



BRIGHTTEK
BRIGHTTEK (EUROPE) LIMITED

Brighten up The World With LED!



ISO/TS 16949:2009



BS EN ISO 14001:2004



QC 080000 IECQ HSPM

PRODUCT DATASHEET



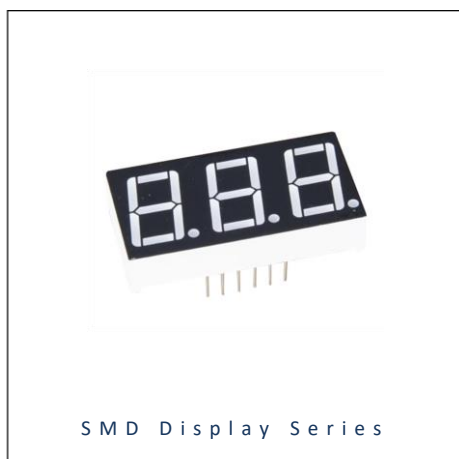
- ▶ PTH Display
- ▶ 0.56'' (14.2mm) 8.8.8.
- ▶ Green (570nm)

N0G15D77BS

N0G15D78BS



Release Date: 13 August 2019 Version: A1.1



SMD Display Series

PTH Display Series

RoHS
Compliant



FEATURES:

- **Package:** PTH Numeral Triple Digits Display
- **Forward Current:** 20mA per diode
- **Forward Voltage (typ.):** 2.1V per diode
- **Luminous Intensity (typ.):** 2.3mcd @20mA per diode
- **Colour:** Green
- **Wavelength:** 570nm
- **Materials:**
 - Die: GaP
 - Resin: Epoxy (White Diffused)
 - Surface Colour: Black
- **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:** 400pcs/carton

APPLICATIONS:

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

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current *	I _F	25	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)

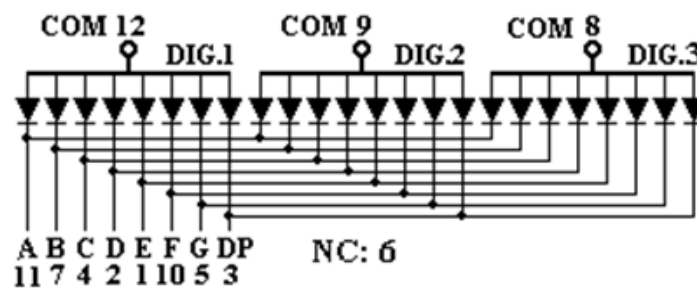
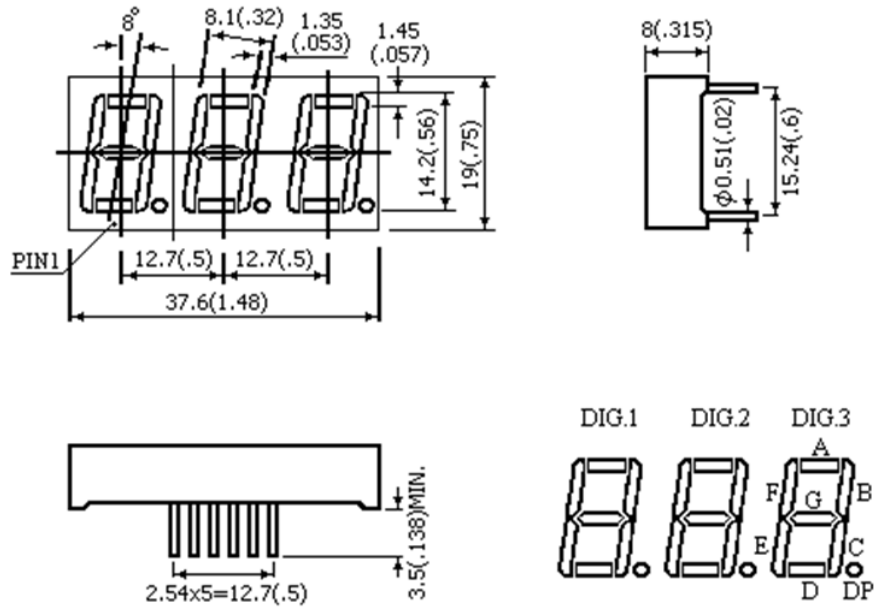
Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V _F	1.7	2.1	2.6	V	I _F =20mA
Luminous Intensity	I _V	1.1	2.3	3.5	mcd	I _F =20mA
Peak Wavelength	λ _P	---	568	---	nm	I _F =20mA
Dominant Wavelength	λ _D	---	570	---	nm	I _F =20mA
Spectral Line Half Bandwidth	Δλ	---	30	---	nm	I _F =20mA

1. Luminous intensity (I_V) ±15%, Forward Voltage (V_F) ±0.1V, Viewing angle(2θ_{1/2}) ±5%

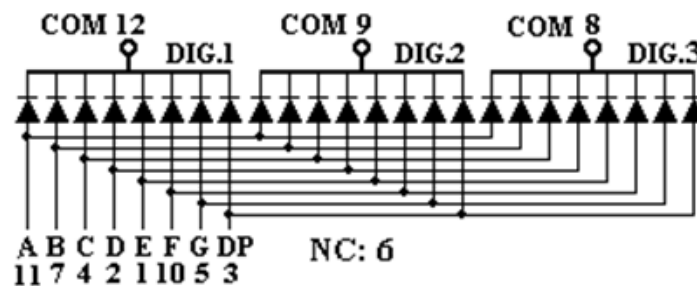


OUTLINE DIMENSION:

Package Dimension:



N0G15D77BS



N0G15D78BS

1. All dimensions are in millimetre (mm).
2. Tolerance $\pm 0.2\text{mm}$, unless otherwise noted.

BINNING GROUPS:

Forward Voltage Classifications ($I_F = 20\text{mA}$):

Code	Min.	Max.	Unit
V	1.7	2.6	V

Luminous Intensity Classifications ($I_F = 20\text{mA}$):

Code	Min.	Max.	Unit
IV	1.1	3.5	mcd

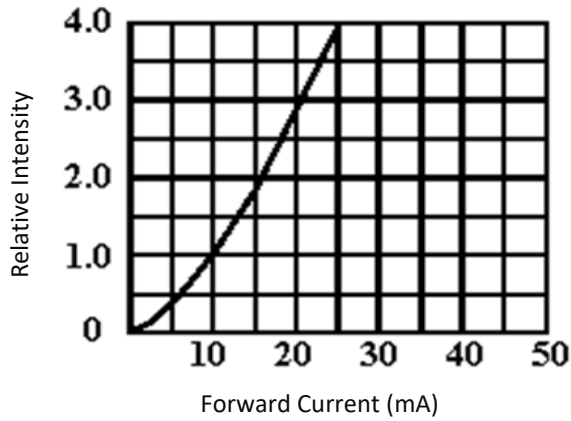
Dominant Wavelength Classifications ($I_F = 20\text{mA}$):

Code	Min.	Max.	Unit
G	565	575	nm

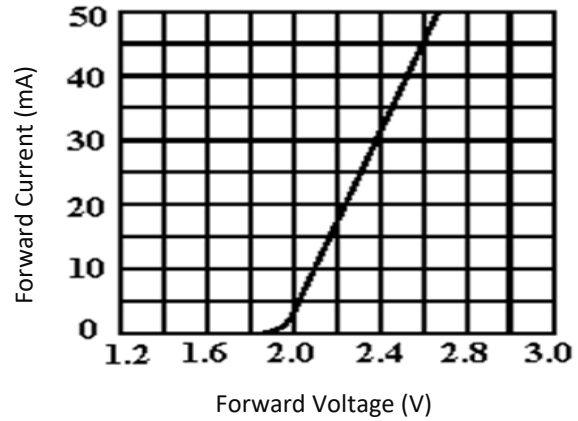


ELECTRO-OPTICAL CHARACTERISTICS:

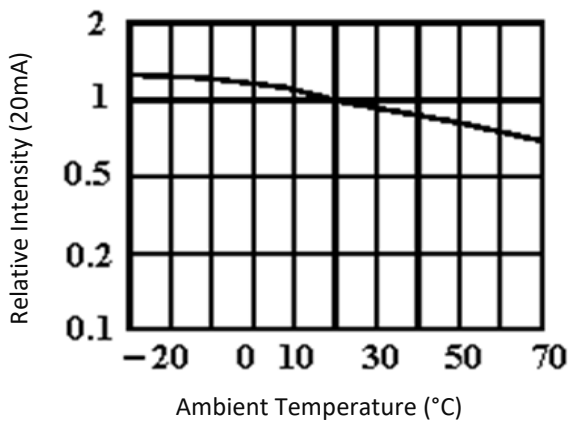
Relative Intensity v.s. Forward Current



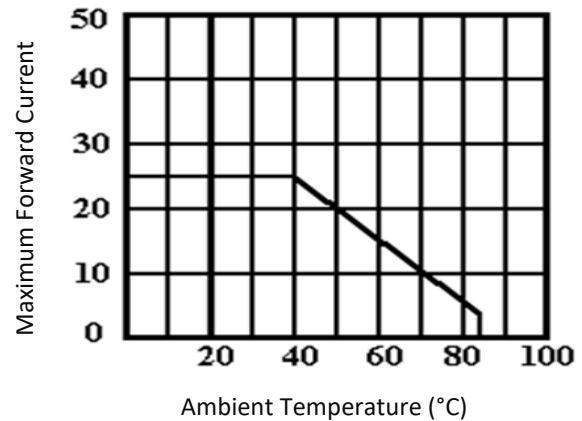
Forward Current v.s. Forward Voltage



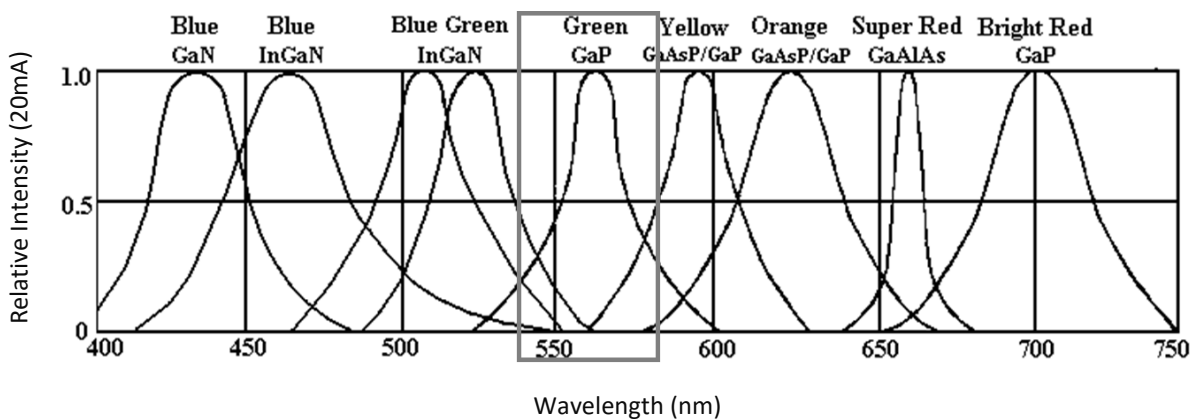
Relative Intensity v.s. Temperature



Max. Forward Current v.s. Temperature



Relative Spectral Distribution



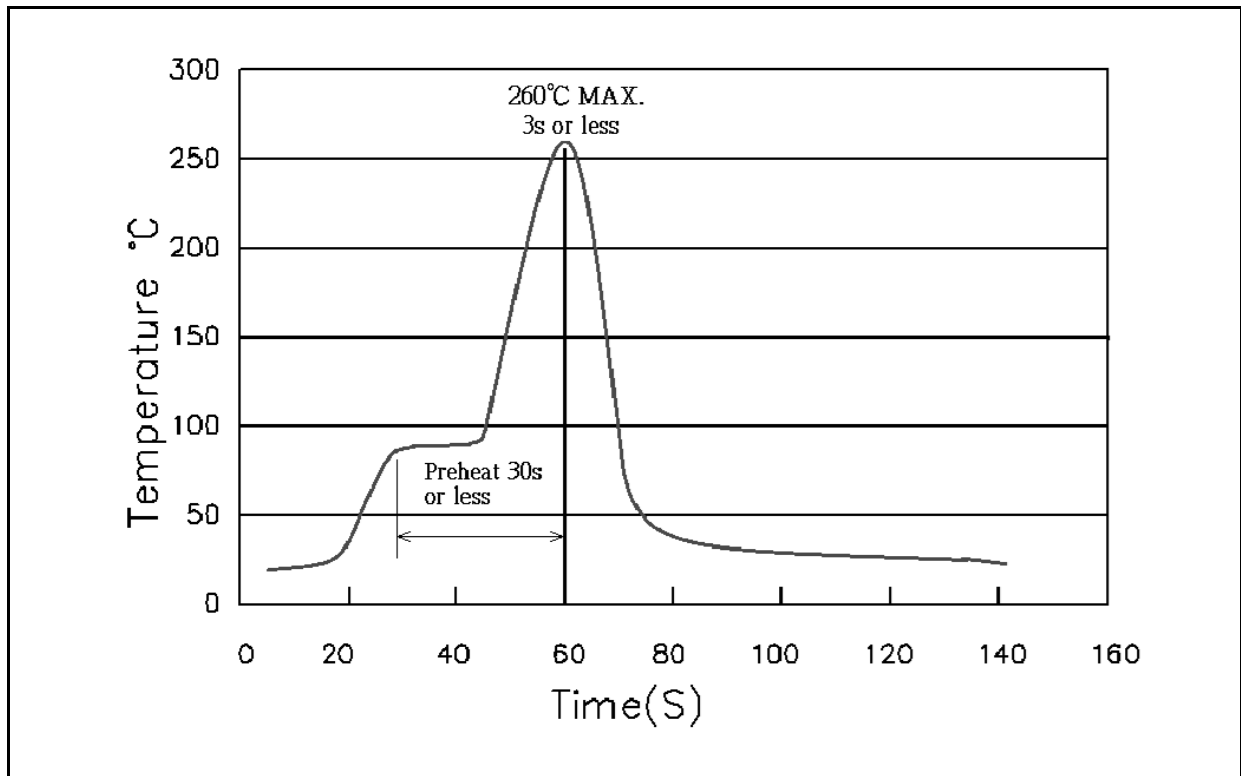


RECOMMENDED SOLDERING PROFILE:

Hand Solder (Solder Iron):

- Temperature at tip of iron: 300°C Max. (25W Max.).
- Soldering Time: 3 seconds \pm 1 sec.
- Maximum reflow soldering: 1 time.

Wave / Soldering Heat (DIP):

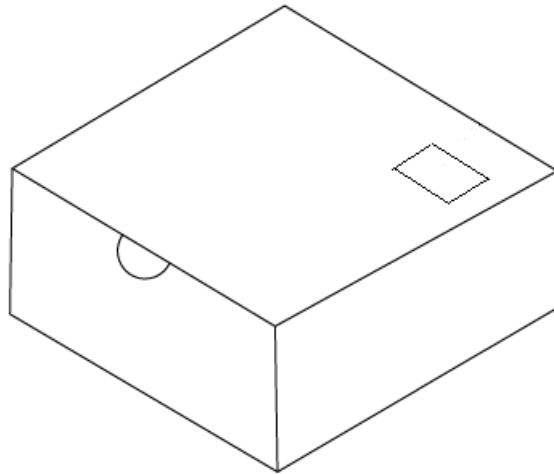


Note:

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

PACKING SPECIFICATION:

400pcs/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 desiccating agent and apply baking.

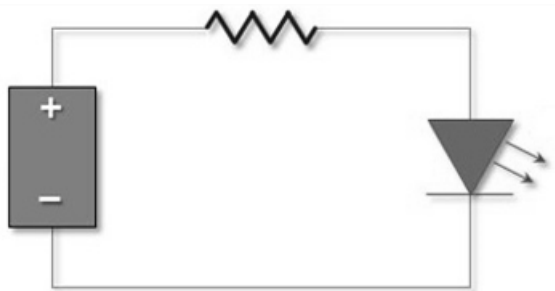
Baking:

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-electrostatic glove is recommended when handling 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	12/12/2014	Datasheet set-up.
A1.1	13/08/2019	Datasheet update.