BRIGHTEK

BRIGHTEK (EUROPE) LIMITED

Brighten Up The World With LED!

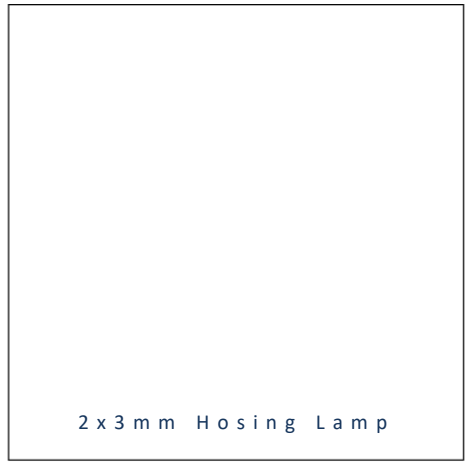
ISO/TS 16949:2009 BS EN ISO 14001:2004 QC 080000 IECQ HSPM

PRODUCT DATASHEET

- ▶ PTH Housing Lamp
- ▶ 4x 2x3mm Rectangular Vertical
- ▶ Nul/Red/Yellow/Green

Release Date: 07 January 2025 Version: A1.0

N0M68H58SV



2x3mm Hosing Lamp

2x3mm Housing Lamp

RoHS Compliant

FEATURES:

- **Package:** PTH Housing 4x 2x3mm Rectangular Vertical Lamp
- **Forward Current:** 3x20mA
- **Forward Voltage (typ.):** 2.1/2.2/2.1V*
- **Luminous Intensity (typ.):** 20/16/18mcd@20mA
- **Colour:** Red/Yellow/Green
- **Dominant Wavelength (typ.):** 625/587/570nm
- **Viewing Angle:** 120°
- **Materials:**
  - Die: GaAsP on GaP/GaAsP on GaP/AlInGaP
  - Resin: Epoxy (Colour 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:** Loose Pack

*in order of Red/Yellow/Green.

APPLICATIONS:

- Indicator
- Signal
- Side View Application
- Telecom Equipment

CHARACTERISTICS:

Absolute Maximum Characteristics (T_a=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current	I_F	30/30/25*	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

* in order of Red/Yellow/Green.

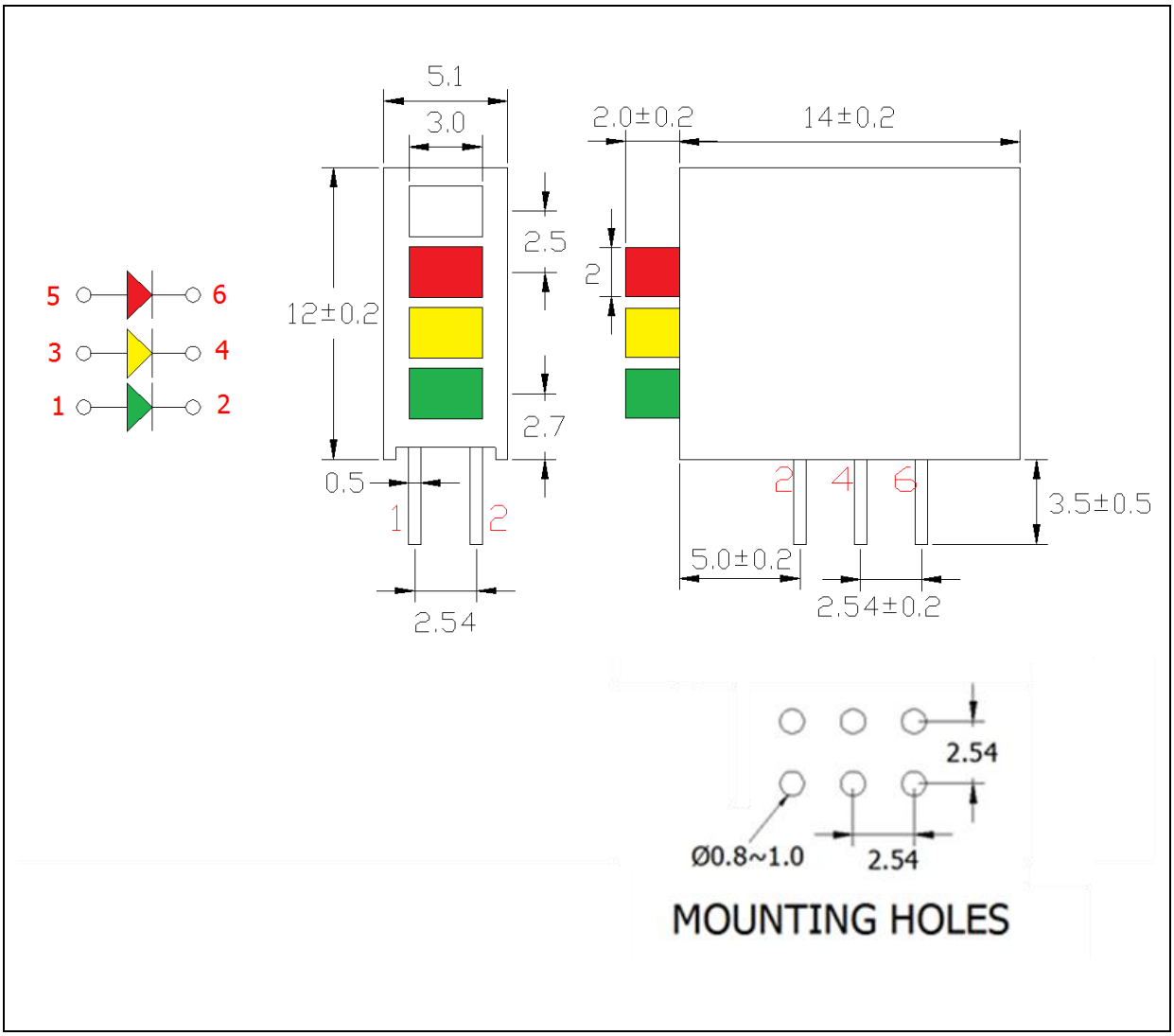
Electrical & Optical Characteristics (T_a=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V_F	1.8/1.9/1.9*	2.1/2.2/2.1	2.6/2.6/2.6	V	I_F=20mA
Luminous Intensity	I_V	15/13/12	20/16/18	25/22/25	mcd	I_F=20mA
Dominant Wavelength	λ_D	---	625/570/587	---	nm	I_F=20mA
Peak Wavelength	λ_P	---	635/590/568	---	nm	I_F=20mA
Spectral Line Half Bandwidth	$\Delta\lambda$	---	45/35/19	---	nm	I_F=20mA
Viewing Angle	$2\theta_{1/2}$	---	120	---	deg	I_F=20mA

* in order of Red/Yellow/Green.

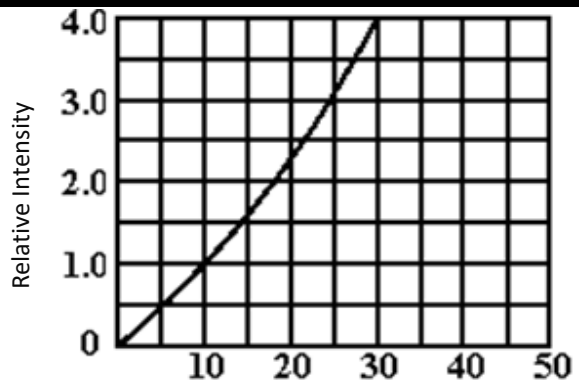
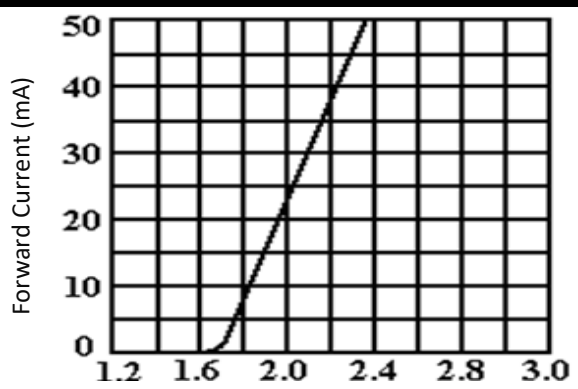
OUTLINE DIMENSION:

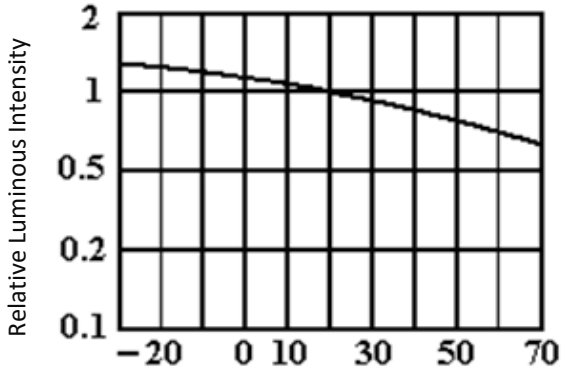
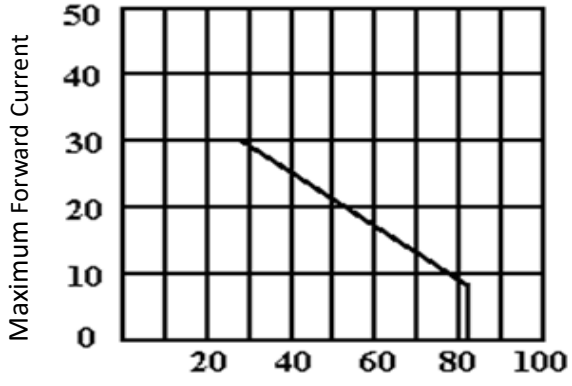
Package Dimension:



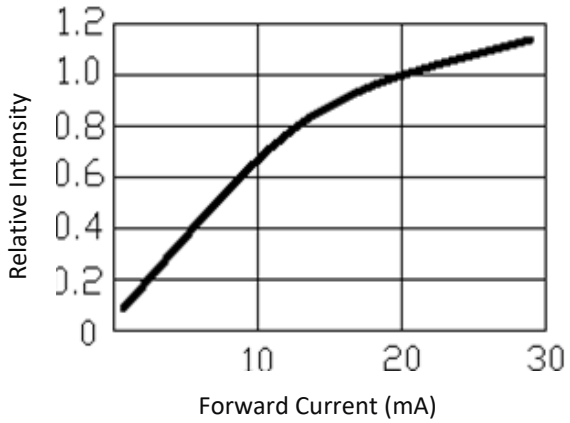
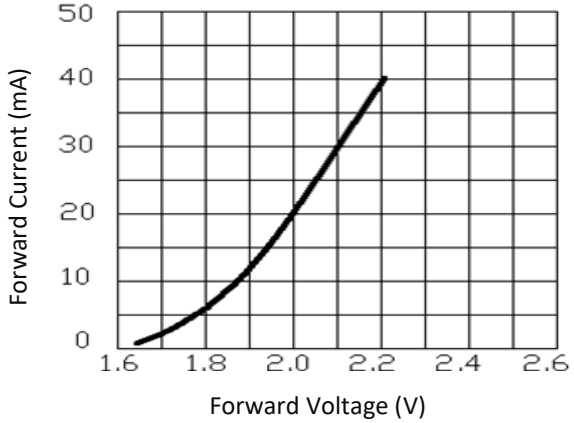
1. All dimensions are in millimetre (mm).
2. Tolerance ±0.25mm, unless otherwise noted.

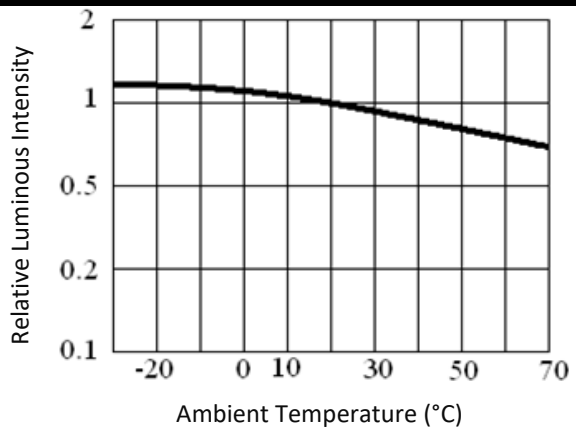
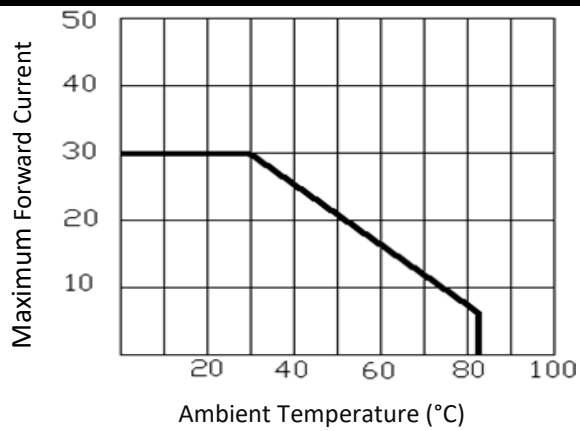
ELECTRO-OPTICAL CHARACTERISTICS (RED):

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

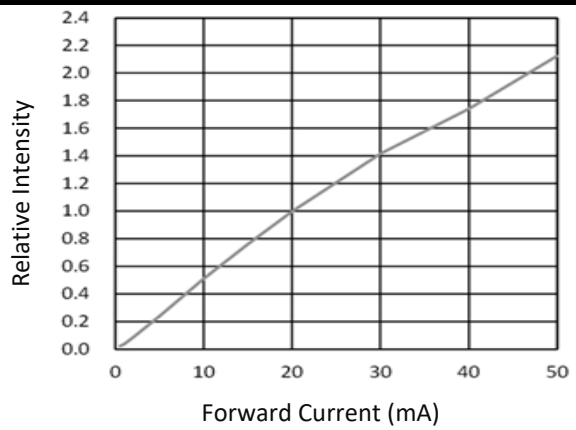
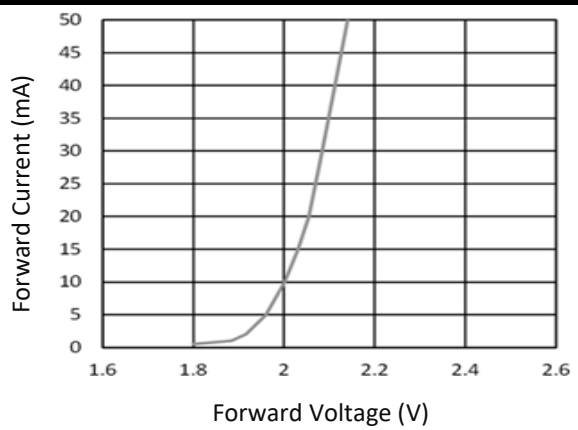
Relative Luminous Intensity v.s. Temperature	Maximum Forward Current v.s. Temperature
	

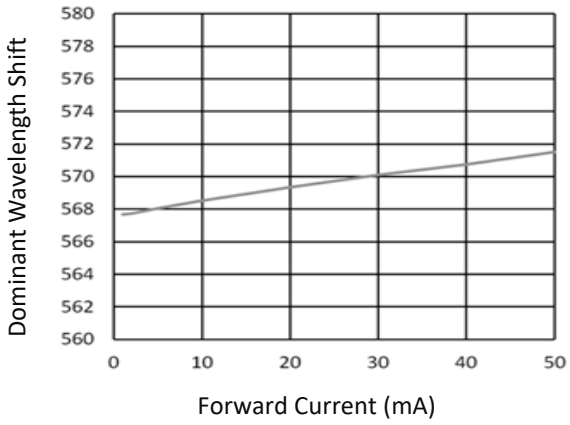
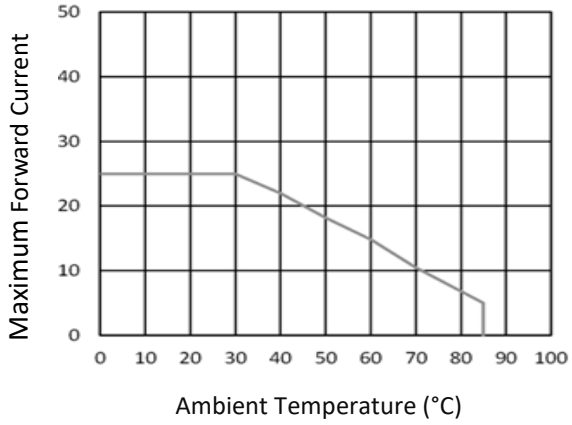
ELECTRO-OPTICAL CHARACTERISTICS (YELLOW):

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

Relative Luminous Intensity v.s. Temperature	Maximum Forward Current v.s. Temperature
	

ELECTRO-OPTICAL CHARACTERISTICS (GREEN):

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

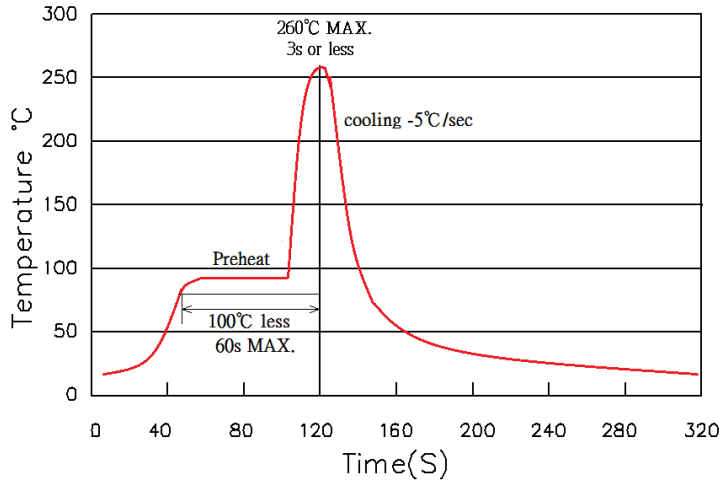
Dominant Wavelength v.s. Forward Current	Maximum Forward Current v.s. Temperature
	

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.

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 week. Otherwise, they should be kept in a damp-proof box with descanting agent <10% R.H. and apply baking before use.

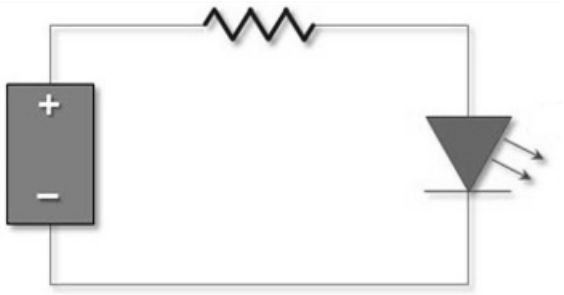
Baking:

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 6hrs 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	07/01/2025	Datasheet set-up.