

# **SPECIFICATIONS FOR LED DISPLAYS**

**7.8mm(0.30") Seven Segments Single Digit**

**[GNS-3011HS](#)**



**G-NOR OPTO ELECTRONICS Co.,Ltd**

## ◆ Features:

- High efficiency, low power consumption.
- Extremely low current.
- Luminous evenly distributed on each segment.
- Low development cost.

## ◆ Descriptions:

- Industrial standard size.
- These display provide excellent reliability in bright ambient light.
- These devices are made with white segments and black surface.

## ◆ Applications:

- Audio equipment or Instrument panels.
- General use for digital indicators.
- Multimedia product.

## ◆ Selection Guide:

Part No.	Anode	Chip		Lens Color
		Material	Emitting Color	
GNS-3011HS		AlGaInP	High Super Red	White Diffused

## ◆ Absolute Maximum Rating (Ta=25°C)

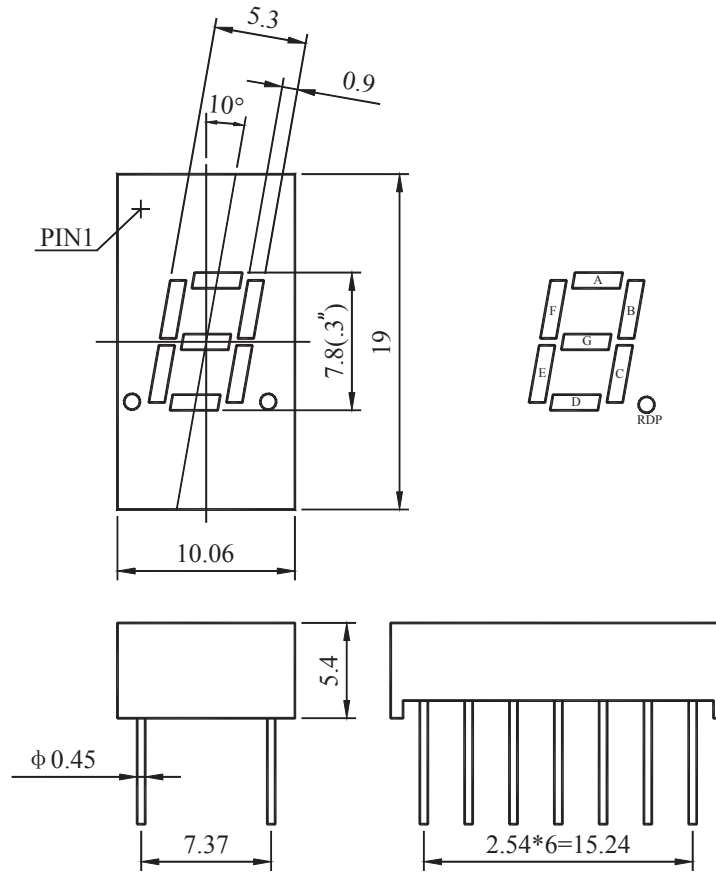
Parameter	Symbol	High Super Red	Unit
Power Dissipation/Segment	$P_d$	70	mW
Peak Forward Current /Segment (Duty 1/10@ 1KHz)	$I_{FP}$	80	mA
Continuous Forward Current /Segment①	$I_F$	20	mA
Recommend use current /Segment ②	$I_F$	5~10	mA
Reverse Voltage /Segment	$V_R$	5	V
Operating Temperature Range	Topr	-25~+75	°C
Storage Temperature Range	Tstg	-30 ~ +85	°C
Solder Temperature③	Tsol	260 ± 5	°C

- Notes:**
- 1、 This is the limit current . It is not allowed to use when the product work continuously.
  - 2、 It is recommended that the product is driven by TTL,CMOS.
  - 3、 Soldering time  $\leq$  5 seconds.

## ◆ Electrical Optical Characteristics (Ta=25°C)

Parameter	Symbol	High Super Red		Unit	Test Condition
		Typ.	Max.		
Luminous Intensity/Segment	$I_V$	5	--	mcd	$I_F=10mA$
Forward Voltage /Segment	$V_F$	1.85	2.3	V	$I_F=20mA$
Reverse Current /Segment	$I_R$	--	50	uA	$V_R=5V$
Dominant Wavelength	$\lambda_d$	645	--	nm	$I_F=20mA$
Spectral Line Half Width	$\Delta \lambda$	12	--	nm	$I_F=20mA$

### ◆ Package Dimensions:

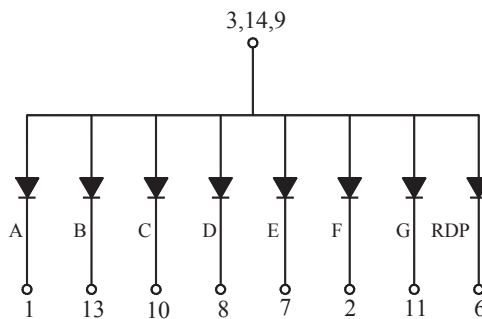


### NOTES:

- All dimensions are in millimetres (mm), Tolerance is  $\pm 0.25$ mm unless otherwise noted.
- Specifications are subject to change without notice.

### ◆ Internal Circuit:

Common Anode



4,5,12 NO PIN

**GNS-3011HS**

## ◆ Reliability Test Items and Conditions

NO	Test Item	Test Conditions	Duration	Sample	Ac/Re
1	Temperature Cycle	-40°C ± 5°C ~ 25°C ± 5°C 30min 5min f 100°C ± 5°C ~ 25°C ± 5°C 30min 5min	20cycles	20	0/1
2	High Temp. Storage	Ta=100°C ± 5°C	1000hours	20	0/1
3	Temp.& Humidity Test	Ta=85°C ± 5°C, RH=85% ± 5%	1000hours	20	0/1
4	Low Temp. Storage	Ta=-40°C ± 5°C	1000hours	20	0/1
5	Operating Life Test	Ta=25 ± 5°C, DC IF=20mA	1000hours	20	0/1
6	Solder Heat	Tsol=260 ± 5°C, 5s	1times	20	0/1
7	Thermal Shock	-40 ± 5°C → 100 ± 5°C 15min 15min	20cycles	20	0/1

## ◆ Typical Electro-Optical Characteristics Curves

