

Technical Data Sheet (Preliminary) Side View LEDs

97-22/BHC-AS1T2

Features

- White package.
- Dual-chip, wide-angle, low-profile LEDs.
- Excellent chip to chip consistency
- Super Intensity
- Highperformance
- Pb-free.
- The product itself will remain within RoHS compliant version.



Applications

- Automotive: backlighting in dashboard and switch.
- Telecommunication: indicator and backlighting in telephone and fax.
- Indicator and backlight for audio and video equipment.
- Indicator and backlight for battery driven equipment.
- Display Screen Illumination on Portable Handheld Devices
- Indicator and backlight in office equipment.
- General use.

Device Selection Guide

Chip	Emitted Color	Resin Color	
Material	Elinited Color	Resin Color	
InGaN	Blue	Water Clear	

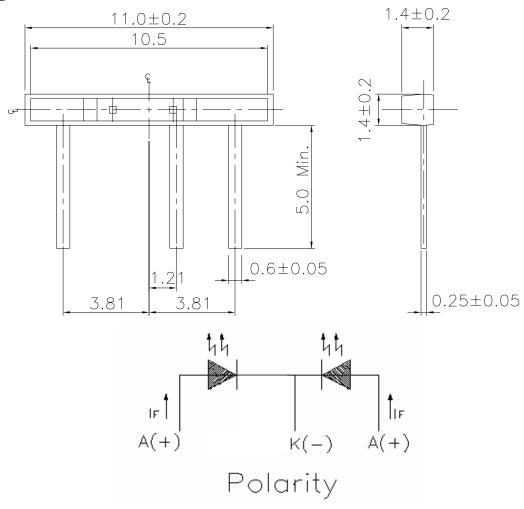
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Package Dimensions



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Note: The tolerances unless mentioned is ± 0.1 mm; Unit = mm

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Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit	
Reverse Voltage	V_R	5	V	
Forward Current	I_{F}	25	mA	
Peak Forward Current (Duty 1/10 @1KHz)	I_{FP}	100	mA	
Power Dissipation	Pd	110	mW	
Electrostatic Discharge(HBM)	ESD	150	V	
Operating Temperature	Topr	- 40 ∼ +85	$^{\circ}\!\mathbb{C}$	
Storage Temperature	Tstg	- 40 ∼ +90	$^{\circ}\!\mathbb{C}$	
Soldering Temperature	Tsol	Reflow Soldering : 260 °C for 10 sec. Hand Soldering : 350 °C for 3 sec.		

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Condition	
Luminous intensity	I_V	180		450	mcd	I _F =20mA	
Viewing Angle	201/2		145		deg	I _F =20mA	
Peak Wavelength	λр		468		nm I _F =20m		
Dominant Wavelength	λd	464.5		476.5	nm	$I_F=20mA$	
Spectrum Radiation Bandwidth	$\triangle \lambda$		35		nm	$I_F=20mA$	
Forward Voltage	V_{F}		3.3	3.7	V	I _F =20mA	
Reverse Current	I_R			50	uA	V _R =5V	

Notes:

- 1. Tolerance of Luminous Intensity $\pm 11\%$
- 2. Tolerance of Dominant Wavelength ±1 nm
- 3. Tolerance of Dominant Forward Voltage ± 0.1 V

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Bin Range Of Dominant Wavelength

Group	Bin Code	Min.	Max.	Unit	Condition
A	A9	464.5	467.5	nm I _F =20r	
	A10	467.5	470.5		I _F =20mA
	A11	470.5	473.5		
	A12	473.5	476.5		

Bin Range Of Luminous Intensity

Bin	Min	Max	Unit	Condition
S1	180	225	mcd	
S2	225	285		I _F =20mA
T1	285	360		
T2	360	450		

Notes:

- 1. Tolerance of Luminous Intensity ±11%
- 2. Tolerance of Dominant Wavelength ±1 nm

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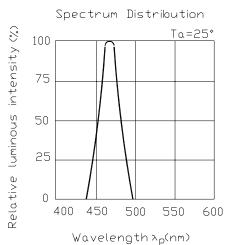
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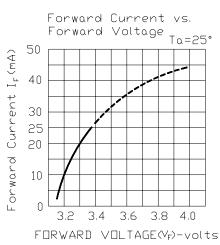


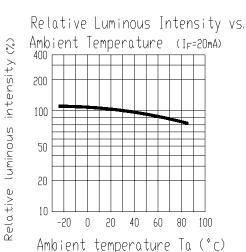
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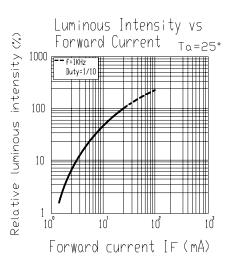
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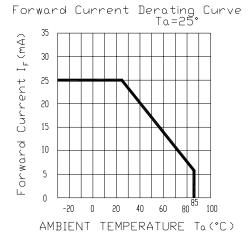
Typical Electro-Optical Characteristics Curves

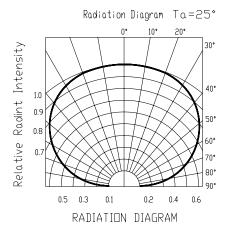












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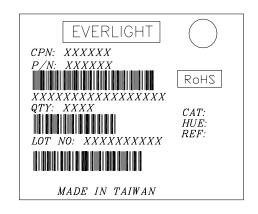
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Label explanation

CAT: Luminous Intensity Rank

HUE: Dom. Wavelength Rank

REF: Forward Voltage Rank



Reliability Test Items And Conditions

The reliability of products shall be satisfied with items listed below.

Confidence level: 90 % LTPD: 10 %

No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Re
1	Soldering Heat	Temp. : 260°C ±5°C	10 sec.	22 PCS.	0/1
2	Temperature Cycle	$H: +100^{\circ}\mathbb{C}$ 15min \int 5 min $L: -40^{\circ}\mathbb{C}$ 15min	300 Cycles	22 PCS.	0/1
3	Thermal Shock	H:+100°C 5min ∫ 10 sec L:-10°C 5min	300 Cycles	22 PCS.	0/1
4	High Temperature Storage	Temp. : 100°C	1000 Hrs.	22 PCS.	0/1
5	Low Temperature Storage	Temp. : -40°C	1000 Hrs.	22 PCS.	0/1
6	DC Operating Life	$I_F = 20 \text{ mA}$	1000 Hrs.	22 PCS.	0/1
7	High Temperature / High Humidity	85°C / 85%RH	1000 Hrs.	22 PCS.	0/1

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Precautions For Use

1. Over-current-proof

Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage

- 2.1 Do not open moisture proof bag before the products are ready to use.
- 2.2 Before opening the package: The LEDs should be kept at 30°C or less and 90%RH or less.
- 2.3 After opening the package: The LED's floor life is 1 year under 30°C or less and 60% RH or less. If unused LEDs remain, it should be stored in moisture proof packages.
- 2.4 If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions. Baking treatment : $60\pm5^{\circ}$ C for 24 hours.

3. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

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