White LED, 4000 K, SMD Package

LEDSW40

Description

The LEDSW40 is GaN-based, Surface-Mounted-Device (SMD) White LED with a correlated color temperature of 4000 K. The LED itself emits blue light at 450 nm, which is converted to white light by phosphors on the surface of the device. It has a high color rendering index of 90. The LEDs are packaged into a strip containing 20 individual LED devices. High-volume orders are possible; please contact techsupport@thorlabs.com with inquiries.

Specifications

Absolute Max Ratings	
Specification	**Max**
Reverse Voltage	5 V
DC Forward Current	180 mA
Operating Mount Temperature	-30 to 80 °C
Storage Temperature	-30 to 85 °C

Specifications[a]			
	Min	**Typical**	**Max**
Correlated Color Temperature	-	4000 K	-
Operating Current (Continuous)	-	150 mA	-
Forward Voltage at 150 mA	-	3.5 V	3.7 V
Optical Output Power at 150 mA	-	115 mW	-
Viewing Half Angle	-	50°	-
Color Rendering Index (CRI)[b]	90	-	-
Lifetime[c]	25000 hrs	-	-

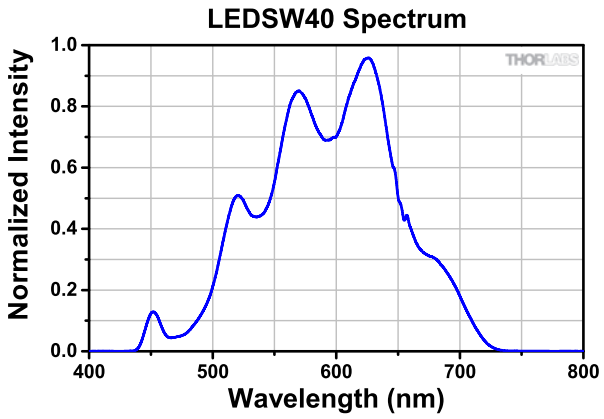
a. All values are specified for a mount temperature of 25 °C.

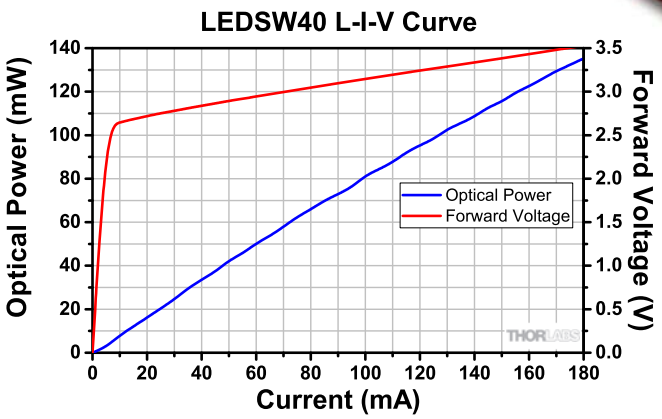
b. The CRI indicates on a scale from 0 to 100 how accurate the spectrum matches a reference source.

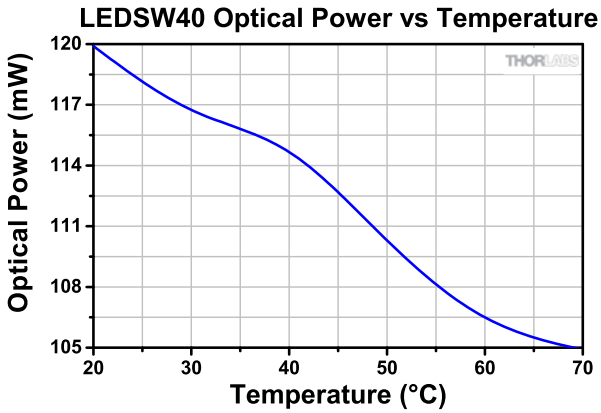
c. Lifetime is defined as the time required for the LED light output to drop by 50% when driven at 150 mA.

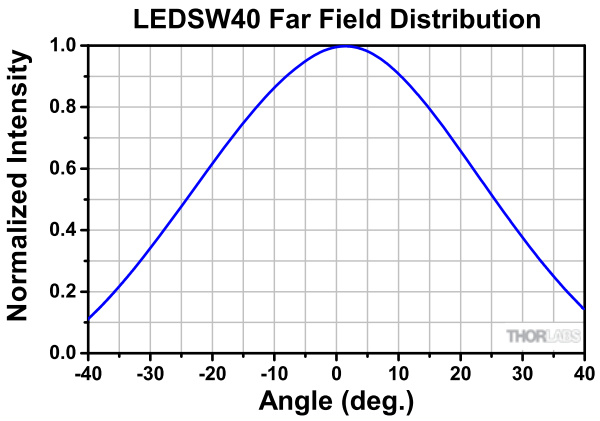
Soldering Specifications	
	Conditions
Dip Soldering	Pre-Heat Backside of PCB at 90 °C Maximum for 60 Seconds or Less; Solder Bath at 250 °C Maximum for 5 Seconds or Less
Hand Soldering	Soldering Iron Tip at 250 °C Maximum for 3 Seconds or Less

Typical Performance Plots

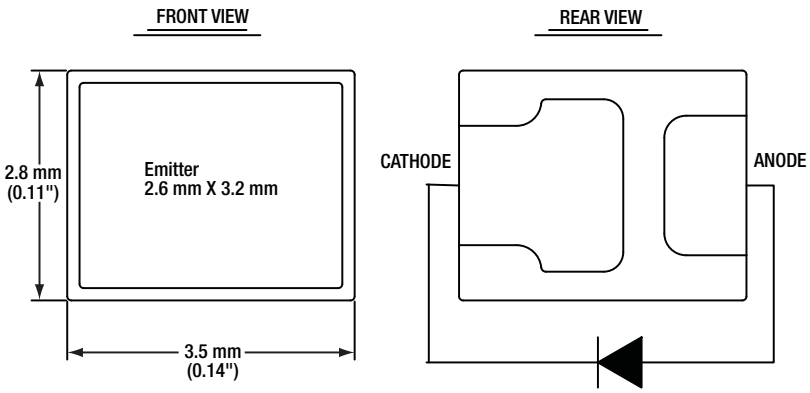


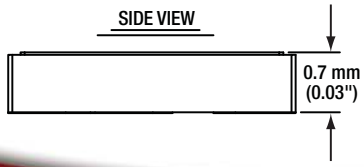






Drawing





Precautions and Warranty Information

These products are ESD (electro static discharge) sensitive and as a result are not covered under warranty. In order to ensure the proper function of an LED, care must be taken to maintain the highest standards of compliance to the maximum electrical specifications during handling.

These LEDs are particularly sensitive to any voltage that exceeds the absolute maximum ratings of the product. Any applied voltage in excess of the maximum specification will cause damage and possible complete failure to the product. The user must use handling procedures that prevent any electrostatic discharges or other voltage surges when handling or using these devices.

Thorlabs, Inc. Life Support and Military Use Application Policy is stated below:

THORLABS' PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS OR IN ANY MILITARY APPLICATION WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE PRESIDENT OF THORLABS, INC. 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 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 to the user.

2. A critical component is any component in 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.

3. The Thorlabs products described in this document are not intended nor warranted for usage in Military Applications.