

T-1 (3mm) BI-LEVEL LED INDICATOR

Part Number: L-7104MD/1SURK1SYKD

Hyper Red Super Bright Yellow

Features

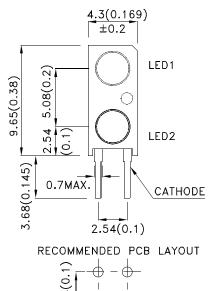
- Pre-trimmed leads for pc mounting.
- Black case enhances contrast ratio.
- Wide viewing angle.
- High reliability life measured in years.
- Housing UL rating:94V-0.
- Housing material: type 66 nylon.
- RoHS compliant.

Descriptions

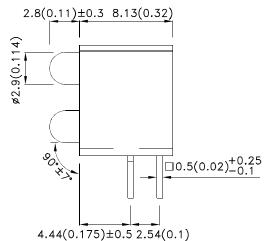
- The Hyper Red source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.
- The Super Bright Yellow device is made with AlGaInP (on GaAs substrate) light emitting diode chip.

Package Dimensions

LED1: RED LED2: YELLOW



2.54(0.1)



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

Ø0.889-4

SPEC NO: DSAK3566 **REV NO: V.2A** DATE: AUG/11/2014 PAGE: 1 OF 6 APPROVED: WYNEC CHECKED: Allen Liu DRAWN: L.Q.Xie ERP: 1102014190

Selection Guide

Part No.	Dice	Lens Type	lv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Тур.	201/2
L-7104MD/1SURK1SYKD	Hyper Red (AlGaInP)	Red Diffused	400	900	40°
			*120	*240	
	Super Bright Yellow (AlGaInP)	Yellow Diffused	400	800	40°
			*400	*800	

- 1. θ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
- Luminous intensity/ luminous Flux: +/-15%.
 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	Hyper Red Super Bright Yellow	645 590		nm	I==20mA
λD [1]	Dominant Wavelength	Hyper Red Super Bright Yellow	630 590		nm	I==20mA
Δλ1/2	Spectral Line Half-width	Hyper Red Super Bright Yellow	28 20		nm	I==20mA
С	Capacitance	Hyper Red Super Bright Yellow	35 20		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Hyper Red Super Bright Yellow	1.95 2	2.5 2.5	V	I==20mA
lR	Reverse Current	Hyper Red Super Bright Yellow		10 10	uA	V _R = 5V

Notes:

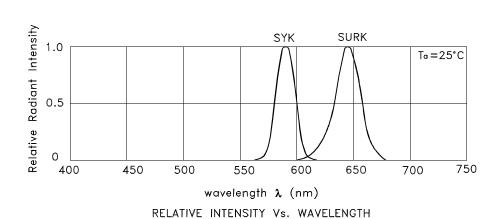
- 1.Wavelength: +/-1nm.
- Forward Voltage: +/-0.1V.
 Wavelength value is traceable to the CIE127-2007 compliant national standards.

Absolute Maximum Ratings at TA=25°C

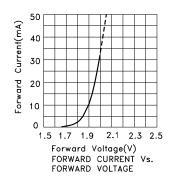
Parameter	Hyper Red	Super Bright Yellow	Units		
Power dissipation	75	75	mW		
DC Forward Current	30	30	mA		
Peak Forward Current [1]	185	175	mA		
Reverse Voltage	5				
Operating / Storage Temperature	-40°C To +85°C				
Lead Solder Temperature [2]	260°C For 3 Seconds				
Lead Solder Temperature [3]	260°C For 5 Seconds				

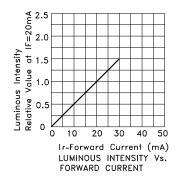
- 1. 1/10 Duty Cycle, 0.1ms Pulse Width.
- 2. 2mm below package base.
- 3. 5mm below package base.

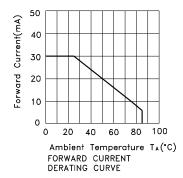
PAGE: 2 OF 6 SPEC NO: DSAK3566 **REV NO: V.2A** DATE: AUG/11/2014 APPROVED: WYNEC **CHECKED: Allen Liu** DRAWN: L.Q.Xie ERP: 1102014190

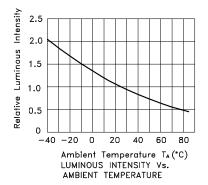


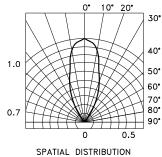
L-7104MD/1SURK1SYKD Hyper Red







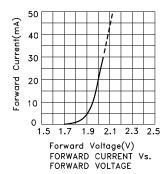


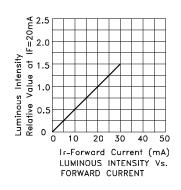


 SPEC NO: DSAK3566
 REV NO: V.2A
 DATE: AUG/11/2014
 PAGE: 3 OF 6

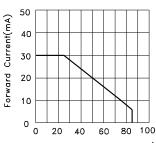
 APPROVED: WYNEC
 CHECKED: Allen Liu
 DRAWN: L.Q.Xie
 ERP: 1102014190

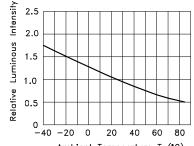
Super Bright Yellow





2.5



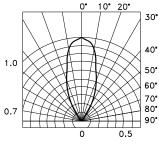




Ambient Temperature T_A (°C) LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

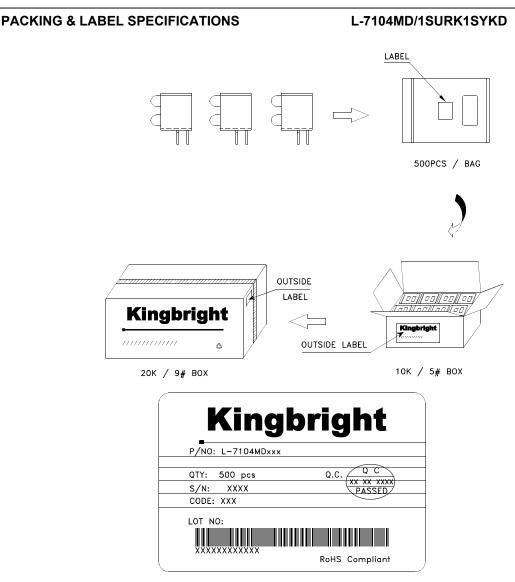
PAGE: 4 OF 6

ERP: 1102014190



SPATIAL DISTRIBUTION

SPEC NO: DSAK3566 **REV NO: V.2A** DATE: AUG/11/2014 APPROVED: WYNEC **CHECKED: Allen Liu** DRAWN: L.Q.Xie



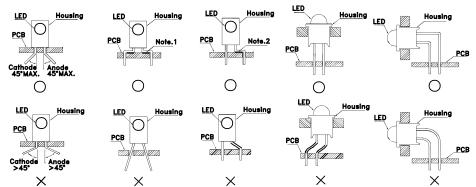
Terms and conditions for the usage of this document

- 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: DSAK3566 REV NO: V.2A DATE: AUG/11/2014 PAGE: 5 OF 6
APPROVED: WYNEC CHECKED: Allen Liu DRAWN: L.Q.Xie ERP: 1102014190

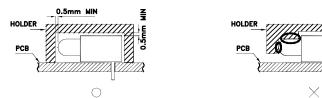
PRECAUTIONS

 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.

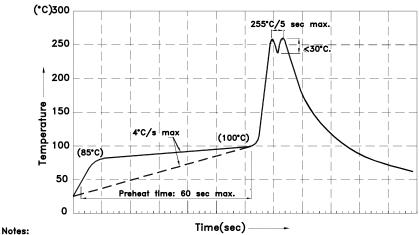


"() " Correct mounting method "imes" Incorrect mounting method

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



- 3. The tip of the soldering iron should never touch the lens epoxy.
- 4. Through—hole LEDs are incompatible with reflow soldering.
- 5. 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.
- 6. Recommended Wave Soldering Profiles:



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 ~ 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.

 $5.\mathsf{SAC}$ 305 solder alloy is recommended.

6.No more than one wave soldering pass.

SPEC NO: DSAK3566 REV NO: V.2A DATE: AUG/11/2014 PAGE: 6 OF 6

APPROVED: WYNEC CHECKED: Allen Liu DRAWN: L.Q.Xie ERP: 1102014190