



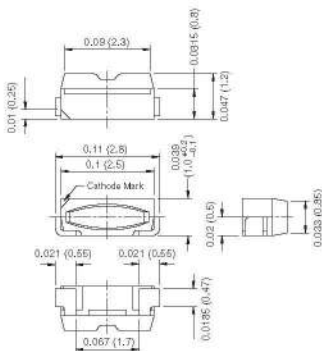
# SURFACE MOUNT LED LAMP

## SUPER BRIGHT RIGHT ANGLE LED

FOL215WTR\_7904D

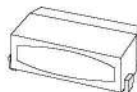
White

### PACKAGE DIMENSIONS



**NOTE:**

Dimensions of all drawings are in inches (mm).  
Tolerance =  $\pm 0.1\text{mm}$



### APPLICATIONS

- Keypad Backlighting
- LCD Backlighting
- Push Button Backlighting
- Digital Camera Backlight

### DESCRIPTION

This right angle surface mount chip LED emits light in the lateral direction. Miniature size and wide viewing angle makes this LED an ideal choice for edge-lighting LCD displays.

### FEATURES

- InGaN/Sapphire technology
- Dimension – 2.8(L) x 1.0(W) x 1.2(H) mm
- Wide viewing angle of 110°
- Moisture-proof packaging
- Available in 0.315" (8mm) width tape on 7" (178mm) diameter reel; 2,000 units per reel



# SURFACE MOUNT LED LAMP

## SUPER BRIGHT RIGHT ANGLE LED

**FOL215WTR\_7904D****White****ABSOLUTE MAXIMUM RATINGS** ( $T_A = 25^\circ\text{C}$  Unless otherwise specified)

Parameter	Symbol	FOL215W	Units
Continuous Forward Current	$I_F$	25	mA
Peak Forward Current ( $f = 1.0$ KHz, Duty Factor = 1/10)	$I_{FM}$	100	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation	$P_D$	110	mW
Operating Temperature	$T_{OPR}$	-40 to +85	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-40 to +100	$^\circ\text{C}$
Lead Soldering Time	$T_{SOL}$	260 for 5 sec	$^\circ\text{C}$

**ELECTRICAL / OPTICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$ )

Part Number	Symbol	FOL215W	Condition
Luminous Intensity (mcd)	$I_V$	360 – 500	$I_F = \text{TBD}$
Bin R		500 – 720	
Bin S		720 – 1000	
Bin T			
Forward Voltage (V)	$V_F$	3.5	$I_F = \text{TBD}$
$V_F$ Max			
Chromaticity Coordinate (Typ)	—	X = 0.264 – 0.361 Y = 0.248 – 0.385	$I_F = \text{TBD}$
Wavelength (nm)	$\lambda_P$ $\lambda_D$	—	$I_F = \text{TBD}$
Peak			
Dominant			
Viewing Angle ( $^\circ$ )	$2\theta_{1/2}$	110	$I_F = \text{TBD}$

Luminous Intensity tolerance =  $\pm 15\%$ Forward Voltage tolerance =  $\pm 0.1\text{V}$



# SURFACE MOUNT LED LAMP SUPER BRIGHT RIGHT ANGLE LED

FOL215WTR\_7904D

White

## Color Ranks

( $I_F = 20\text{mA}$ ,  $T_a = 25^\circ\text{C}$ )

	Bin a0			
x	0.280	0.264	0.283	0.296
y	0.248	0.267	0.305	0.276

	Bin b5			
x	0.296	0.311	0.307	0.287
y	0.276	0.294	0.315	0.295

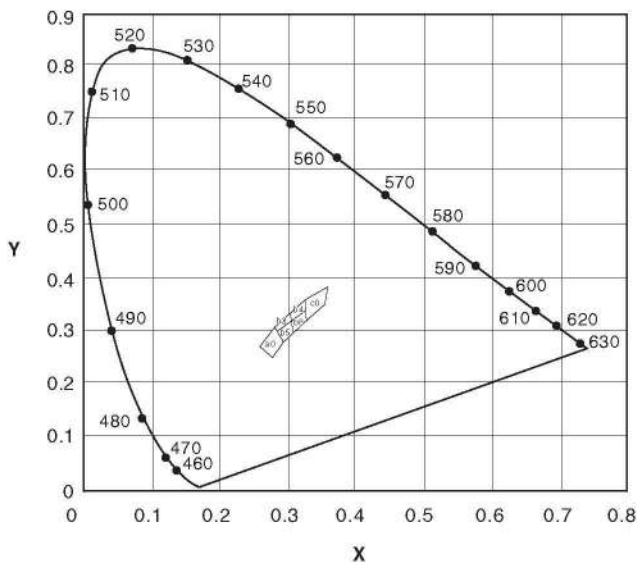
	Bin b3			
x	0.307	0.287	0.304	0.283
y	0.315	0.295	0.330	0.305

	Bin b6			
x	0.311	0.307	0.330	0.330
y	0.294	0.315	0.318	0.339

	Bin b4			
x	0.307	0.330	0.330	0.304
y	0.315	0.339	0.360	0.330

	Bin c0			
x	0.330	0.330	0.361	0.356
y	0.318	0.360	0.385	0.351

Chromaticity Diagram





# SURFACE MOUNT LED LAMP SUPER BRIGHT RIGHT ANGLE LED

FOL215WTR\_7904D

White

## TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

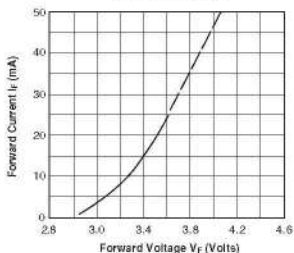


Fig. 2 Luminous Intensity vs. Forward Current

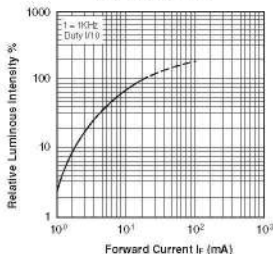


Fig. 3 Relative Intensity vs. Peak Wavelength

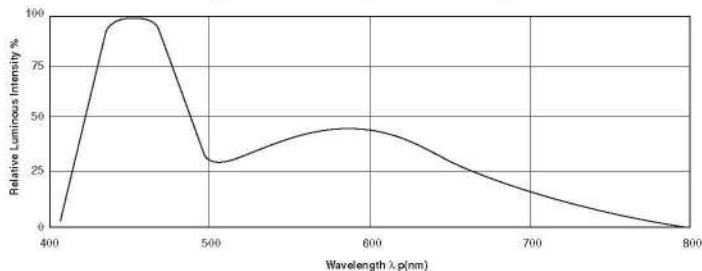


Fig. 4 Radiation Diagram

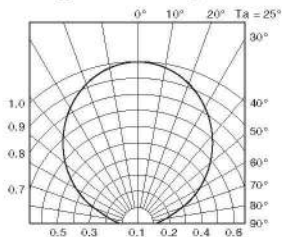
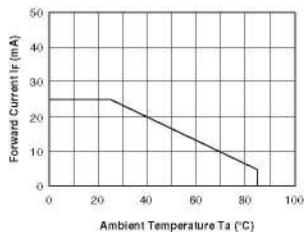


Fig. 5 Maximum Forward Current vs. Ambient Temperature



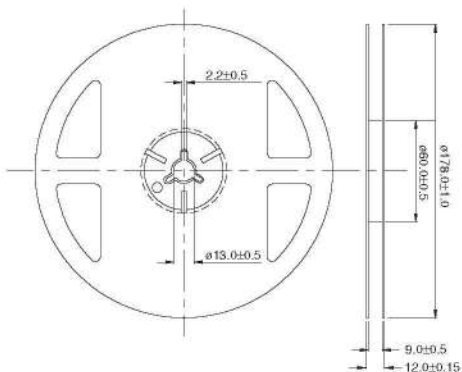


# SURFACE MOUNT LED LAMP SUPER BRIGHT RIGHT ANGLE LED

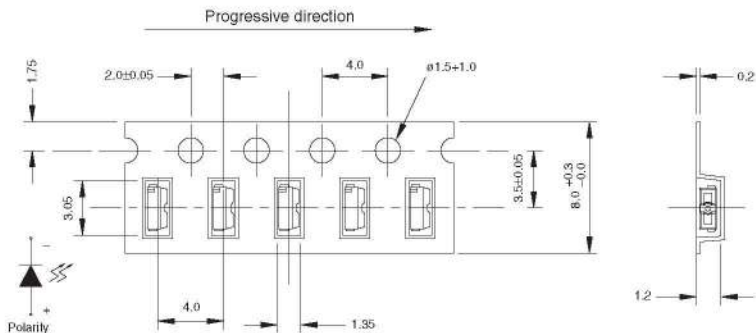
FOL215WTR\_7904D

White

## TAPE AND REEL DIMENSIONS



Note: The tolerances unless mentioned is  $\pm 0.1\text{mm}$ , Angle  $\pm 0.5^\circ$ , Unit = mm





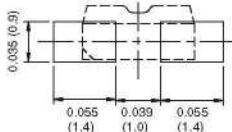
# SURFACE MOUNT LED LAMP SUPER BRIGHT RIGHT ANGLE LED

FOL215WTR\_7904D

White

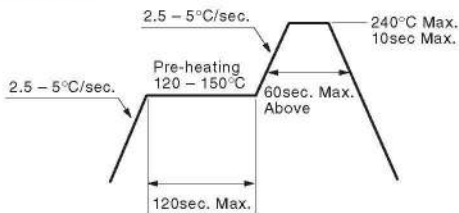
## RECOMMENDED PRINTED CIRCUIT BOARD PATTERN

Recommended soldering pad design

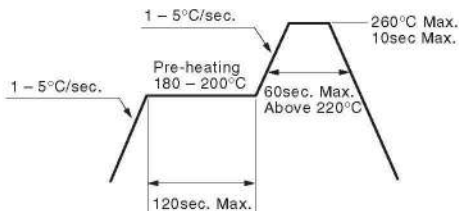


## RECOMMENDED REFLOW SOLDERING PROFILE

### Lead Solder



### Lead Free Solder





# SURFACE MOUNT LED LAMP

## SUPER BRIGHT RIGHT ANGLE LED

---

**FOL215WTR\_7904D**

**White**

---

### **DISCLAIMER**

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

### **LIFE SUPPORT POLICY**

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE PRESIDENT OF FAIRCHILD SEMICONDUCTOR CORPORATION. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.