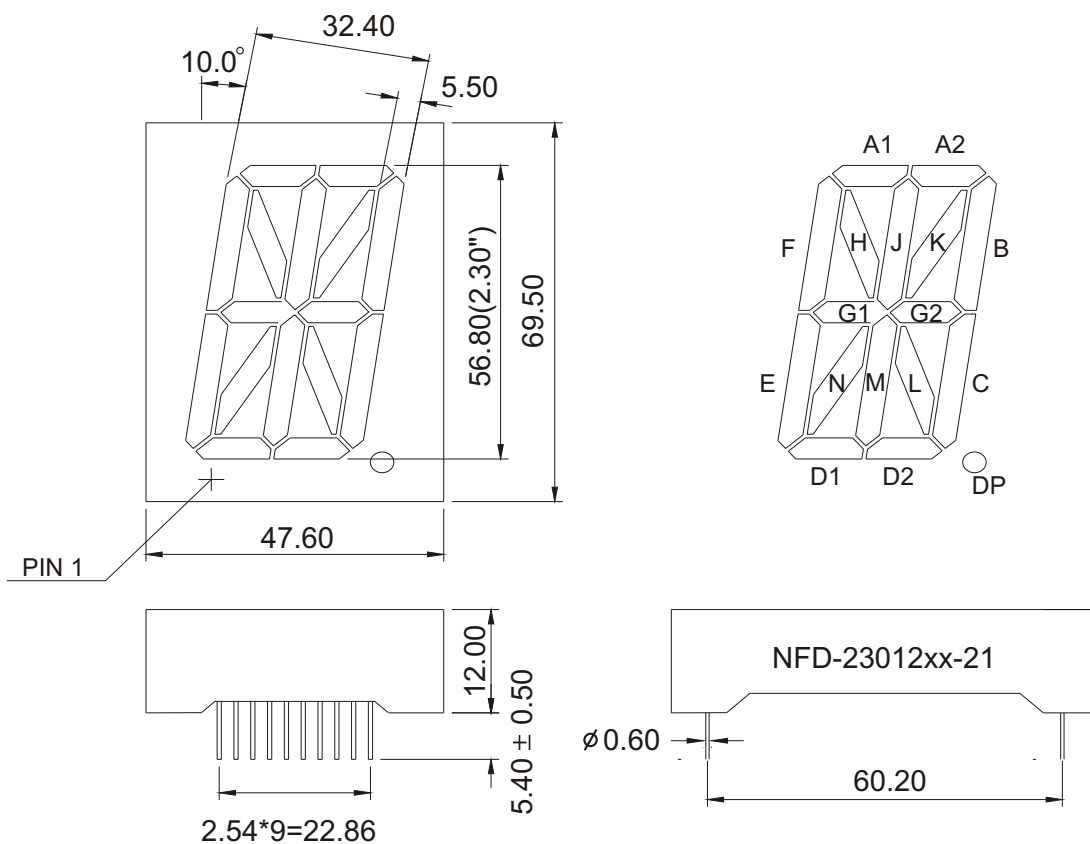
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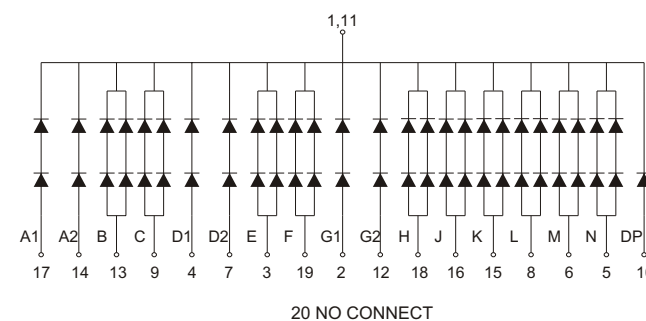
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### PACKAGE DIMENSION

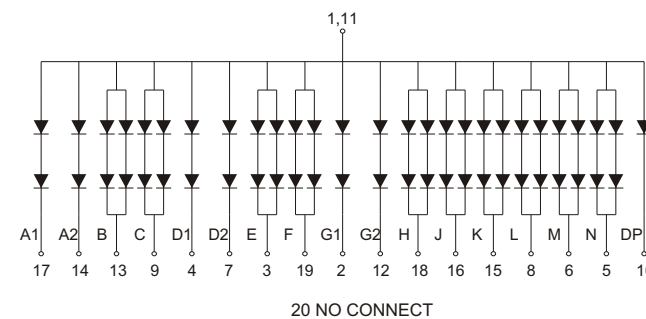


### INTERNAL CIRCUIT DIAGRAM

Common Cathode  
NFD-23012Ax



Common Anode  
NFD-23012Bx



Tolerance ±0.25mm unless stated