

T-1 3/4 (5mm) ROUND LED LAMP

Part Number: L-7143QBC-D

Blue



ATTENTION OBSERVE PRECAUTIONS FOR HANDLING **ELECTROSTATIC** DISCHARGE **SENSITIVE DEVICES**

Features

- Outstanding material efficiency.
- Reliable and rugged.
- Low current capability.
- RoHS compliant.

Description

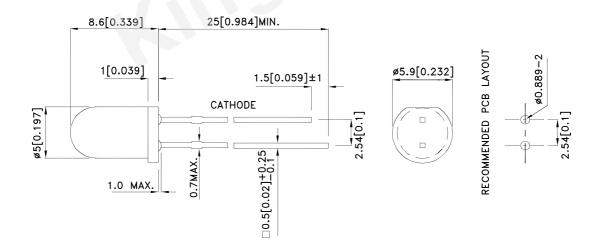
The Blue source color devices are made with InGaN Light Emitting Diode.

Static electricity and surge damage the LEDS.

It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

Package Dimensions



- 1. All dimensions are in millimeters (inches).
- 2. Tolerance is ±0.25(0.01") unless otherwise noted.
- 3. Lead spacing is measured where the leads emerge from the package.4. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

SPEC NO: DSAA9870 **REV NO: V.13B** DATE: JAN/09/2014 PAGE: 1 OF 6 APPROVED: WYNEC **CHECKED: Allen Liu** DRAWN: Q.M.Chen ERP: 1101002021

Selection Guide

Part No.	Dice	Lens Type	lv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Тур.	201/2
L-7143QBC-D	Blue (InGaN)	Water Clear	600	1100	30°

Notes:

- 1. 01/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
 2. Luminous intensity/ luminous Flux: +/-15%.
 3. Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Тур.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Blue	460		nm	IF=20mA
λD [1]	Dominant Wavelength	Blue	465		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Blue	25		nm	IF=20mA
С	Capacitance	Blue	100		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Blue	3.3	4	V	IF=20mA
lr	Reverse Current	Blue		50	uA	V _R = 5V

- Notes:
 1.Wavelength: +/-1nm.
 2. Forward Voltage: +/-0.1V.
 3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

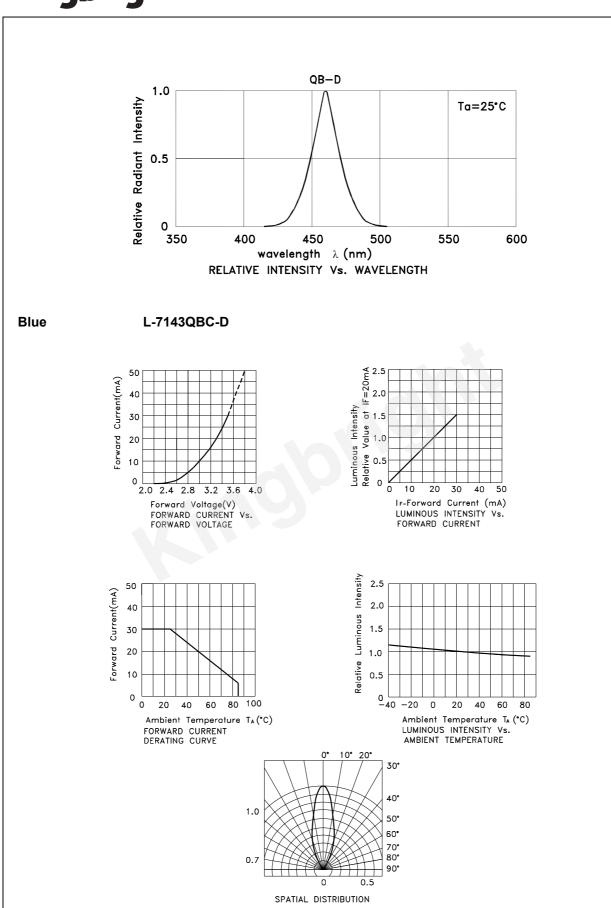
Absolute Maximum Ratings at TA=25°C

Parameter	Blue	Units	
Power dissipation	120	mW	
DC Forward Current	30	mA	
Peak Forward Current [1]	150	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		

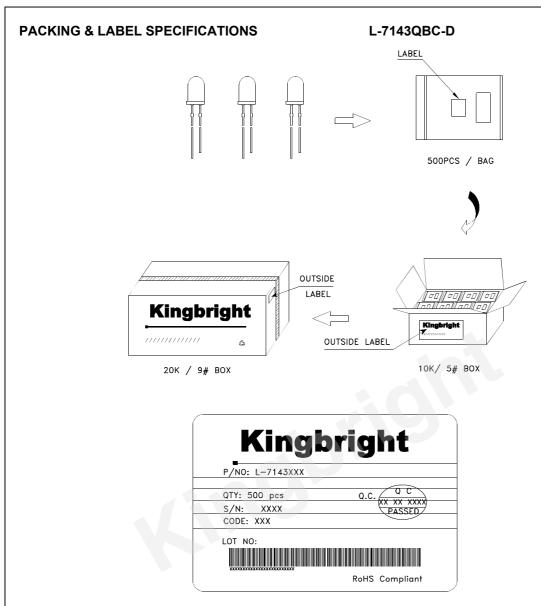
Notes:

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

DATE: JAN/09/2014 SPEC NO: DSAA9870 **REV NO: V.13B** PAGE: 2 OF 6 **APPROVED: WYNEC CHECKED: Allen Liu** ERP: 1101002021 DRAWN: Q.M.Chen



SPEC NO: DSAA9870 REV NO: V.13B DATE: JAN/09/2014 PAGE: 3 OF 6
APPROVED: WYNEC CHECKED: Allen Liu DRAWN: Q.M.Chen ERP: 1101002021



Terms and conditions for the usage of this document

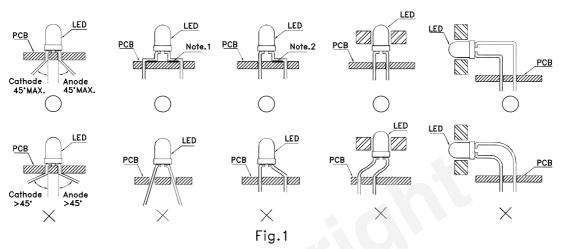
- 1. The information included in this document reflects representative usage scenarios and is intended for technical reference only.
- 2. The part number, type, and specifications mentioned in this document are subject to future change and improvement without notice. Before production usage customer should refer to the latest datasheet for the updated specifications.
- 3. When using the products referenced in this document, please make sure the product is being operated within the environmental and electrical limits specified in the datasheet. If customer usage exceeds the specified limits, Kingbright will not be responsible for any subsequent issues.
- 4. The information in this document applies to typical usage in consumer electronics applications. If customer's application has special reliability requirements or have life-threatening liabilities, such as automotive or medical usage, please consult with Kingbright representative for further assistance.
- 5. The contents and information of this document may not be reproduced or re-transmitted without permission by Kingbright.
- 6.All design applications should refer to Kingbright application notes available at http://www.kingbright.com/application notes

 SPEC NO: DSAA9870
 REV NO: V.13B
 DATE: JAN/09/2014
 PAGE: 4 OF 6

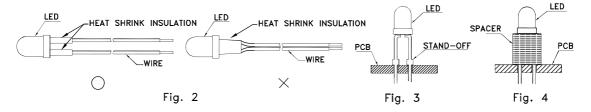
 APPROVED: WYNEC
 CHECKED: Allen Liu
 DRAWN: Q.M.Chen
 ERP: 1101002021

PRECAUTIONS

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. (Fig. 1)



- "()" Correct mounting method "imes" Incorrect mounting method
- 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)
- 3. Use stand—offs (Fig.3) or spacers (Fig.4) to securely position the LED above the PCB.



- 4. Maintain a minimum of 3mm clearance between the base of the LED lens and the first lead bend. (Fig. 5 and 6)
- 5. 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)

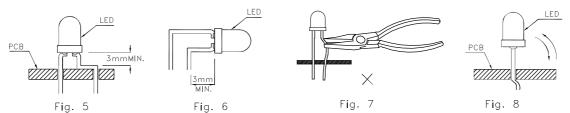
PAGE: 5 OF 6

ERP: 1101002021

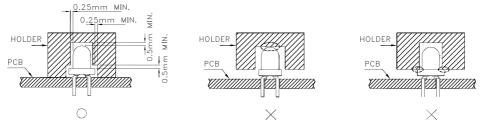
SPEC NO: DSAA9870 REV NO: V.13B DATE: JAN/09/2014

APPROVED: WYNEC CHECKED: Allen Liu DRAWN: Q.M.Chen

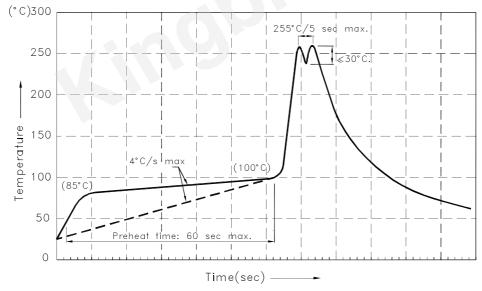
6. Do not bend the leads more than twice. (Fig. 8)



7. During soldering, component covers and holders should leave clearance to avoid placing damaging stress on the LED during soldering.



- 8. The tip of the soldering iron should never touch the lens epoxy.
- 9. Through—hole LEDs are incompatible with reflow soldering.
- 10. If the LED will undergo multiple soldering passes or face other processes where the part may be subjected to intense heat, please check with Kingbright for compatibility.
- 11. Recommended Wave Soldering Profiles:



Notes:

- 1.Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C
- 2.Peak wave soldering temperature between 245°C \sim 255°C for 3 sec (5 sec max).
- 3.Do not apply stress to the epoxy resin while the temperature is above 85°C.
- 4.Fixtures should not incur stress on the component when mounting and during soldering process. 5.SAC 305 solder alloy is recommended.
- 6.No more than one wave soldering pass.

SPEC NO: DSAA9870 REV NO: V.13B DATE: JAN/09/2014 PAGE: 6 OF 6
APPROVED: WYNEC CHECKED: Allen Liu DRAWN: Q.M.Chen ERP: 1101002021