BRIGHTEK

BRIGHTEK (EUROPE) LIMITED

Brighten Up The World With LED!

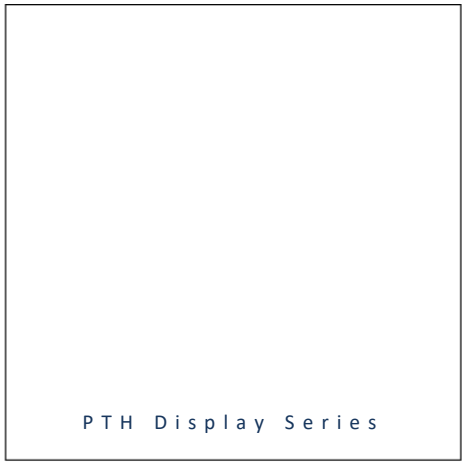
ISO/TS 16949:2009 BS EN ISO 14001:2004 QC 080000 IECQ HSPM

Release Date: 14 February 2020 Version: A1.0

PRODUCT DATASHEET

- ▶ PTH Display
- ▶ 0.56'' (14.2mm) 8.
- ▶ Green (570nm)

N0G51D00GS (LS0566GWY)
N0G51D01GS (LS0565GWY)



PTH Display Series

RoHS Compliant

APPLICATIONS:

- 7-Segment Display
- Single Digital Display
- Information Board
- White Goods
- Counter

FEATURES:

- **Package:** PTH Numeral Singe Digit 7-Segment Display
- **Forward Current:** 20mA per diode
- **Forward Voltage (typ.):** 2.2V per diode
- **Luminous Intensity (typ.):** 2.4mcd@20mA per diode
- **Colour:** Green
- **Dominant Wavelength:** 570nm
- **Materials:**
  - Die: GaP
  - Resin: Epoxy (White Diffused)
  - Surface Colour: Grey
- **Operating Temperature:** -40~+85°C
- **Storage Temperature:** -40~+100°C
- **Grouping parameters:**
  - Forward voltage
  - Luminous intensity
  - Dominant wavelength
- **Soldering methods:** Reflow
- **Preconditioning:** acc. to JEDEC Level 3
- **Packing:** 800pcs/carton

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current *	I_F	20	mA
Peak Forward Current Duty 1/10 @1KHz	I_{FP}	100	mA
Reverse Current @5V	I_R	10	μA
Power Dissipation	P_D	85	mW
Operating Temperature	T_{OPR}	-40~+85	°C
Storage Temperature	T_{STG}	-40~+100	°C

1. All parameters are per diode.

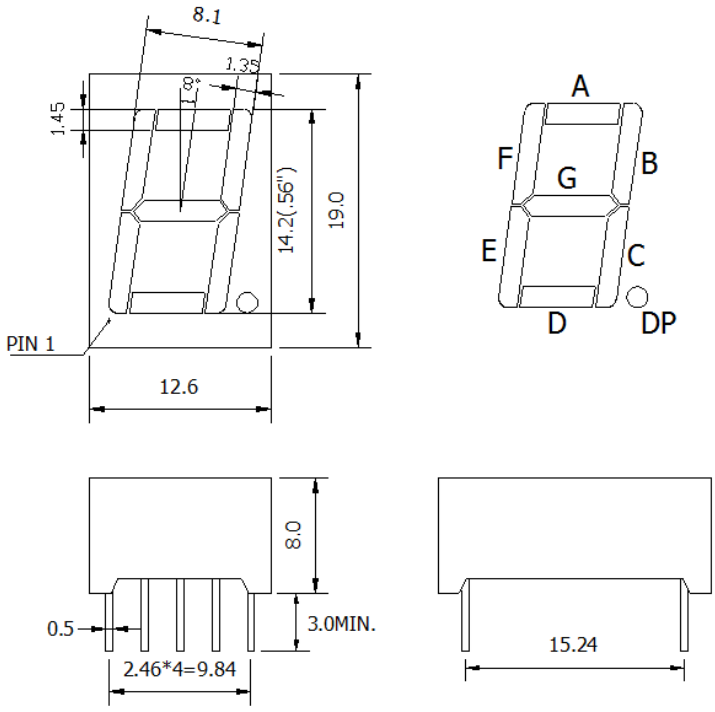
Electrical & Optical Characteristics (Ta=25°C)

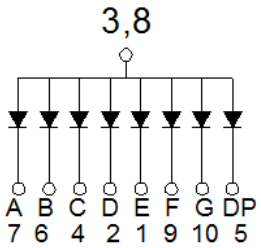
Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V_F	1.7	2.2	2.6	V	I_F=20mA
Luminous Intensity	I_V	1.2	2.4	3.8	mcd	I_F=20mA
Peak Wavelength	λ_P	---	568	---	nm	I_F=20mA
Dominant Wavelength	λ_D	---	570	---	nm	I_F=20mA
Spectral Line Half Bandwidth	$\Delta\lambda$	---	30	---	nm	I_F=20mA

1. Luminous intensity (I_V) ±10%, Forward Voltage (V_F) ±0.1V, Viewing angle ($2\theta_{1/2}$) ±5%, Wavelength (λ_D) ±0.5nm.

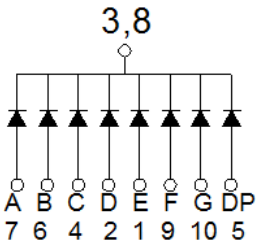
OUTLINE DIMENSION:

Package Dimension:





N0G51D00GS (LS0566GWY)



N0G51D01GS (LS0565GWY)

1. All dimensions are in millimetre (mm).
2. Tolerance ±0.2mm, unless otherwise noted.

BINNING GROUPS:

Forward Voltage Classifications (I_F = 20mA):

Code	Min.	Max.	Unit
V	1.7	2.6	V

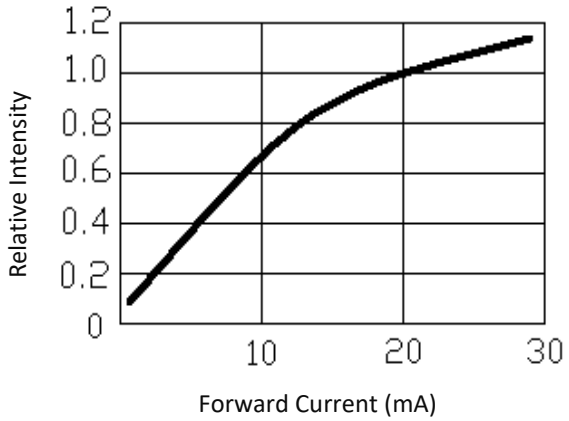
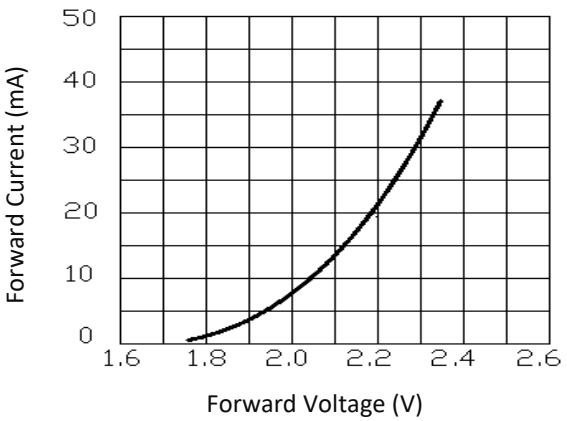
Luminous Intensity Classifications (I_F = 20mA):

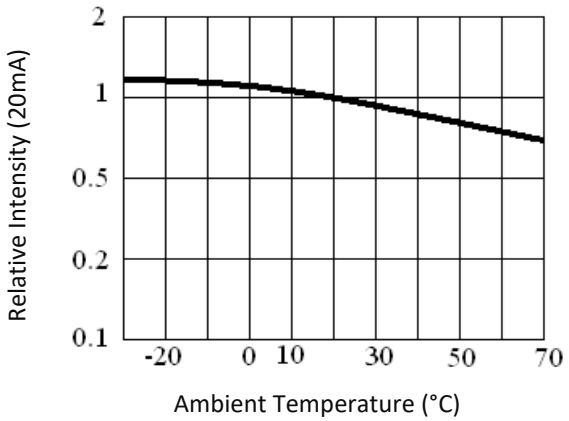
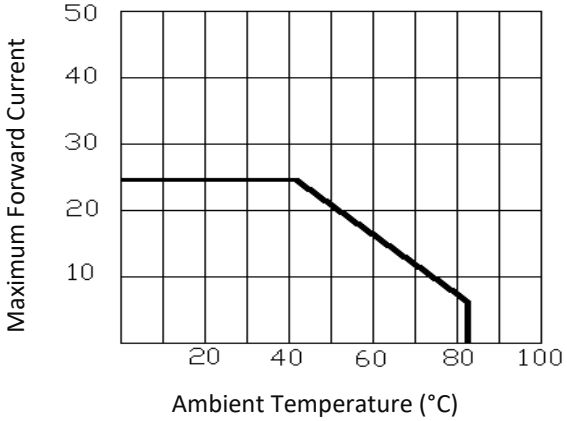
Code	Min.	Max.	Unit
IV	1.2	3.8	mcd

Dominant Wavelength Classifications (I_F = 20mA):

Code	Min.	Max.	Unit
G	565	575	nm

ELECTRO-OPTICAL CHARACTERISTICS:

Relative Intensity v.s. Forward Current	Forward Current v.s. Forward Voltage
	

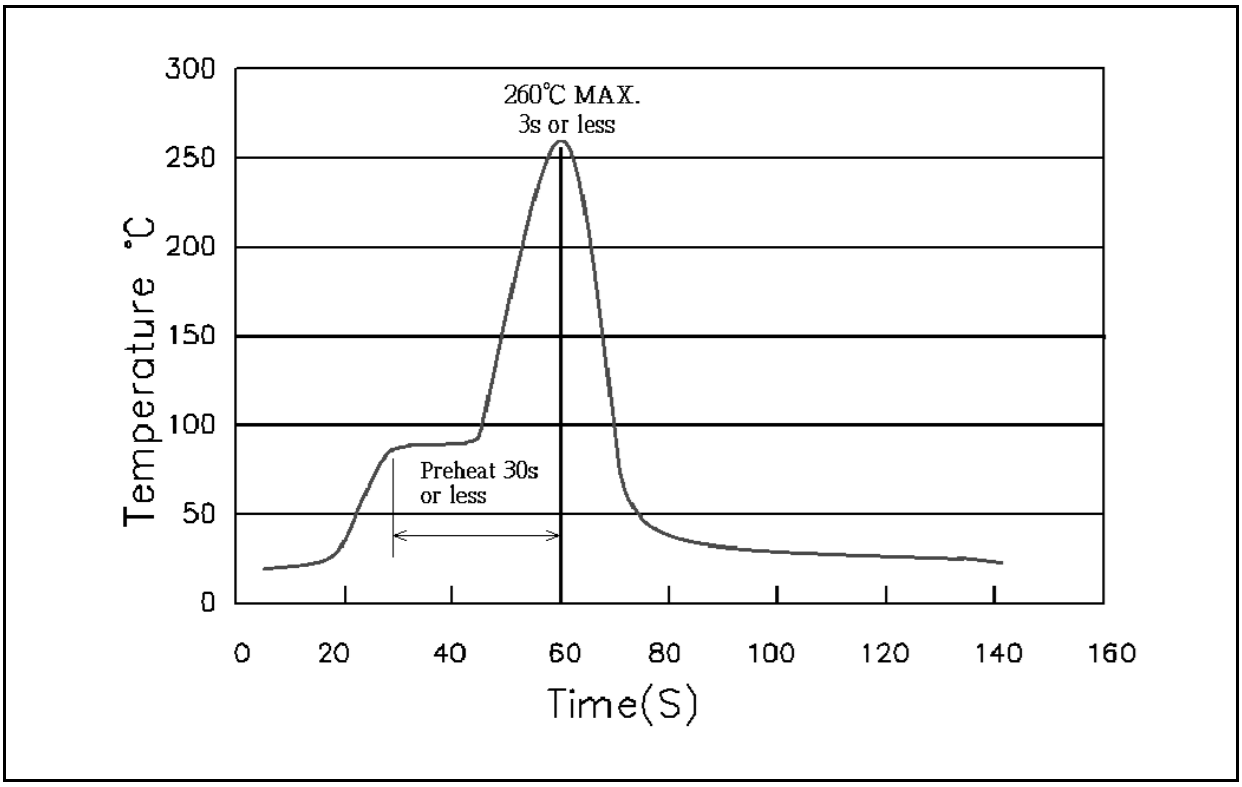
Relative Intensity v.s. Temperature	Max. Forward Current v.s. Temperature
	

RECOMMENDED SOLDERING PROFILE:

Hand Solder (Solder Iron):

- Temperature at tip of iron: 350°C max.
- Soldering Time: 3 seconds ±1 sec.
- Maximum reflow soldering: 1 time.

Wave / Soldering Heat (DIP):

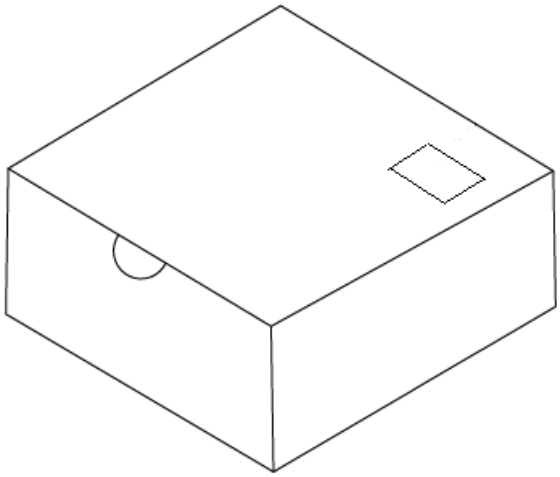


Note:

1. Maximum reflow soldering: 1 time.
2. Before, during, and after soldering, should not apply stress on the components and PCB board.

PACKING SPECIFICATION:

800pcs/carton



PRECAUTIONS OF USE:

Storage:

It is recommended to store the products in the following conditions:

- Humidity: 60% R.H. Max.
- Temperature: 5°C~30°C (41°F ~86°F).

Shelf life in sealed bag: 12 months at 5°C~30°C and <60% R.H.

Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a damp-proof box with descanting agent and apply baking.

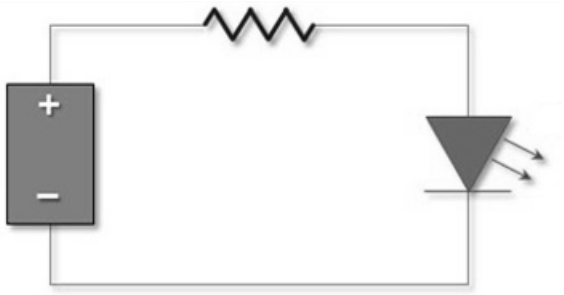
Baking:

It is recommended to bake the LED before soldering if the pack has been unsealed for longer than 24hrs. The suggested baking conditions are as followings:

- 60±3°C x 24hrs and <5%RH, taped / reel package.

It's normal to see slight color fading of carrier (light yellow) after baking in process.

Testing Circuit:



Must apply resistor(s) for protection (over current proof).

Cleaning:

Use alcohol-based cleaning solvents such as isopropyl alcohol to clean the LED carrier / package. Avoid putting any stress force directly on to the LED lens.

ESD (Electrostatic Discharge):

Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrosatic glove is recommended when handing the LED all time. All devices, equipment, machinery, work tables, and storage racks must be properly grounded.

In the events of manual working in process, make sure the devices are well protected from ESD at any time.

REVISION RECORD:

Version	Date	Summary of Revision
A1.0	14/02/2020	Datasheet set-up.