

T-1 (3mm) SOLID STATE LAMP

PRELIMINARY SPEC

Part Number: WP3A8HD

Bright Red

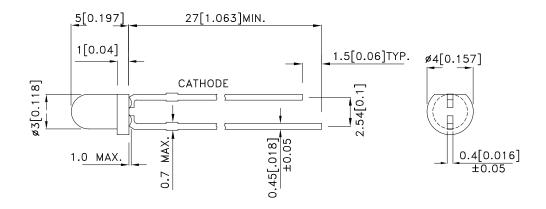
Features

- LOW POWER CONSUMPTION.
- POPULAR T-1 DIAMETER PACKAGE.
- GENERAL PURPOSE LEADS.
- RELIABLE AND RUGGED.
- LONG LIFE SOLID STATE RELIABILITY.
- AVAILABLE ON TAPE AND REEL.
- RoHS COMPLIANT.

Description

The Bright Red source color devices are made with Gallium Phosphide Red Light Emitting Diode.

Package Dimensions



- 1. All dimensions are in millimeters (inches).
- 2. Tolerance is $\pm 0.25(0.01")$ unless otherwise noted.
- Lead spacing is measured where the leads emerge from the package.
 Specifications are subject to change without notice.





SPEC NO: DSAH3028 **REV NO: V.2 DATE: MAY/10/2007** PAGE: 1 OF 6 APPROVED: WYNEC **CHECKED: Allen Liu** DRAWN: Y.L.LI ERP: 1101003903

Selection Guide

Part No.	Dice	Dice Lens Type		cd) [2] OmA	Viewing Angle [1]
		,,	Min.	Тур.	201/2
WP3A8HD	Bright Red (GaP)	RED DIFFUSED	1	2.5	50°

- 1. 01/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value. 2. Luminous intensity/ luminous Flux: +/-15%.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Тур.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Bright Red	700		nm	IF=20mA
λD [1]	Dominant Wavelength	Bright Red	660		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Bright Red	45		nm	IF=20mA
С	Capacitance	Bright Red	40		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Bright Red	2.25	2.5	V	IF=20mA
lR	Reverse Current	Bright Red		10	uA	V _R = 5V

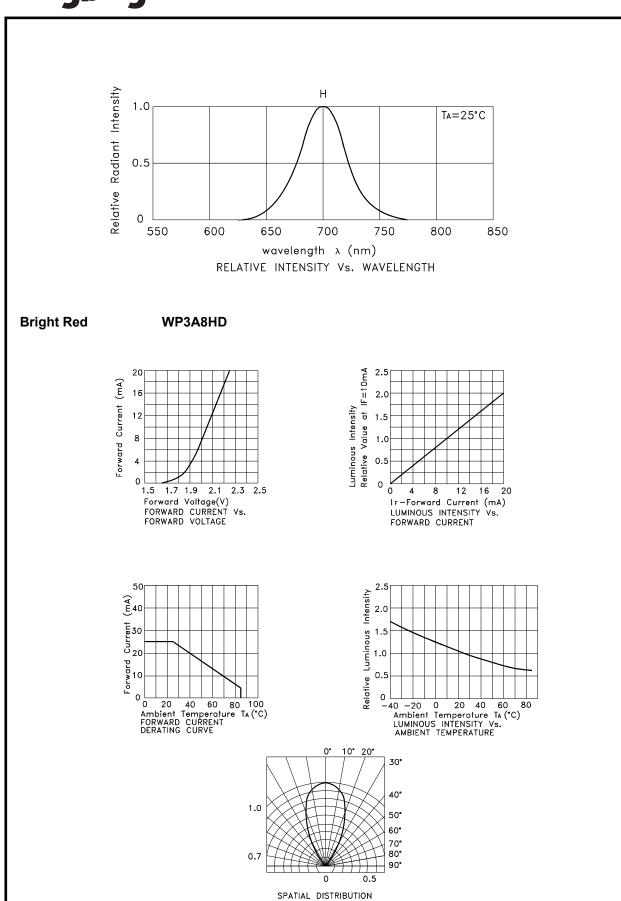
- 1.Wavelength: +/-1nm.
- 2. Forward Voltage: +/-0.1V.

Absolute Maximum Ratings at TA=25°C

Parameter	Bright Red	Units		
Power dissipation	62.5	mW		
DC Forward Current	25	mA		
Peak Forward Current [1]	130	mA		
Reverse Voltage	5	V		
Operating/Storage Temperature	-40°C To +85°C			
Lead Solder Temperature [2]	260°C For 3 Seconds			
Lead Solder Temperature [3]	260°C For 5 Seconds			

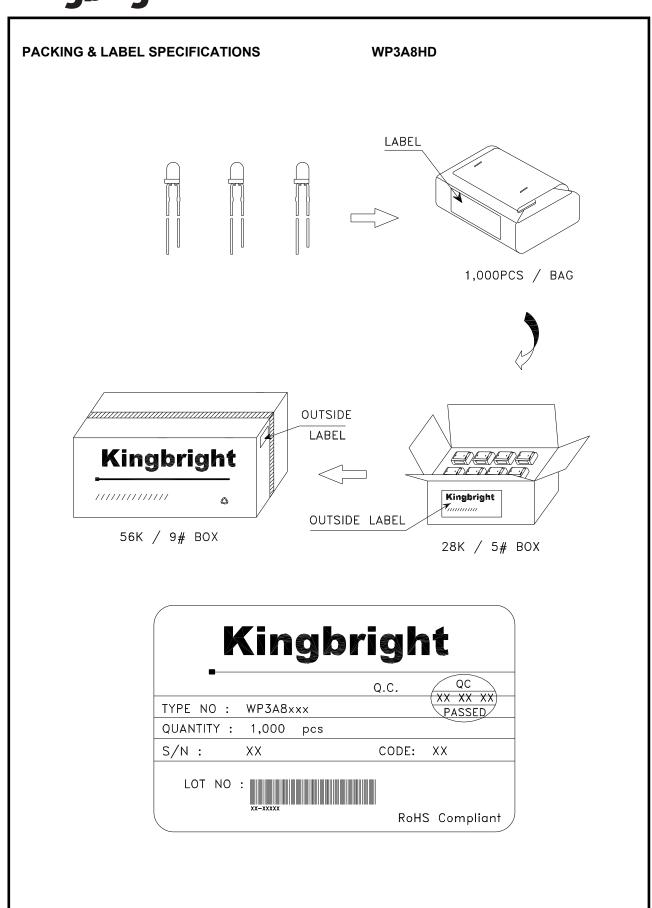
- 1. 1/10 Duty Cycle, 0.1ms Pulse Width.
- 2. 2mm below package base.
 3. 5mm below package base.

SPEC NO: DSAH3028 REV NO: V.2 DATE: MAY/10/2007 PAGE: 2 OF 6 APPROVED: WYNEC **CHECKED: Allen Liu** DRAWN: Y.L.LI ERP: 1101003903



 SPEC NO: DSAH3028
 REV NO: V.2
 DATE: MAY/10/2007
 PAGE: 3 OF 6

 APPROVED: WYNEC
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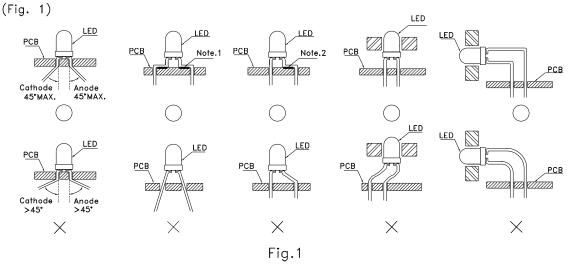


SPEC NO: DSAH3028 APPROVED: WYNEC REV NO: V.2 CHECKED: Allen Liu DATE: MAY/10/2007 DRAWN: Y.L.LI PAGE: 4 OF 6

ERP: 1101003903

LED MOUNTING METHOD

1. The lead pitch of the LED must match the pitch of the mounting holes on the PCB during component placement. Lead—forming may be required to insure the lead pitch matches the hole pitch. Refer to the figure below for proper lead forming procedures.



" \bigcirc " Correct mounting method " \times " Incorrect mounting method Note 1-2: Do not route PCB trace in the contact area between the leadframe and the PCB to prevent short-circuits.

2. When soldering wire to the LED, use individual heat—shrink tubing to insulate the exposed leads to prevent accidental contact short—circuit. (Fig. 2)

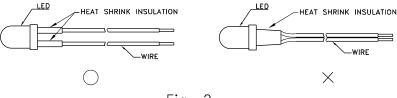
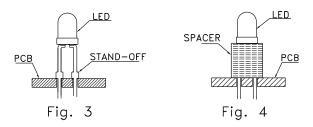


Fig. 2

3. Use stand—offs (Fig. 3) or spacers (Fig. 4) to securely position the LED above the PCB.

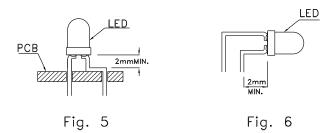


 SPEC NO: DSAH3028
 REV NO: V.2
 DATE: MAY/10/2007
 PAGE: 5 OF 6

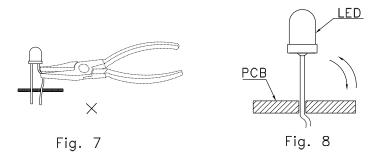
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LEAD FORMING PROCEDURES

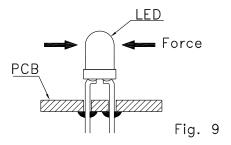
1. Maintain a minimum of 2mm clearance between the base of the LED lens and the first lead bend. (Fig. 5 and 6)



- 2. Lead forming or bending must be performed before soldering, never during or after Soldering.
- 3. Do not stress the LED lens during lead—forming in order to fractures in the lens epoxy and damage the internal structures.
- 4. During lead forming, use tools or jigs to hold the leads securely so that the bending force will not be transmitted to the LED lens and its internal structures. Do not perform lead forming once the component has been mounted onto the PCB. (Fig. 7)
- 5. Do not bend the leads more than twice. (Fig. 8)



6. After soldering or other high—temperature assembly, allow the LED to cool down to 50°C before applying outside force (Fig. 9). In general, avoid placing excess force on the LED to avoid damage. For any questions please consult with Kingbright representative for proper handling procedures.



 SPEC NO: DSAH3028
 REV NO: V.2
 DATE: MAY/10/2007
 PAGE: 6 OF 6

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