



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

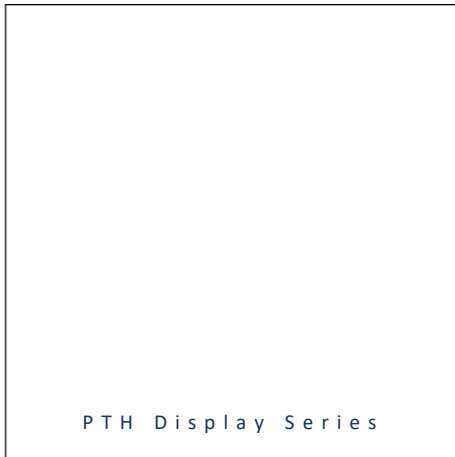


- ▶ PTH Numeral Display
- ▶ 0.56" (14.2mm) 8.
- ▶ Red (640nm)

NOR57D10BS (CA)
 NOR57D11BS (CC)



Release Date: 04 December 2020 Version: A1.0



PTH Display Series

PTH Display Series

RoHS
Compliant



FEATURES:

- **Package:** PTH Numeral Single Digits Display
- **Forward Current:** 20mA per diode
- **Forward Voltage (typ.):** 1.9V per diode
- **Luminous Intensity (typ.):** 5mcd @20mA per segment
- **Colour:** Red
- **Wavelength:** 640nm
- **Materials:**
 - Die: AlInGaP
 - 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:** min.100pcs/carton

APPLICATIONS:

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

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current *	I _F	30	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
Electrostatic Discharge (HBM)	ESD	2000	V
Operating Temperature	T _{OPR}	-40~+85	°C
Storage Temperature	T _{STG}	-40~+100	°C

- All parameters are per diode.

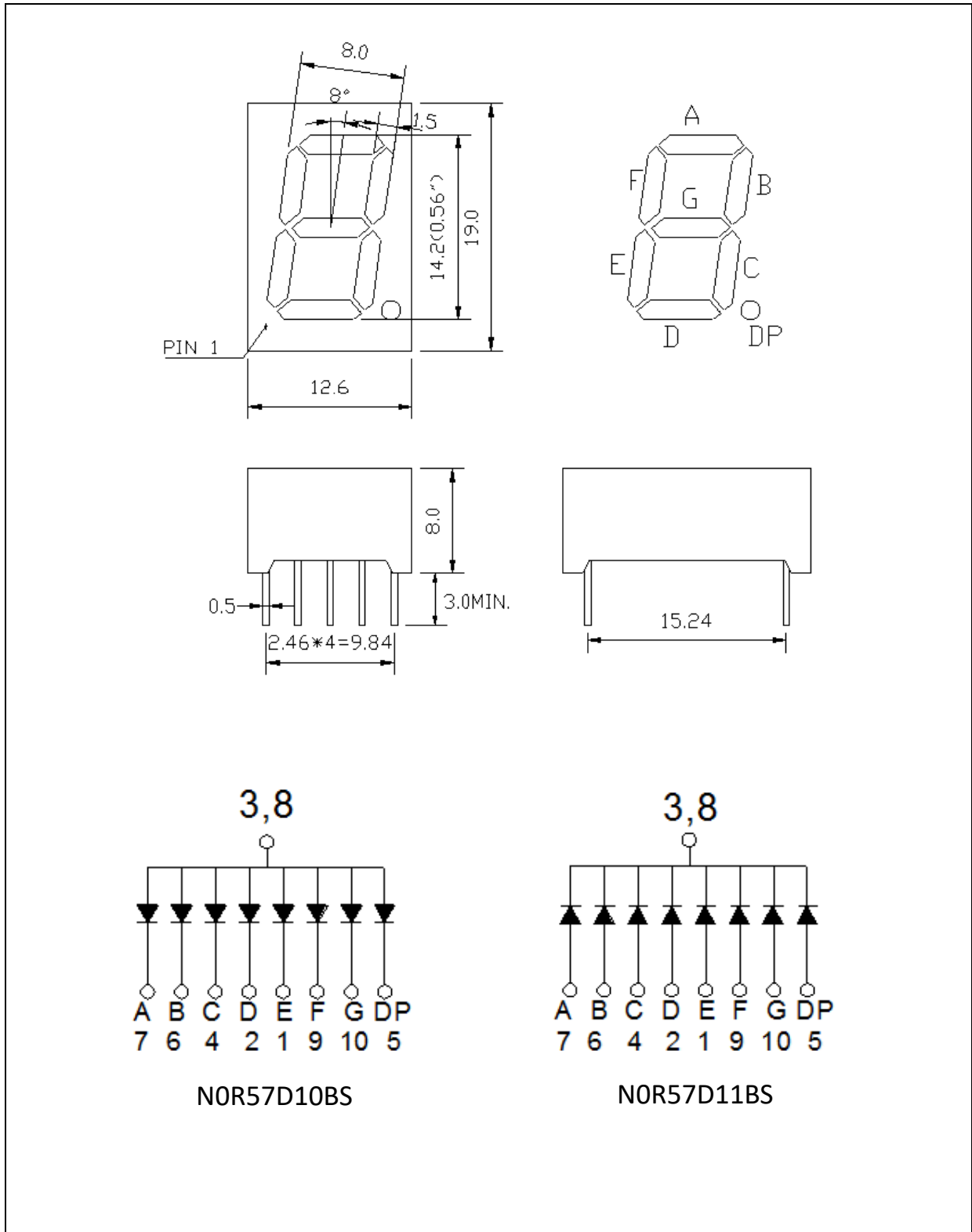
Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V _F	1.8	1.9	2.2	V	I _F =20mA
Luminous Intensity	I _v	3.5	5.0	7.5	mcd	I _F =20mA
Peak Wavelength	λ _P	---	650	---	nm	I _F =20mA
Dominant Wavelength	λ _D	635	640	645	nm	I _F =20mA
Spectral Line Half Bandwidth	Δλ	---	20	---	nm	I _F =20mA

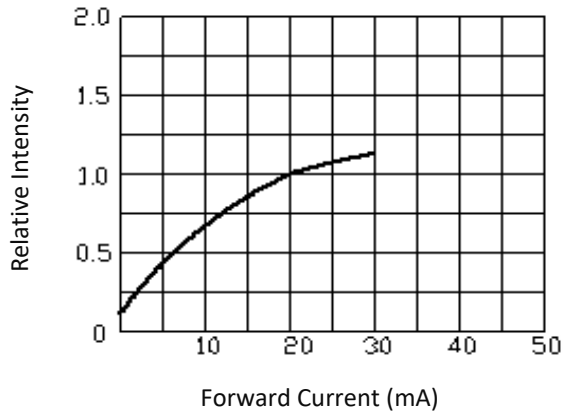
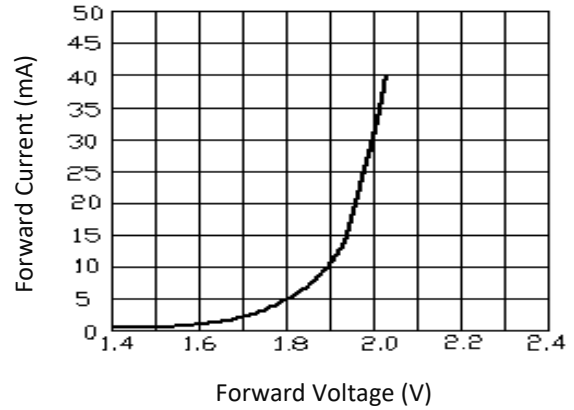
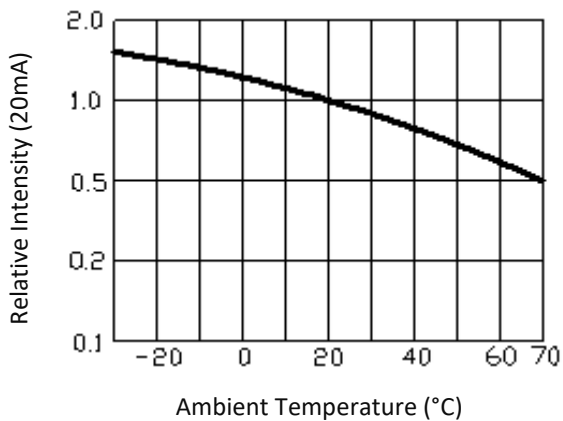
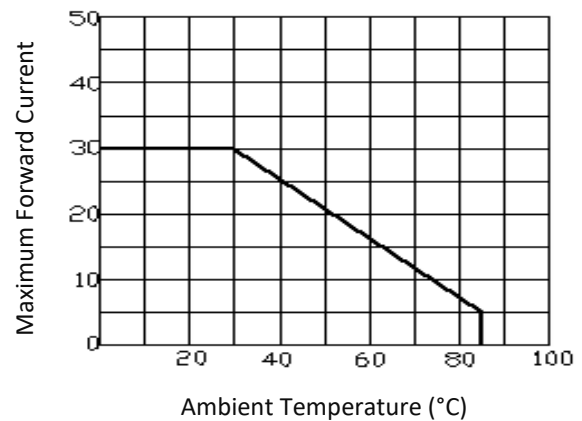
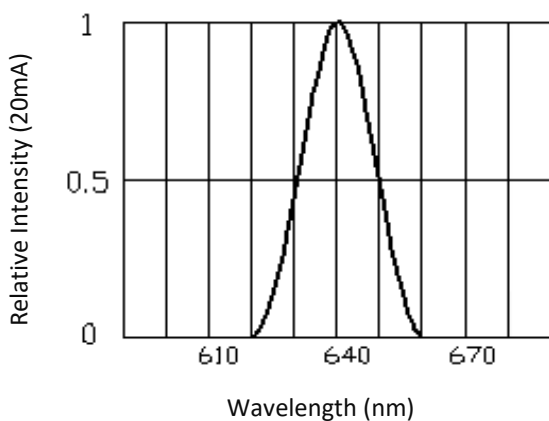
- Luminous intensity (I_v) ±15%, Forward Voltage (V_F) ±0.1V, Viewing angle(2θ_{1/2}) ±5%

OUTLINE DIMENSION:

Package Dimension:

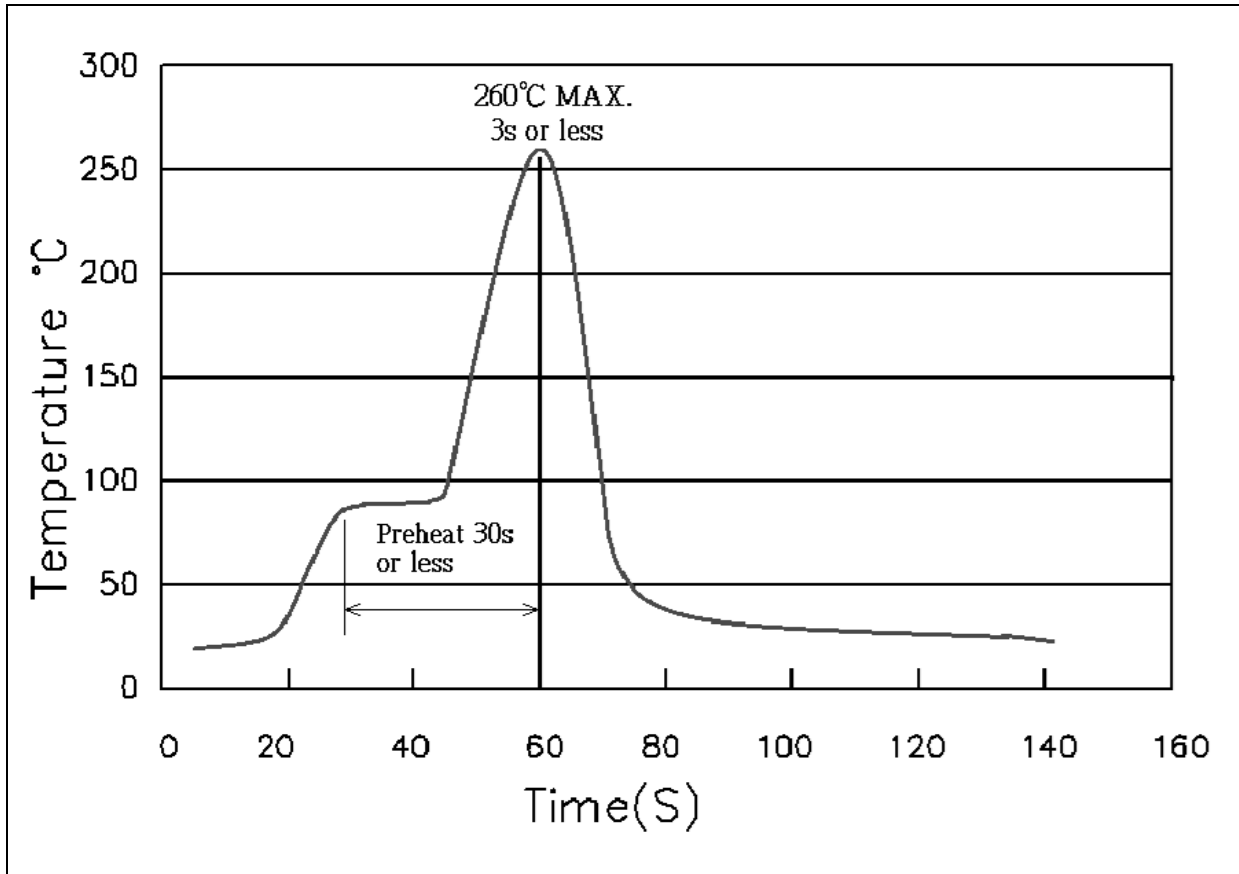


1. All dimensions are in millimetre (mm).
2. Tolerance $\pm 0.2\text{mm}$, unless otherwise noted.

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


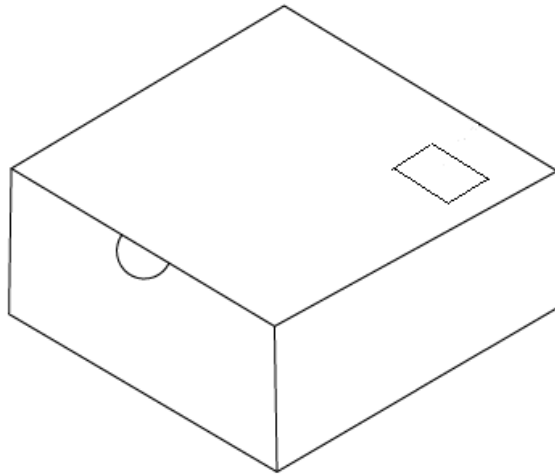
RECOMMENDED SOLDERING PROFILE:

Soldering Heat (DIP):



PACKING SPECIFICATION:

Min.100pcs/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 month 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 <10% R.H. and apply baking before use.

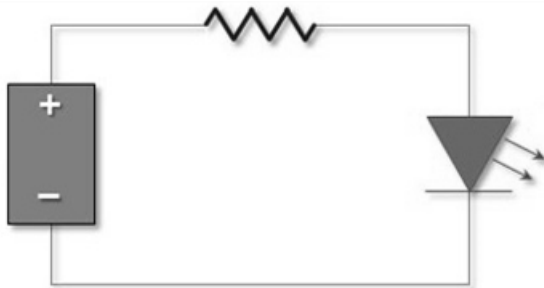
Baking:

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	04/12/2020	Datasheet set-up.