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



- ▶ THT/PTH Lamp
- ▶ 8mm Round 8.50t
- ▶ Cool White (8200K)

Release Date: 21 August 2026 Version: A1.1

N0W09L64Z

8mm Round Lamp

8mm Round Lamp

RoHS Compliant

APPLICATIONS:

- Indicator
- Switch
- Signal Light

FEATURES:

- **Package:** THT/PTH Lamp 8mm Round 8.50t
- **Forward Current:** 20mA
- **Forward Voltage (typ.):** 3.0V
- **Luminous Intensity (typ.):** 8000mcd@20mA
- **Colour:** Cool White
- **Colour Temperature (typ.):** 8200K (X=0.2900; Y=0.3100)
- **Viewing Angle:** 50°
- **Electrostatics Discharge (ESD):** 2000V
- **Materials:**
  - Die: InGaN
  - Resin: Epoxy (Water Clear)
- **Operating Temperature:** -40~+85°C
- **Storage Temperature:** -40~+100°C
- **Grouping Parameters:**
  - Forward voltage
  - Luminous intensity
  - CIE Chromaticity
- **Soldering Methods:** Hand; Soldering Heat (DIP)
- **Packing:** 500pcs/bulk

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CHARACTERISTICS:

Absolute Maximum Characteristics (T_a=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current	I_F	30	mA
Peak Forward Current Duty 1/10@1KHz	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Reverse Current @5V	I_R	10	μA
Power Dissipation	P_D	85	mW
Electrostatics Discharge	ESD	2000	V
Operating Temperature	T_{OPR}	-40~+85	°C
Storage Temperature	T_{STG}	-40~+100	°C

Electrical & Optical Characteristics (T_a=25°C)

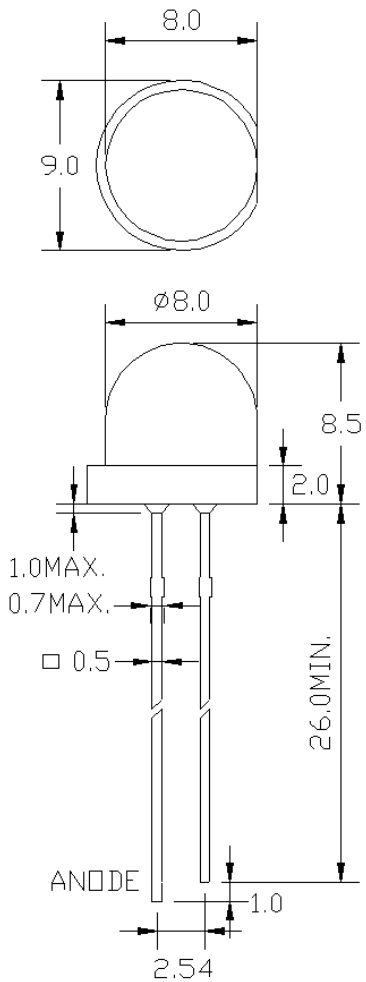
Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V_F	2.8	3.0	3.4	V	I_F=20mA
Luminous Intensity	I_V	6000	8000	10000	mcd	I_F=20mA
Chromaticity Coordinates	X	---	0.2900	---	---	I_F=20mA
	Y	---	0.3100	---		
Colour Temperature	CCT	---	8200	---	K	I_F=20mA
Viewing Angle	$2\theta_{1/2}$	---	50	---	deg	I_F=20mA

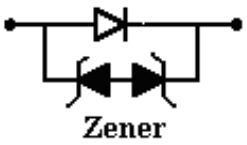
1. Luminous intensity (I_V) ±15%, Forward Voltage (V_F) ±0.1V

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OUTLINE DIMENSION:

Package Dimension:





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

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BINNING GROUPS:

Forward Voltage Classifications (I_F = 20mA):

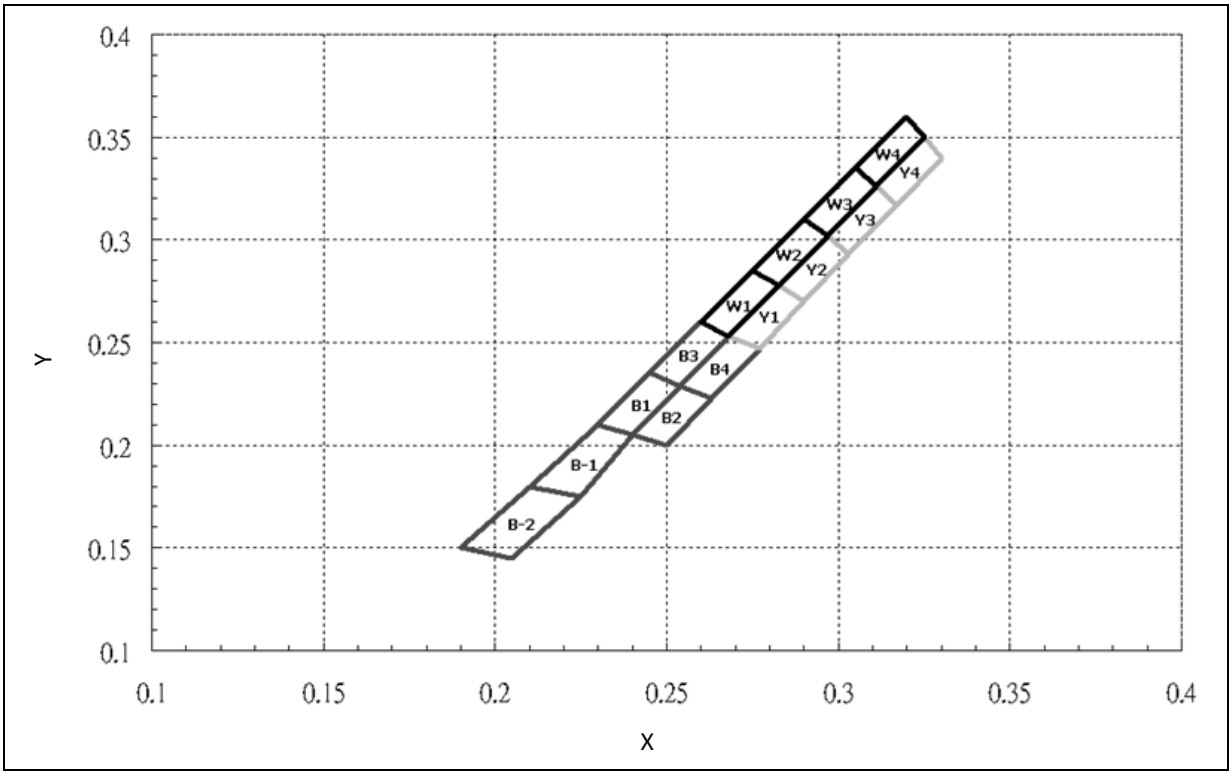
Code	Min.	Max.	Unit
J	2.8	3.0	V
K	3.0	3.2	
L	3.2	3.4	

Luminous Intensity Classifications (I_F = 20mA):

Code	Min.	Max.	Unit
20-1	6000	7300	mcd
21-1	7300	10000	

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CIE CHROMATICITY DIAGRAM:



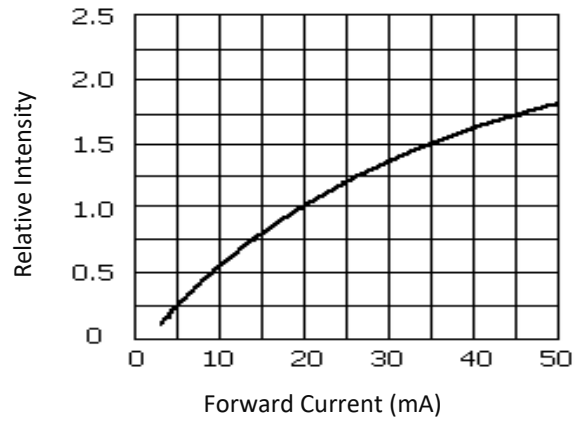
Chromaticity Coordinates Classifications (I_F = 20mA):

	1		2		3		4	
	X	Y	X	Y	X	Y	X	Y
B3	0.2450	0.2350	0.2600	0.2600	0.2680	0.2530	0.2540	0.2290
W1	0.2600	0.2600	0.2750	0.2850	0.2830	0.2780	0.2680	0.2530
W2	0.2750	0.2850	0.2900	0.3100	0.2970	0.3020	0.2830	0.2780
W3	0.2900	0.3100	0.3050	0.3350	0.3110	0.3260	0.2970	0.3020

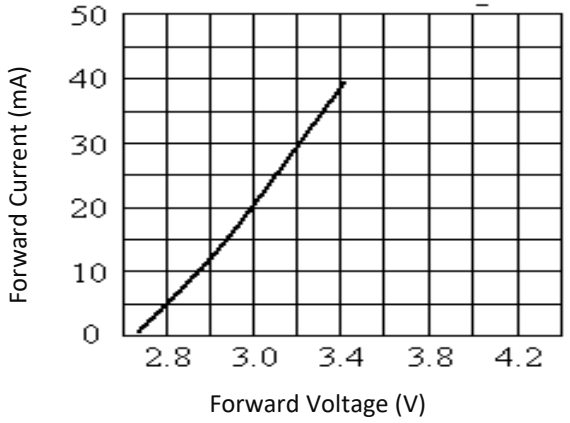
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ELECTRO-OPTICAL CHARACTERISTICS:

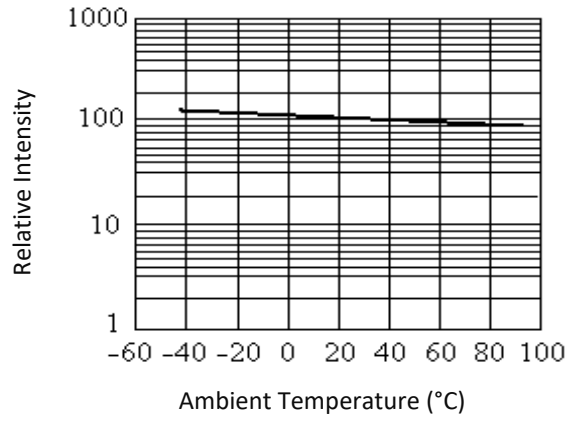
Relative Intensity vs. Forward Current



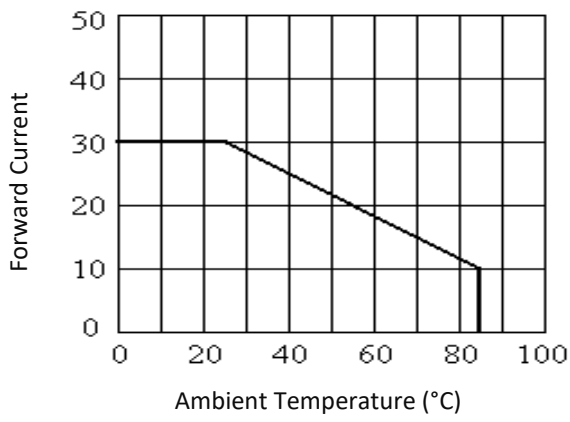
Forward Current vs. Forward Voltage



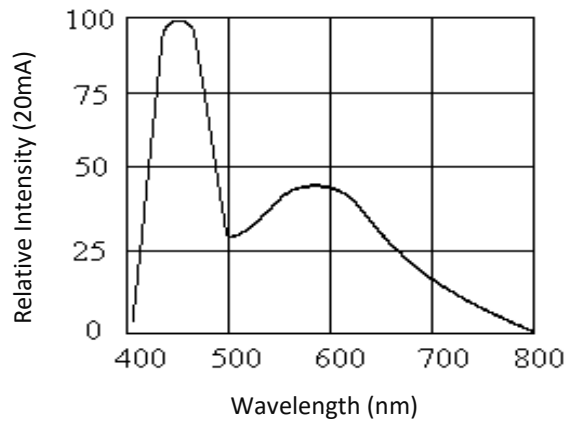
Relative Intensity vs. Temperature



Forward Current vs. Temperature



Relative Intensity vs. Wavelength



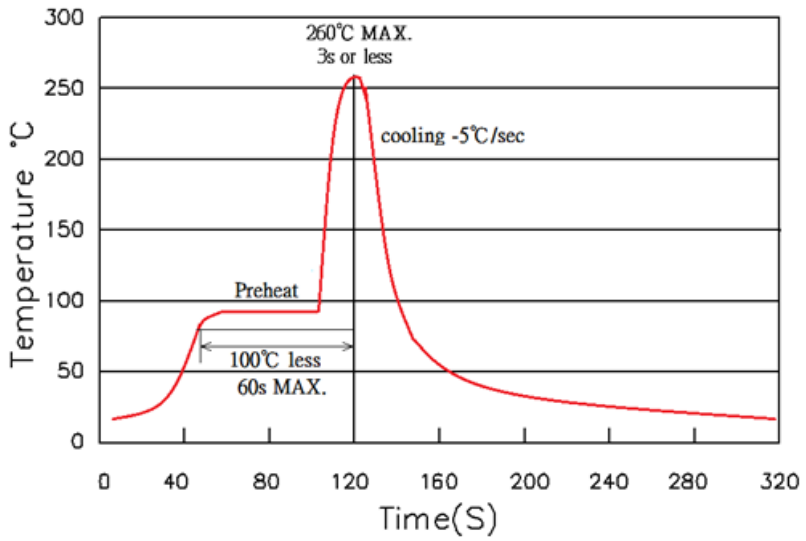
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RECOMMENDED SOLDERING PROFILE:

Hand Solder (Solder Iron):

- Temperature at tip of iron: 350°C Max.
- Soldering Time: 3 seconds ± 1 sec.

Soldering Heat (DIP):



Note:

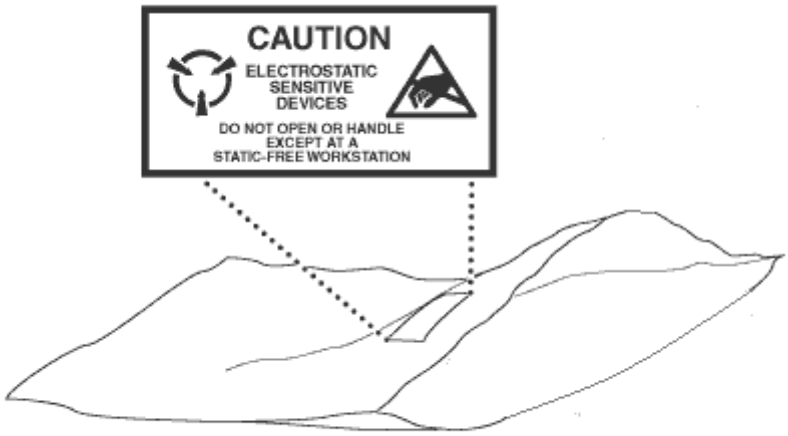
1. Maximum reflow soldering: 1 time.
2. Before, during, and after soldering, should not apply stress on the components and PCB board.

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PACKING SPECIFICATION:

Reel Dimension:

500pcs/Bulk



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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 descanting agent <10% R.H. and apply baking before use.

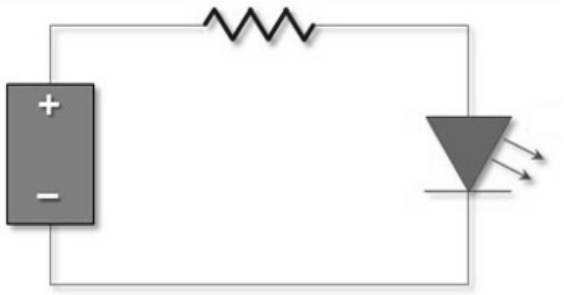
Baking:

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±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-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.

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REVISION RECORD:

Version	Date	Summary of Revision
A1.0	20/06/2014	Datasheet set-up.
A1.1	21/08/2026	New datasheet format.

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