



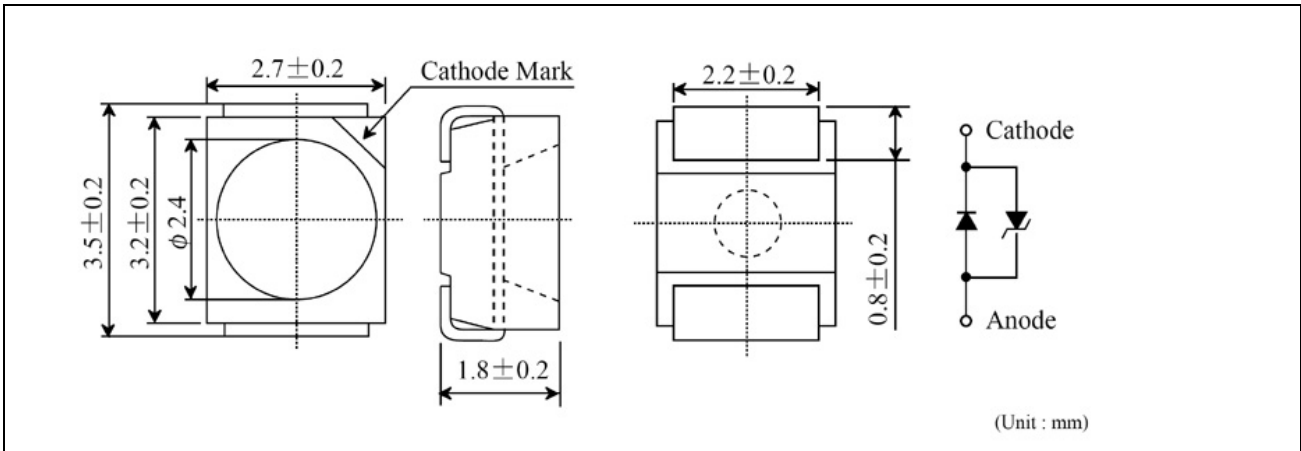
## XSL-375-SD



### TECHNICAL DATA

### UV LED, SMD

#### Drawing



#### Absolute Maximum Ratings ( $T_a=25^\circ\text{C}$ )

Item	Symbol	Value	Unit
DC Forward Current	$I_F$	25	mA
Peak Pulse Forward Current <sup>*1</sup>	$I_{FP}$	100	mA
Power Dissipation	$P_D$	100	mW
Operating Temperature	$T_{OP}$	-30 ... +80	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-30 ... +85	$^\circ\text{C}$
Soldering Temperature <sup>*2</sup>	$T_{SOL}$	260	$^\circ\text{C}$

<sup>\*1</sup> pulse width  $\leq 0.1$  ms, duty ratio  $\leq 1/10$

<sup>\*2</sup> for 10 sec.

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

Item	Symbol	Min.	Typ.	Max.	Unit
<b>Electrical Specification</b>					
Forward Voltage <sup>*1</sup>	$U_F$	3.2	3.6	4.2	V
<b>Optical Specification</b>					
Optical Power	$P_O$	-	3.5	-	mW
Peak Wavelength <sup>*2</sup>	$\lambda_P$	375	-	380	nm
Spectral Half Width (FWHM)	$\lambda$	10	-	20	nm
Viewing Angle	$\varphi$	100			deg.

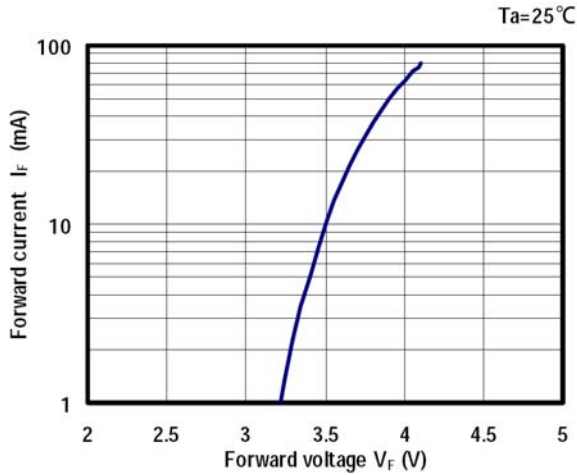
\* Note:

1. measurement tolerance is  $\pm 0.2$  V
2. measurement tolerance is  $\pm 2$  nm

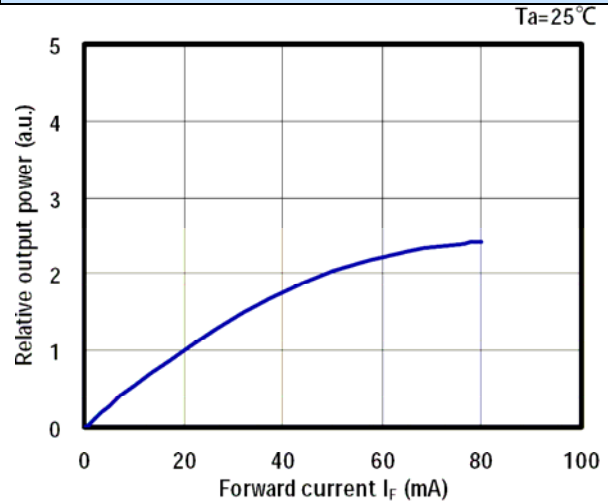


## Typical Performance Curves

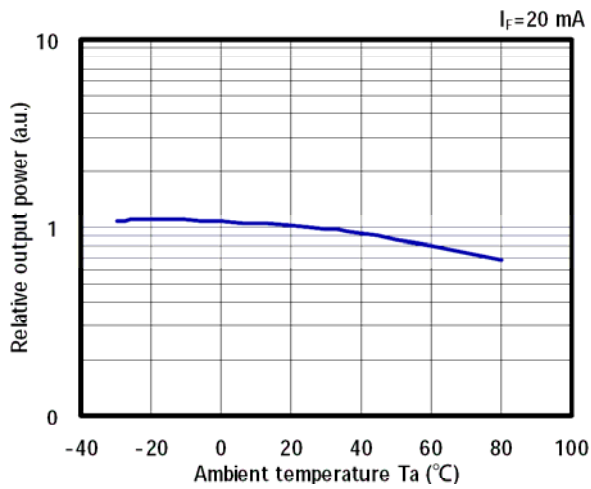
**forward voltage vs. forward current:**



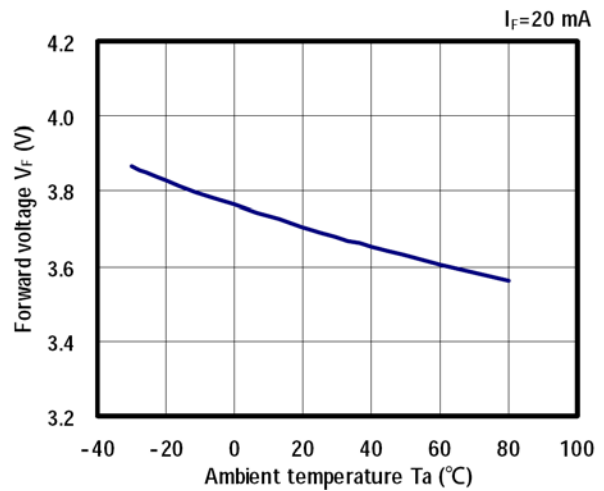
**forward voltage vs. relative output power:**



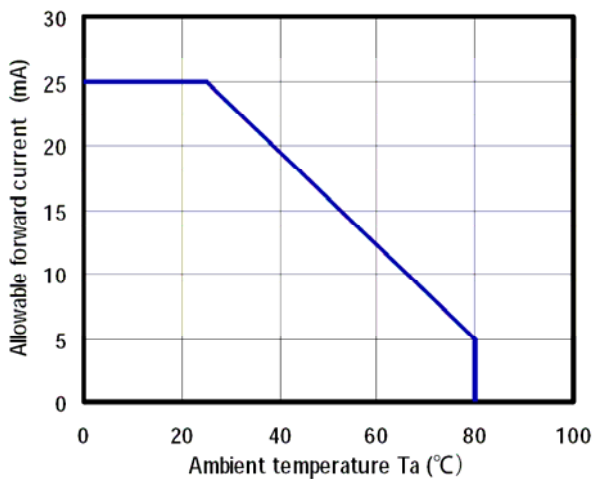
**ambient temperature vs. relative output power:**



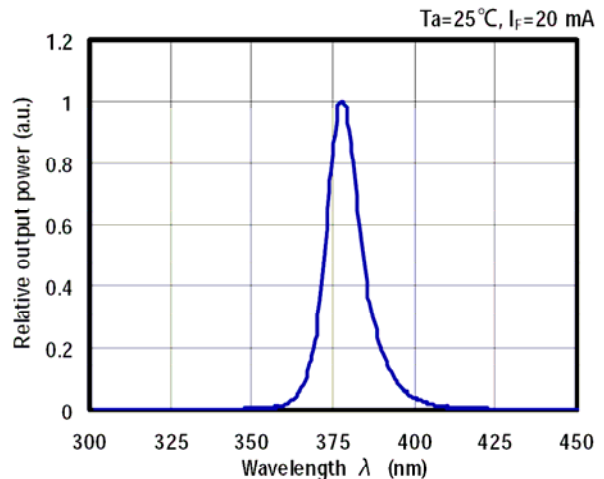
**ambient temperature vs. forward voltage:**



**ambient temp. vs. maximum forward current:**

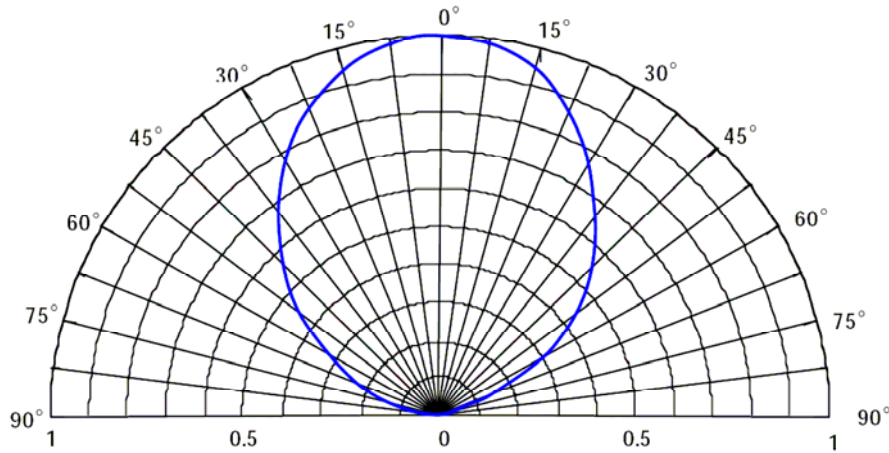


**spectrum:**





**directivity:**



### Device Materials

Item	Material
Encapsulation	Silicone resin
package	Heat resistant polymer
XSL-375-SD is RoHS compliant	

### Precaution for Use

#### 1. Cautions

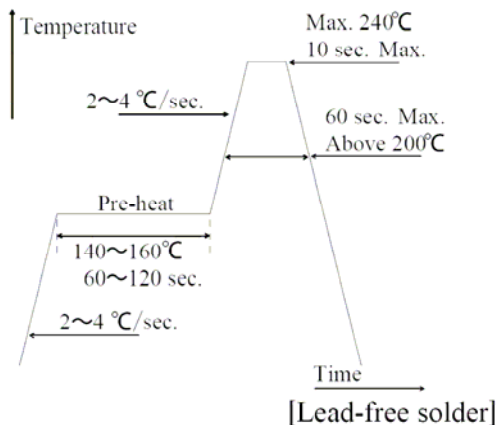
- This device is a UV LED, which radiates intense UV light during operation.
- DO NOT look directly into the UV light or look through the optical system. To prevent inadequate exposure of UV radiation, wearing UV protective glasses is recommended



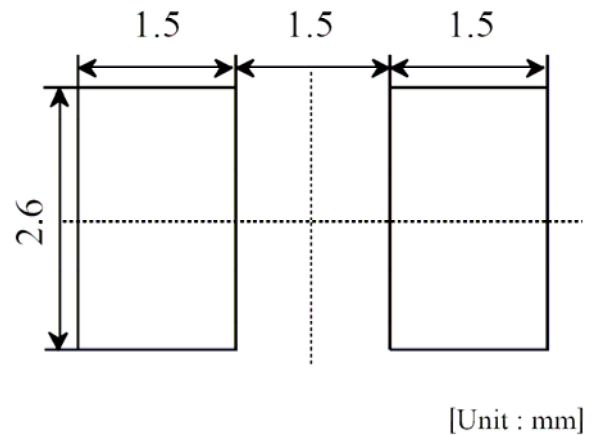
## 2. Soldering Conditions

The LEDs can be soldered in place using the reflow soldering method. Roithner Laser Technik GmbH, cannot make a guarantee on the LEDs after they have been assembled using the dip soldering method. Please refer to the followings about the recommended soldering conditions.

### ■ Temperature profile



### ■ Recommended soldering pad design



The encapsulated material of the LEDs is silicone. Therefore, the LEDs have a soft surface on the top of package. The pressure to the top surface will be influence to the reliability of the LEDs. Precautions should be taken to avoid the strong pressure on the encapsulated part. So when using the chip mounter, the picking up nozzle that does not affect the silicone resin should be used.

Repairing should not be done after the LEDs have been soldered.

Reflow soldering should not be done more than two times.

When soldering, do not put stress on the LEDs during heating.

After soldering, do not warp the circuit board.

## 3. Static Electricity

- The LEDs are very sensitive to Static Electricity and surge voltage. So it is recommended that a wrist band or an anti-electrostatic glove be used when handling the LEDs.
- All devices, equipment and machinery must be grounded properly. It is recommended that precautions should be taken against surge voltage to the equipment that mounts the LEDs.





#### **4. Heat Generation**

- Thermal design of the end product is of paramount importance. Please consider the heat generation of the LED when making the system design. The coefficient of temperature increase per input electric power is affected by the thermal resistance of the circuit board and density of LED placement on the board, as well as other components. It is necessary to avoid intense heat generation and operate within the maximum ratings given in the specification.
- The operating current should be decided after considering the ambient maximum temperature of LEDs.

#### **5. Storage**

- The LEDs should be stored at 30°C or less and 60%RH or less after being shipped and the storage life limits are 3 months. If the LEDs are stored for 3 months or more, they can be stored for a year in a sealed container with nitrogen atmosphere and moisture absorbent material.
- Please avoid rapid transitions in ambient temperature, especially in high humidity environments where condensation can occur.