



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

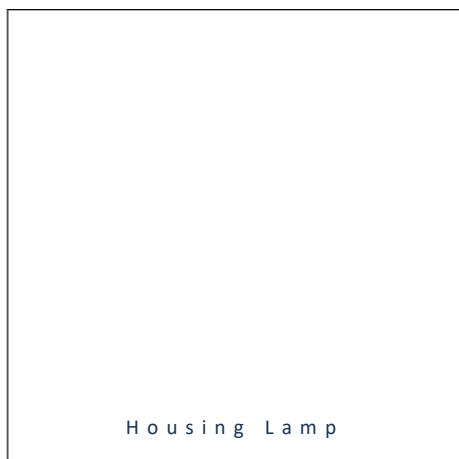


- ▶ PTH Housing Lamp
- ▶ 1x 3mm Round
- ▶ Green 570nm

N0G09H21SV



Release Date: 31 October 2024 Version: A1.1



Housing Lamp

RoHS
Compliant



FEATURES:

- **Package:** PTH Housing Lamp 1x 3mm Round
- **Forward Current:** 20mA*
- **Forward Voltage (typ.):** 2.1V
- **Luminous Intensity (typ.):** 35mcd@20mA
- **Colour:** Green
- **Dominant Wavelength (typ.):** 570nm
- **Viewing Angle:** 50°
- **Materials:**
 - Die: AlInGaP
 - Resin: Epoxy (Green Diffused)
- **Operating Temperature:** -40~+85°C
- **Storage Temperature:** -40~+100°C
- **Grouping Parameters:**
 - Forward voltage
 - Luminous intensity
 - Dominant wavelength
- **Soldering Methods:** Hand; Soldering Heat (DIP)
- **Packing:** bulk in bag

APPLICATIONS:

- Indicator
- Server
- Control System

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current	I_F	25*	mA
Peak Forward Current Duty 1/10@10KHz	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
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

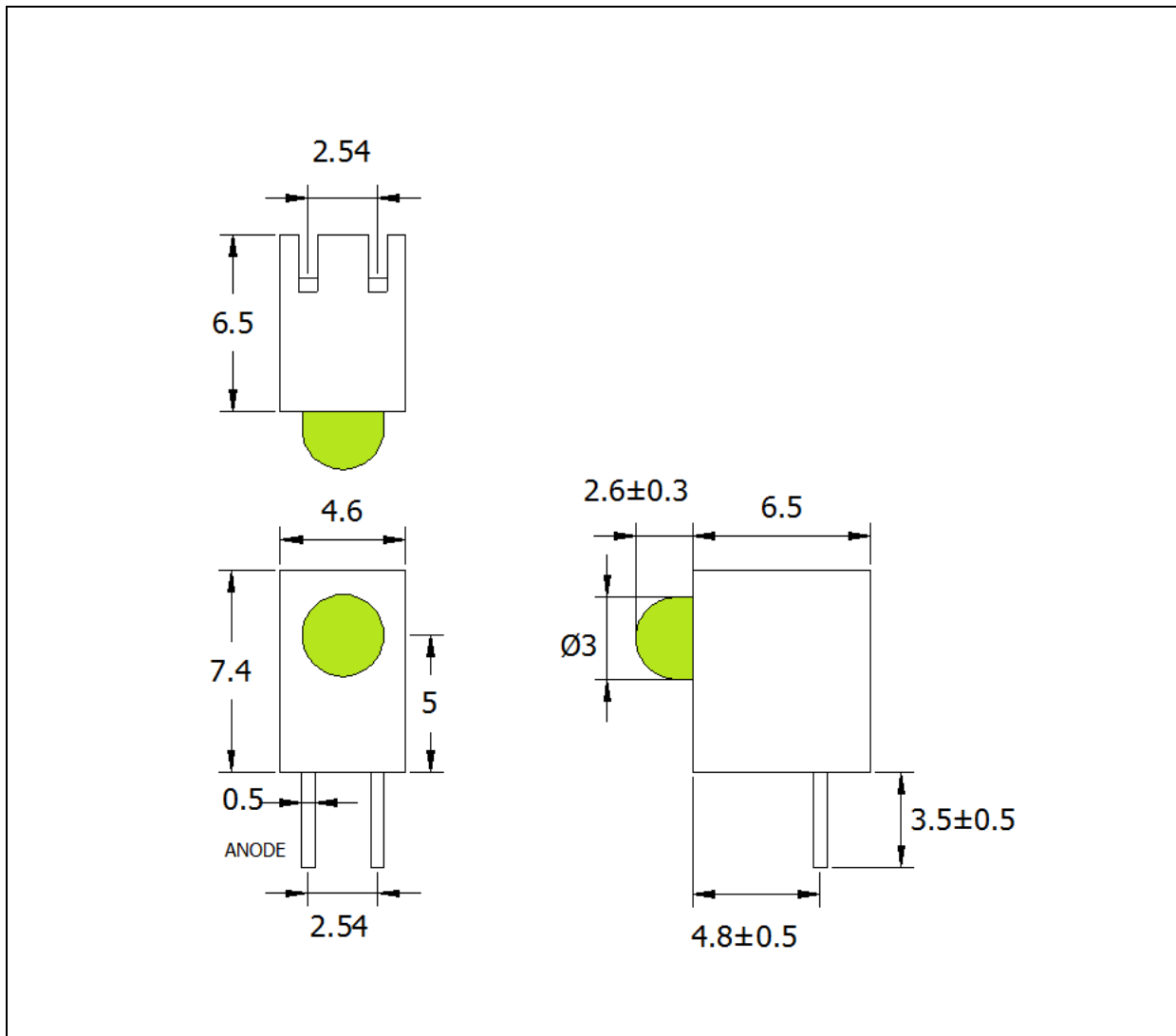
Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V_F	1.8	2.1	2.4	V	$I_F=20mA$
Luminous Intensity	I_v	25	35	50	mcd	$I_F=20mA$
Dominant Wavelength	λ_D	567	570	573	nm	$I_F=20mA$
Peak Wavelength	λ_P	---	570	---	nm	$I_F=20mA$
Spectral Line Half Bandwidth	$\Delta \lambda$	---	30	---	nm	$I_F=20mA$
Viewing Angle	$2\theta_{1/2}$	---	50	---	deg	$I_F=20mA$

1. Luminous intensity (I_v) $\pm 15\%$, Forward Voltage (V_F) $\pm 0.1V$, Viewing angle($2\theta_{1/2}$) $\pm 5\%$

OUTLINE DIMENSION:

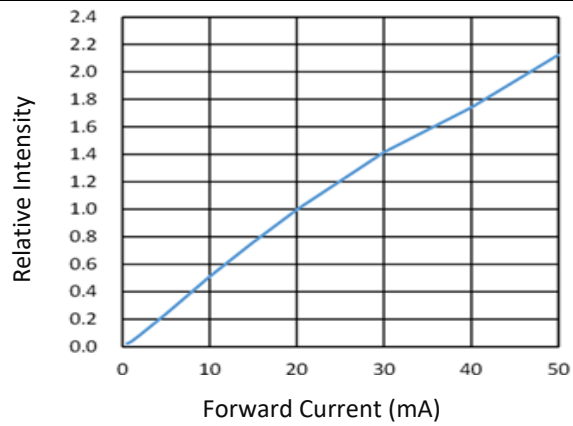
Package Dimension:



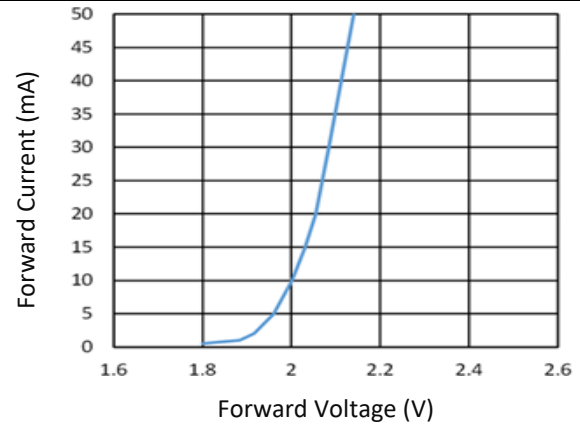
1. All dimensions are in millimetre (mm).
2. Tolerance $\pm 0.2\text{mm}$, unless otherwise noted.

ELECTRO-OPTICAL CHARACTERISTICS:

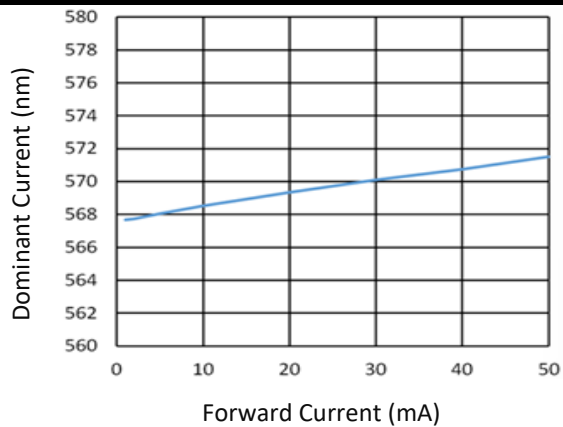
Relative Intensity v.s. Forward Current



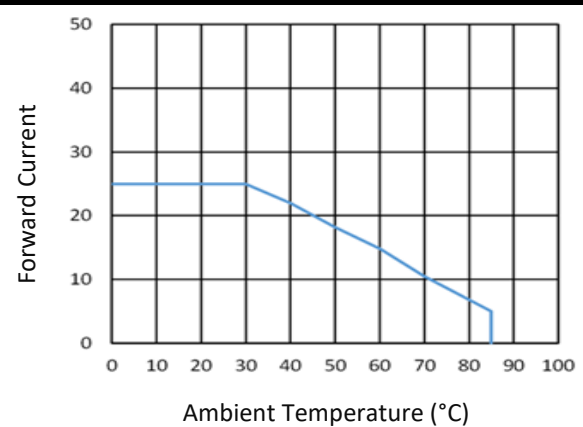
Forward Current v.s. Forward Voltage



Dominant Wavelength v.s. Forward Current



Forward Current v.s. Temperature



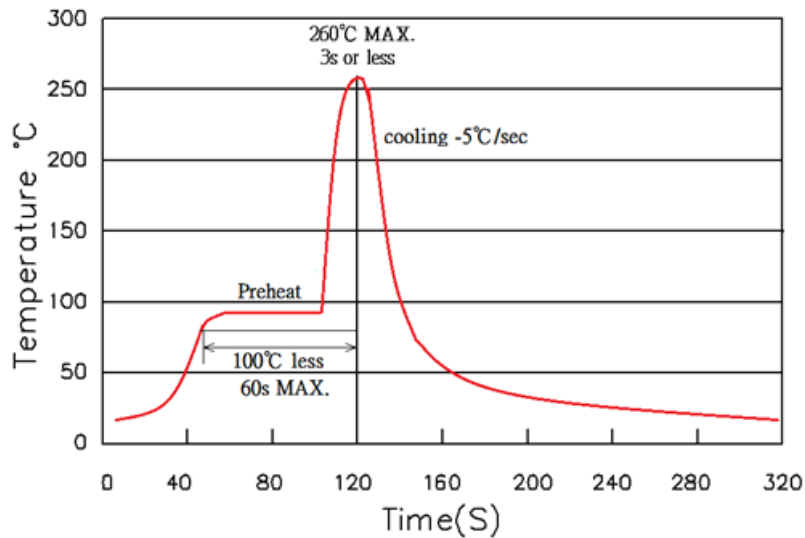


RECOMMENDED SOLDERING PROFILE:

Hand Solder (Solder Iron):

- Temperature at tip of iron: 350°C Max. (25W Max.).
- Soldering Time: 3 seconds \pm 1 sec.

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.

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 year. 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±5°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	20/06/2023	Datasheet set-up.
A1.1	31/10/2024	Update intensity level.