



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

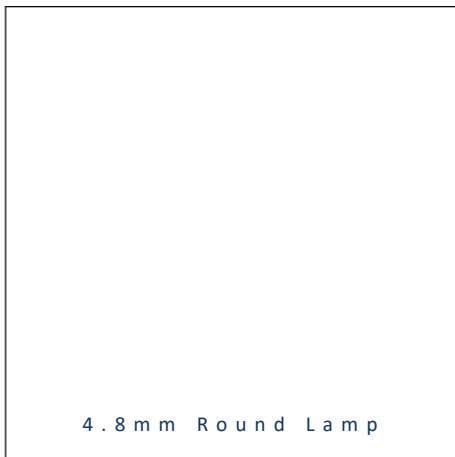


- ▶ PTH Lamp
- ▶ 4.8mm Round
- ▶ Red (635nm)

NOR16L92 (Bulk)
 NOR16L92T (Taping)



Release Date: 13 July 2017 Version: A1.0



4.8mm Round Lamp

4.8mm Round Lamp



FEATURES:

- **Package:** PTH Lamp 4.8mm Round Top View
- **Forward Current:** 20mA
- **Forward Voltage (typ.):** 2.0V
- **Luminous Intensity (typ.):** 5000mcd@20mA
- **Colour:** Red
- **Wavelength:** 625nm
- **Viewing angle:** 30°
- **Materials:**
 - Die: AlInGaP
 - Resin: Epoxy (Water Clear)
- **Operating Temperature:** -40~+85°C
- **Storage Temperature:** -40~+100°C
- **Grouping parameters:**
 - Forward voltage
 - Luminous intensity
 - Dominant Wavelength
- **Soldering methods:** Hand; Reflow soldering
- **Preconditioning:** acc. to JEDEC Level 3
- **Packing:** 500pcs/Bulk; 2000pcs/Taping

APPLICATIONS:

- Indicator
- Traffic Display
- Decoration Lighting

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	PD	85	mW
Operating Temperature	T _{OPR}	-40~+85	°C
Storage Temperature	T _{STG}	-40~+100	°C

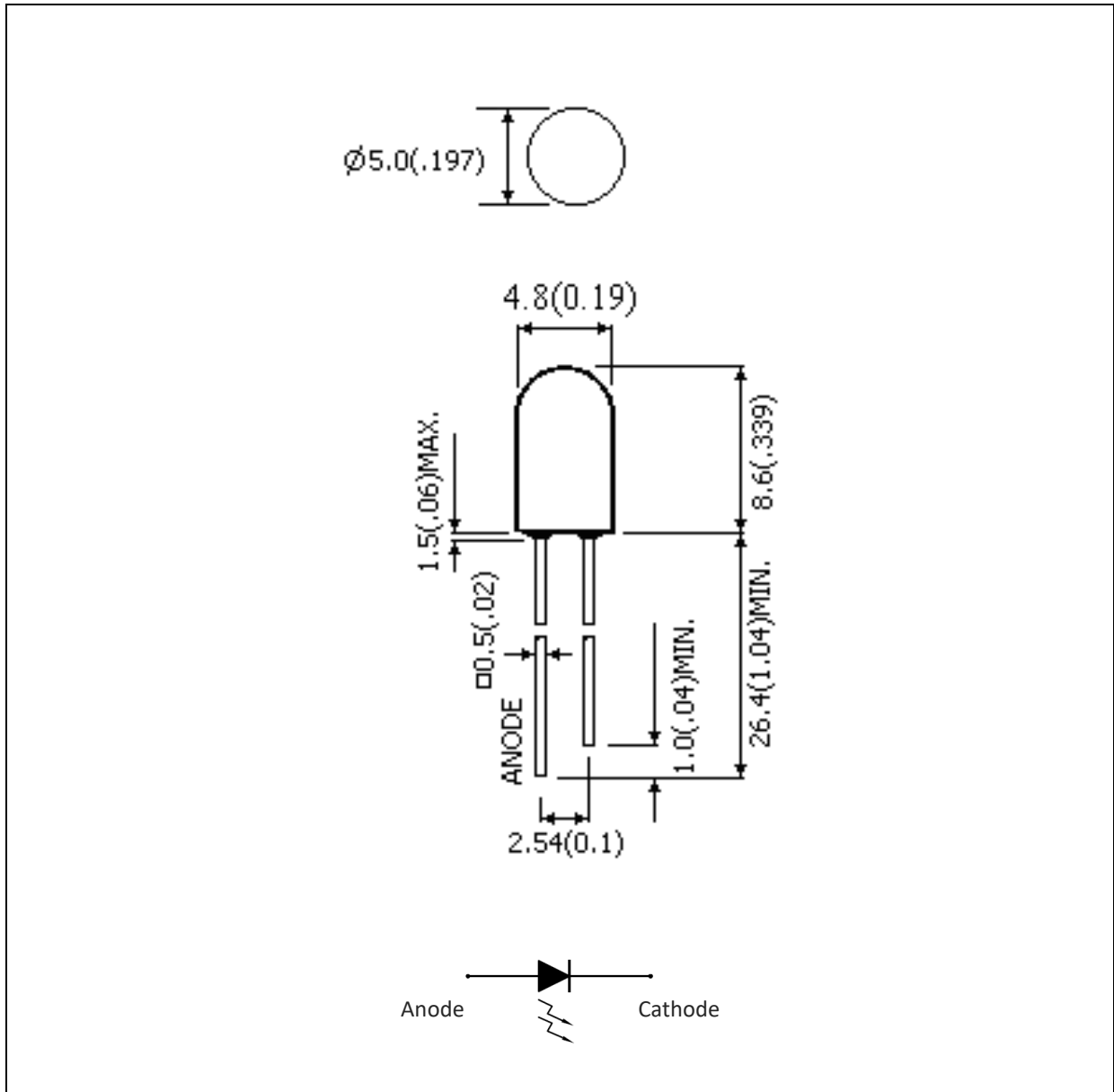
Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V _F	1.8	2.0	2.5	V	I _F =20mA
Luminous Intensity	I _v	3000	5000	7500	mcd	I _F =20mA
Dominant Wavelength	λ _D	---	625	---	nm	I _F =20mA
Peak Wavelength	λ _P	---	635	---	nm	I _F =20mA
Spectral Line Half Bandwidth	Δλ	---	17	---	nm	I _F =20mA
Viewing Angle	2θ _{1/2}	---	30	---	deg	I _F =20mA

- Luminous flux (Φ_v) ±10%, 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 $\pm 0.1\text{mm}$, unless otherwise noted.

BINNING GROUPS:

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

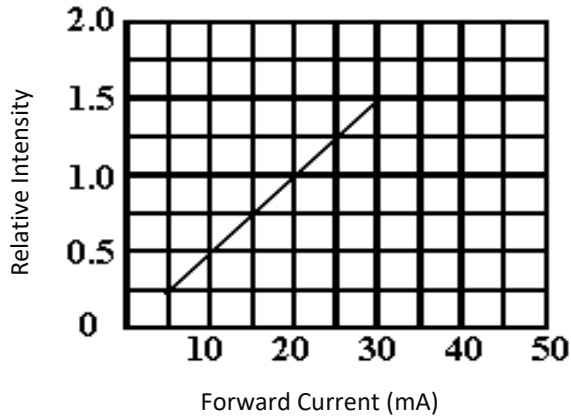
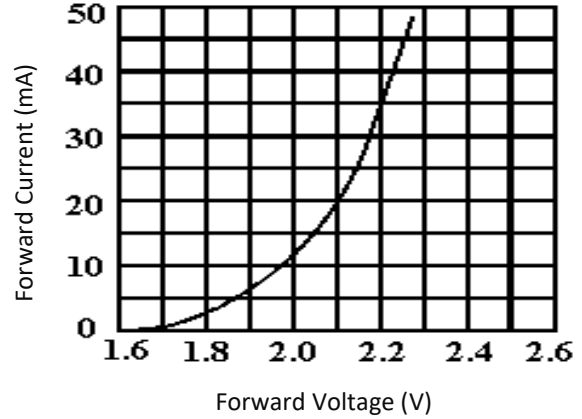
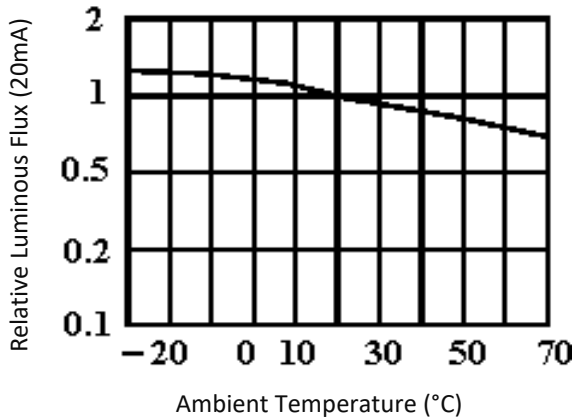
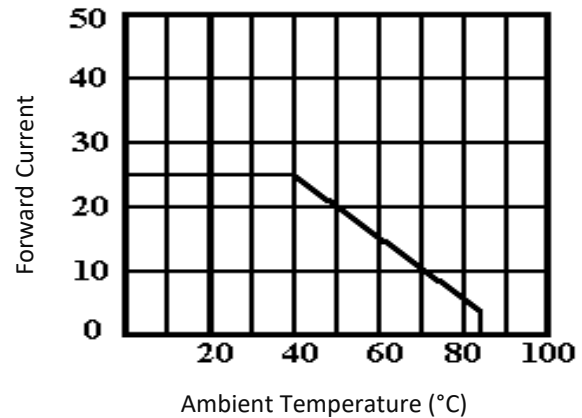
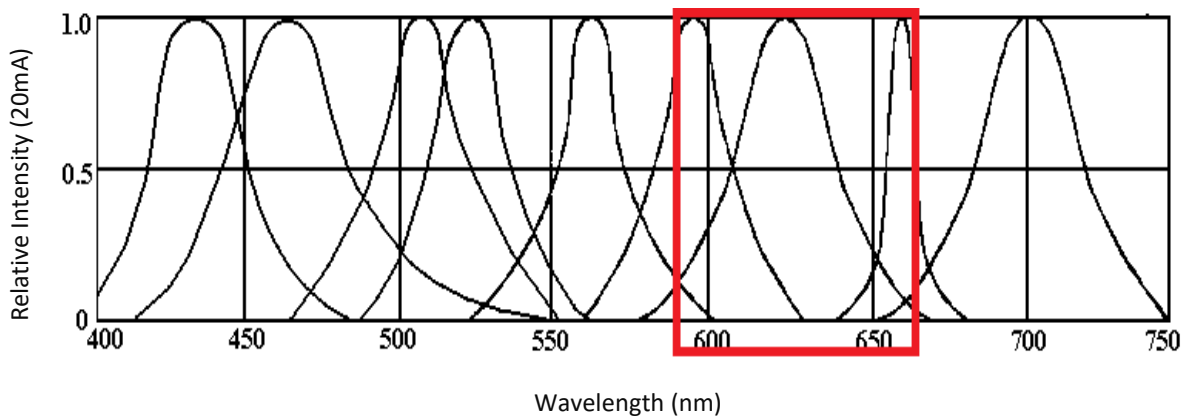
Code	Min.	Max.	Unit
1	1.8	2.5	V

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

Code	Min.	Max.	Unit
X1	3000	7500	mcd

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

Code	Min.	Max.	Unit
R1	620	640	nm

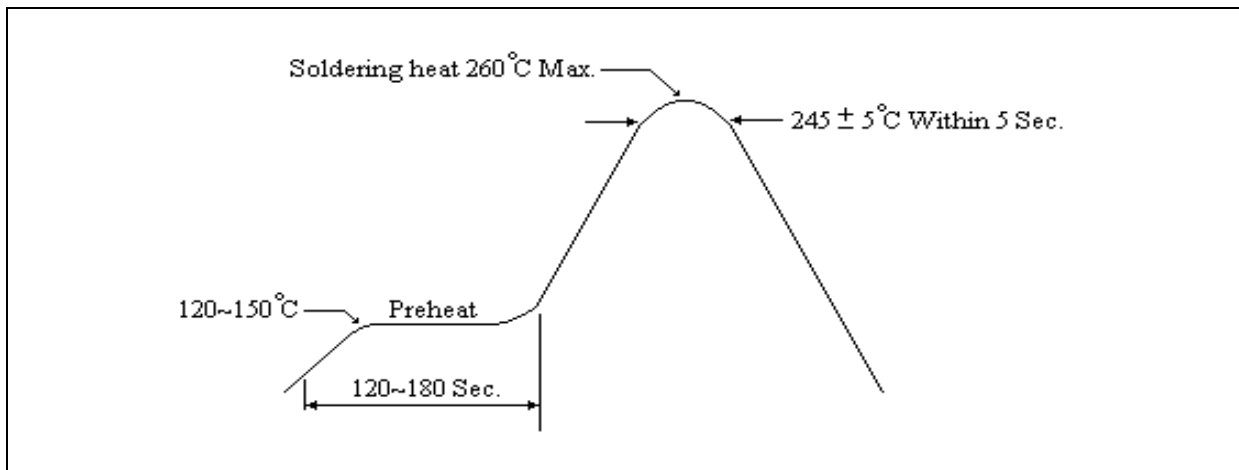
ELECTRO-OPTICAL CHARACTERISTICS:
Relative Intensity v.s. Forward Current

Forward Current v.s. Forward Voltage

Relative Luminous Flux v.s. Temperature

Forward Current v.s. Temperature

Relative Intensity v.s. Wavelength


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 soldering: 1 time.

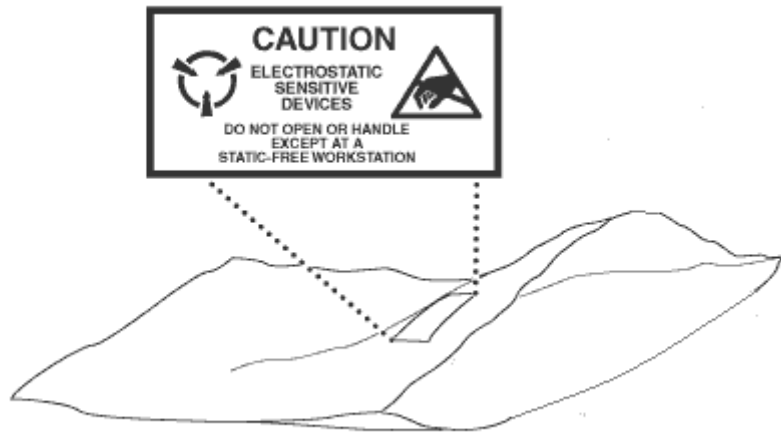
Soldering Heat (DIP):



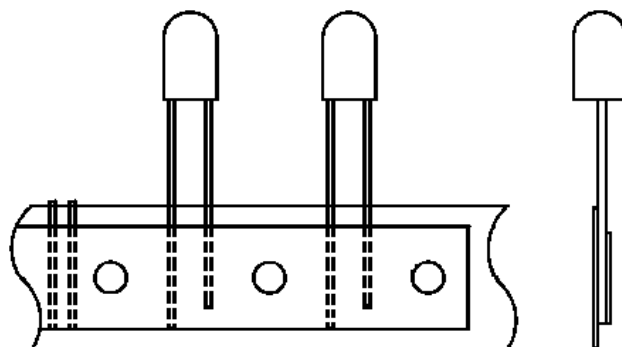
PACKING SPECIFICATION:

Reel Dimension:

500pcs/Bulk



2000pcs/Taping



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 and apply baking at 60°C±5°C for 15hrs before use.

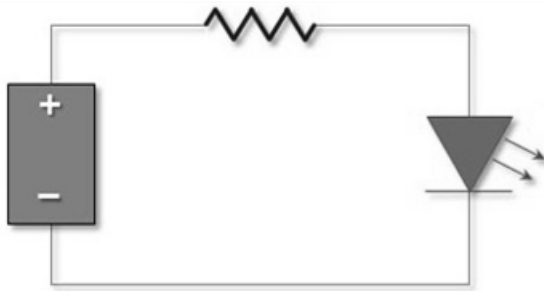
Baking:

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	05/08/2015	Datasheet set-up.
A1.1	13/07/2017	Revise part number to N0R16L92; revise packing quantity and soldering info.