



## UVLED-385-800-SMD

- Ultraviolet Light Emission Source
- 385 nm, 800 mW @ 500 mA
- 6868 Ceramic with Flat Glass Window
- ESD Protection Device integrated



### Description

**UVLED-385-800-SMD** is an ultraviolet light emission source, typically emitting at **385 nm** with an optical output power of **800 mW** and narrow bandwidth. The hermetically sealed ceramic 6868 SMD package has **low thermal resistance**, and features a flat glass window. **UVLED-385-800-SMD** comes with integrated ESD protection device, and is intended for reflow soldering.

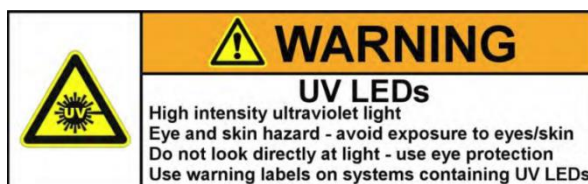
### Maximum Rating ( $T_{CASE} = 25^{\circ}C$ )

Parameter	Symbol	Values		Unit
		Min.	Max.	
Power Dissipation	$P_D$		3.0	W
Forward Current	$I_F$		700	mA
Pulse Forward Current*	$I_{FP}$		1000	mA
Reverse Current	$I_R$		85	mA
Junction Temperature	$T_J$		+ 130	$^{\circ}C$
Operation Temperature	$T_{OPR}$	- 10	+ 85	$^{\circ}C$
Storage Temperature	$T_{STG}$	- 40	+ 100	$^{\circ}C$

\*  $I_{FP}$  conditions with pulse width  $\leq 10ms$  and duty cycle  $\leq 10\%$

### Electro-Optical Characteristics ( $T_{CASE} = 25^{\circ}C$ , $I_F = 500 mA$ )

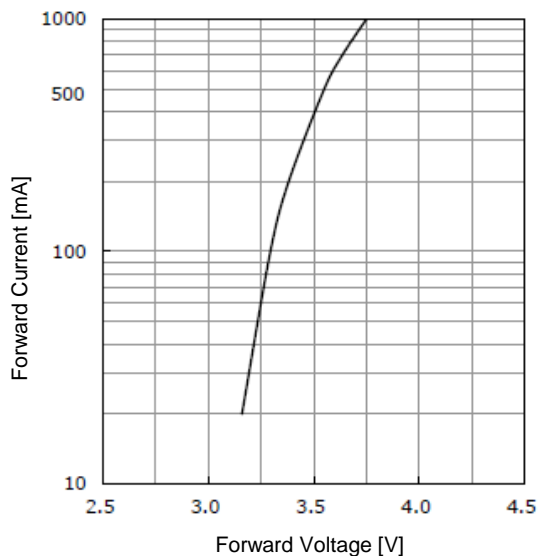
Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
<b>Peak Wavelength</b>	$\lambda_P$	380	<b>385</b>	390	<b>nm</b>
Radiated Power	$P_O$		800		mW
Spectral Width (FWHM)	$\Delta\lambda$		10		nm
Forward Voltage	$V_F$		3.6		V
Beam Angle	$2\Theta_{1/2}$		120		deg.
Thermal Resistance	$R_{th}$		4.4	7.3	$^{\circ}C/W$



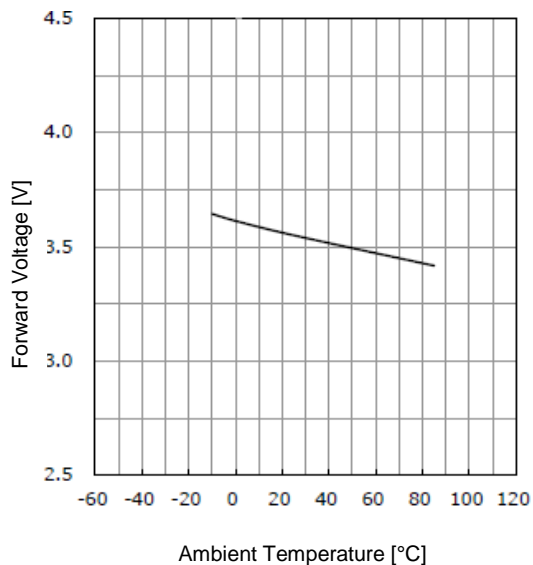


## Performance Characteristics ( $T_{CASE} = 25^{\circ}C$ )

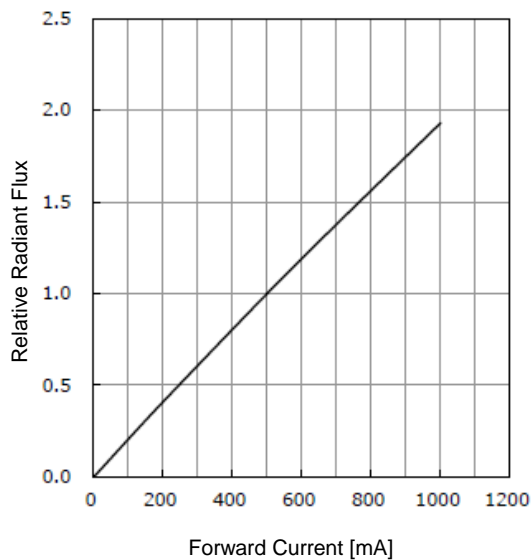
### Forward current vs. Forward Voltage



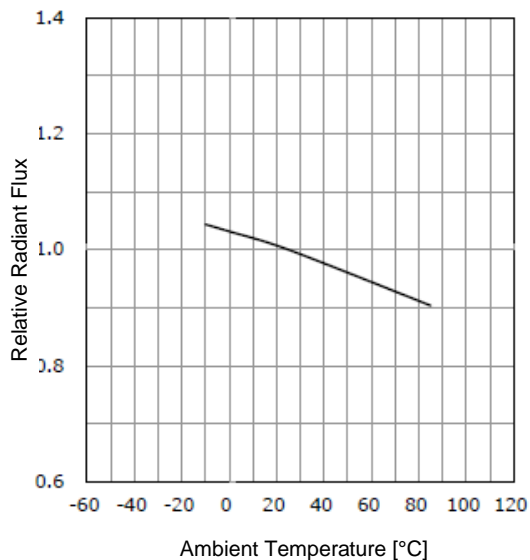
### Forward Voltage vs. Ambient Temp.



### Radiant Flux vs. Forward Current



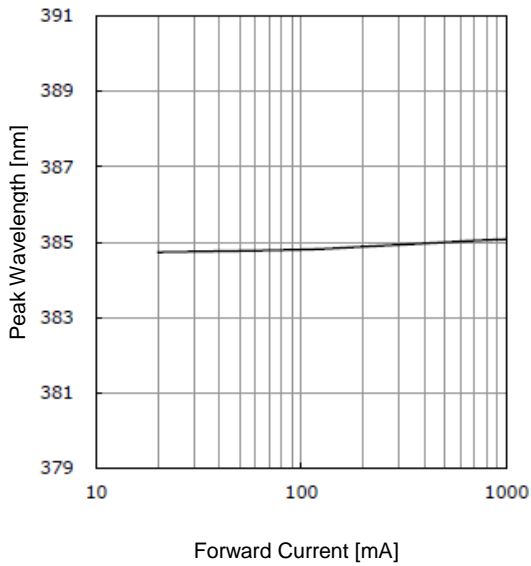
### Radiant Flux vs. Ambient Temp.



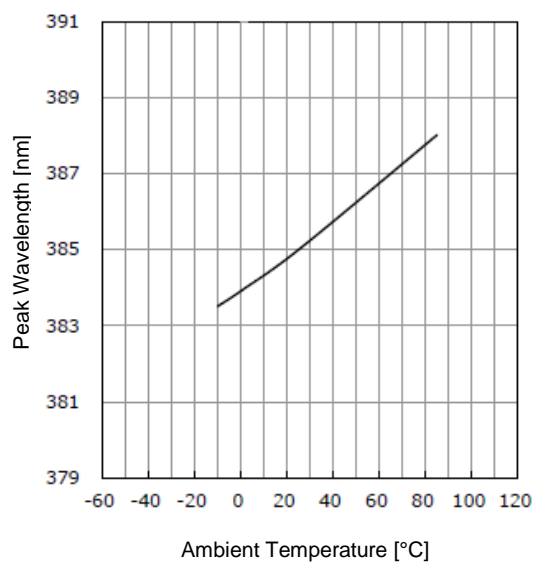


## Performance Characteristics ( $T_{CASE} = 25^{\circ}C$ )

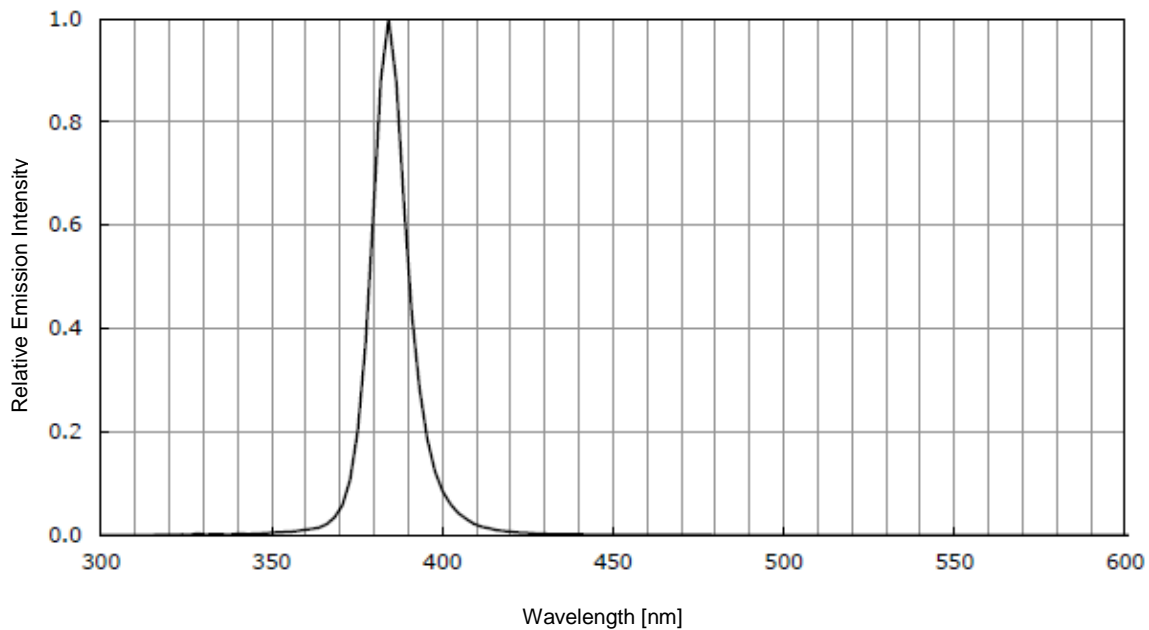
### Peak Wavelength vs. Forward Current



### Peak Wavelength vs. Ambient Temp.

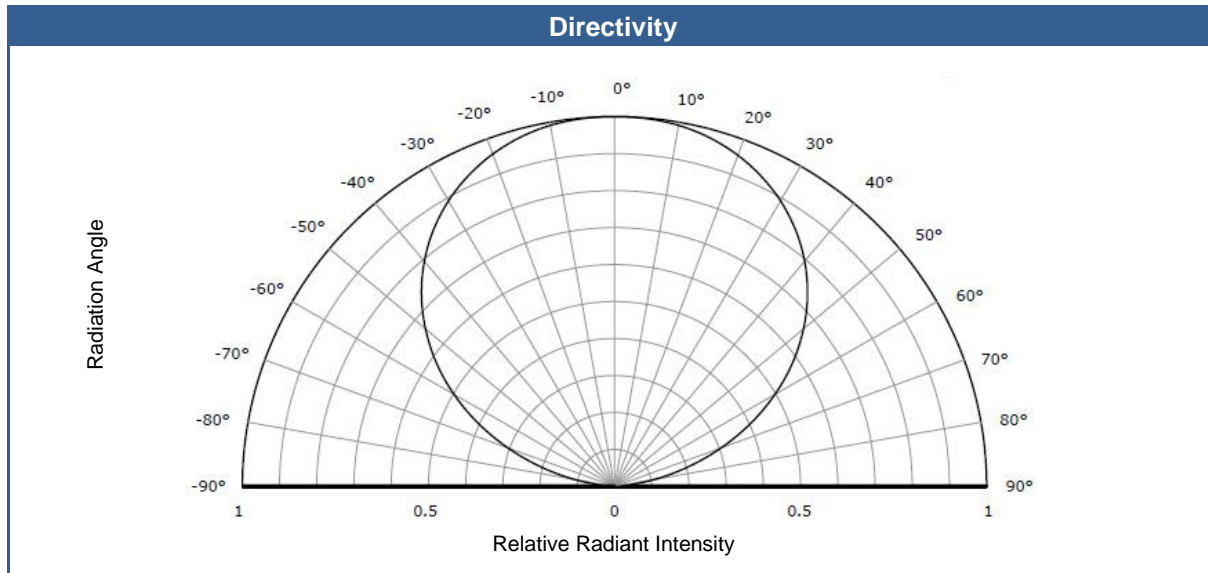


### Spectrum



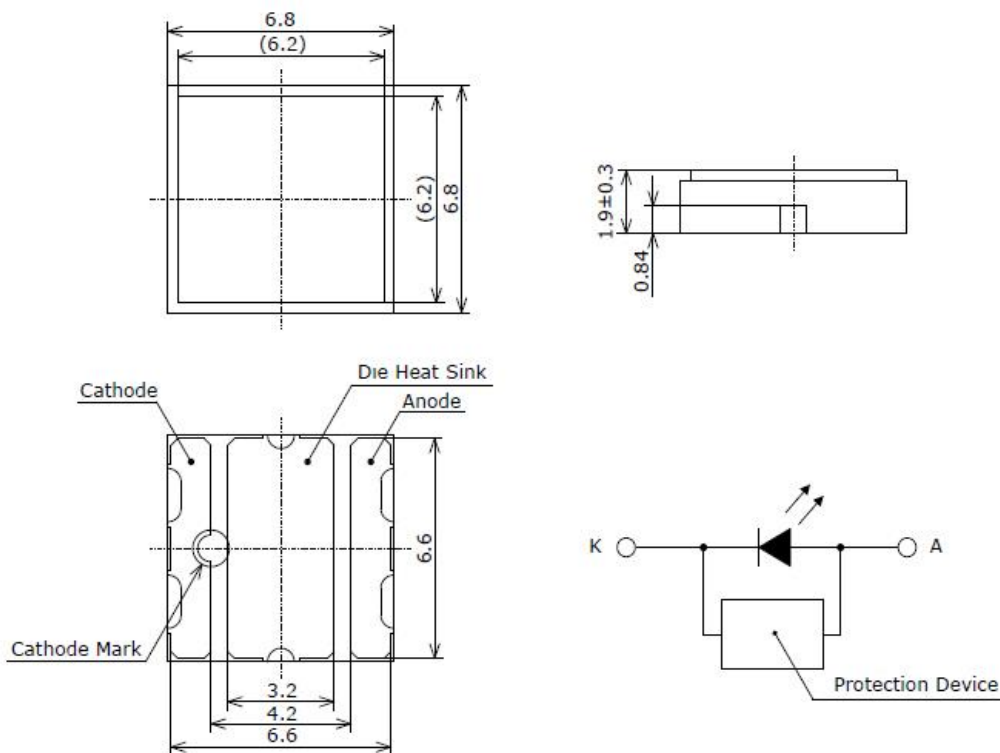


## Performance Characteristics ( $T_{CASE} = 25^{\circ}C$ )



## Outline Dimensions

### 6868 SMD package



All dimensions in mm



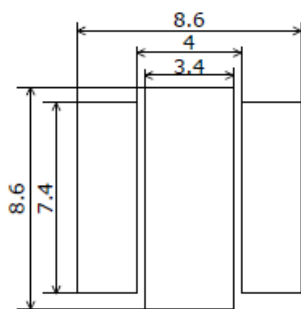
## Device Materials

Pin #	Material
Package	Ceramics
Encapsulation	Glass Window
Electrodes	Au-plated



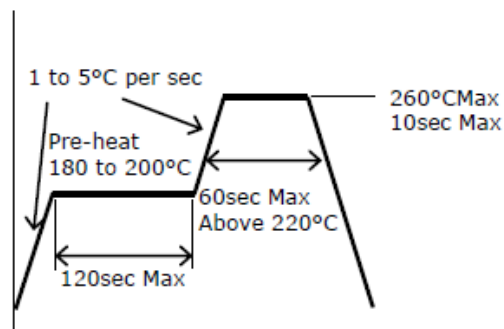
## Soldering Information

### Recommended Solder Pad Layout



- all dimensions in mm
- drawing not to scale

### Recommended Reflow Soldering Profile



- IPC/JDEC J-STD-020C

## Precautions for Use

### Static Electricity:

LEDs are sensitive to electrostatic discharge (ESD). Precautions against ESD must be taken when handling or operating these LEDs. Surge voltage or electrostatic discharge can result in complete failure of the device.

### UV-Radiation:

During operation these LEDs do emit **high intensity ultraviolet light**, which is hazardous to skin and eyes, and may cause cancer. Do avoid exposure to the emitted UV light. **Protective glasses are recommended.** It is further advised to attach a warning label on products/systems that do utilize UV-LEDs:

### Operation:

- **Do only operate these LEDs with a current source.**  
Current of a LED is an exponential function of the voltage across it. Usage of current regulated drive circuits is mandatory.
- Compliance to the maximum electrical specifications is paramount.

### Storage:

- **Recommended storage temperature:  $\leq 30\text{ }^{\circ}\text{C}$**
- **Recommended storage relative humidity:  $\leq 70\text{ }%$**