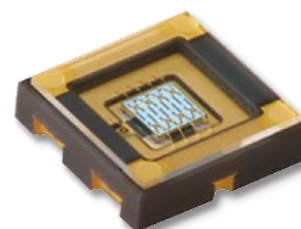




UVLED-405-NV3

- Ultraviolet Light Emission Source
- 405 nm, 4640 mW
- 6868 Ceramic with Flat Glass Window
- ESD Protection Device integrated



Description

UVLED-405-NV3 is an ultraviolet light emission source, typically emitting at **405 nm** with an optical output power of **4640 mW** and narrow bandwidth. The hermetically sealed ceramic 6868 SMD package has **low thermal resistance**, and features a flat glass window. **UVLED-405-NV3** comes with integrated ESD protection device, and is intended for reflow soldering.

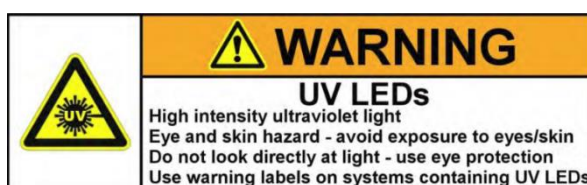
Maximum Rating ($T_{CASE} = 25^{\circ}C$)

Parameter	Symbol	Values		Unit
		Min.	Max.	
Power Dissipation	P_D		18.9	W
Forward Current	I_F		4500	mA
Pulse Forward Current*	I_{FP}		6000	mA
Reverse Current	I_R		85	mA
Junction Temperature	T_J		+ 100	$^{\circ}C$
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 ($T_{CASE} = 25^{\circ}C$, $I_F = 3500 mA$)

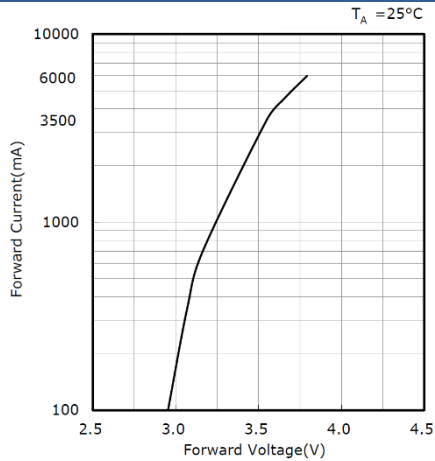
Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
Peak Wavelength	λ_P	400	405	405	nm
Radiated Power	P_O		4640		mW
Spectral Width (FWHM)	$\Delta\lambda$		11		nm
Forward Voltage	V_F		3.55		V
Beam Angle	$2\Theta_{1/2}$		120		deg.
Thermal Resistance	R_{th}		1.68	2.08	$^{\circ}C/W$



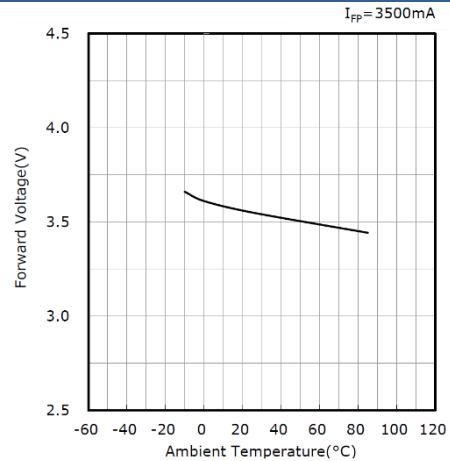


Performance Characteristics ($T_{CASE} = 25^{\circ}C$)

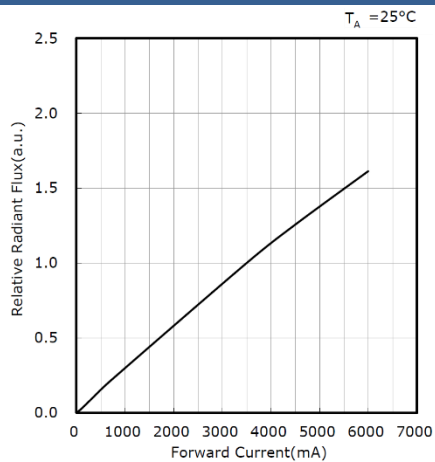
Forward Current vs. Forward Voltage



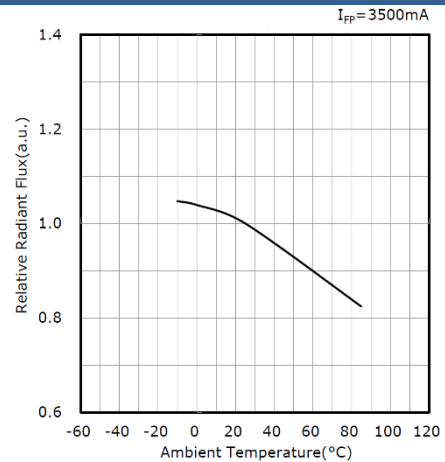
Forward Voltage vs. Ambient Temperature



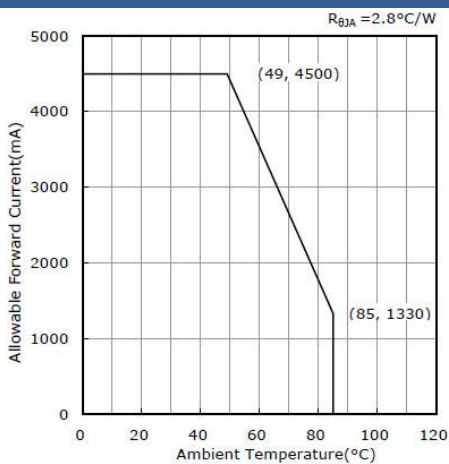
Rel. Radiant Flux vs. Forward Current



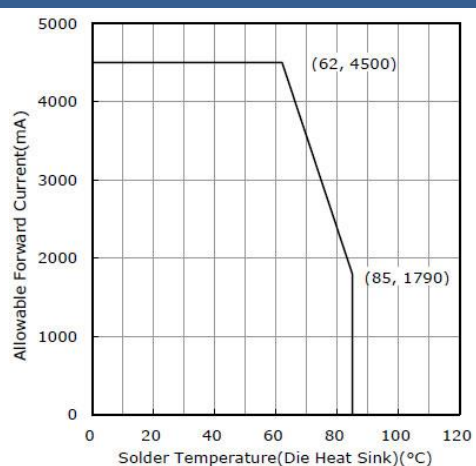
Rel. Radiant Flux vs. Ambient Temperature



Allowed Forward Current vs. Ambient Temperature

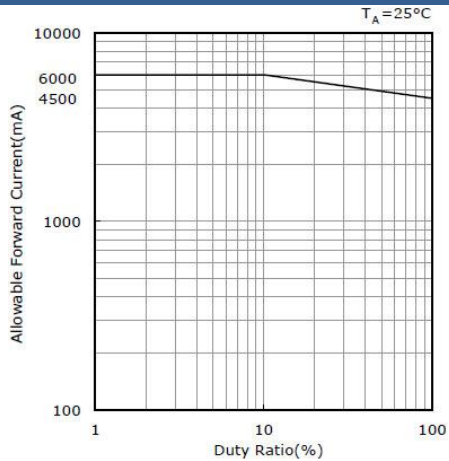


Allowed Forward Current vs. Solder Temperature (Die Heat Sink)

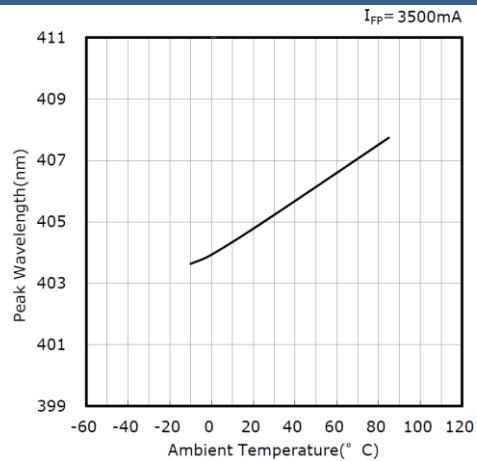




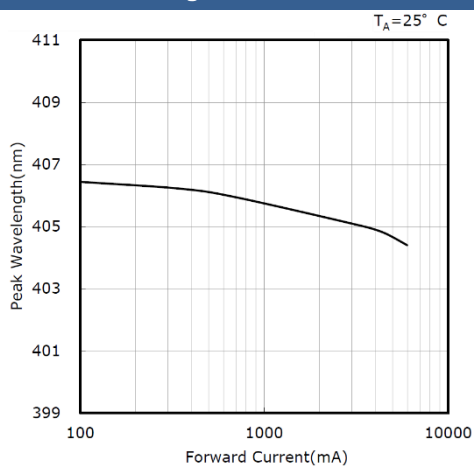
Allowed Forward Current vs. Duty Ratio



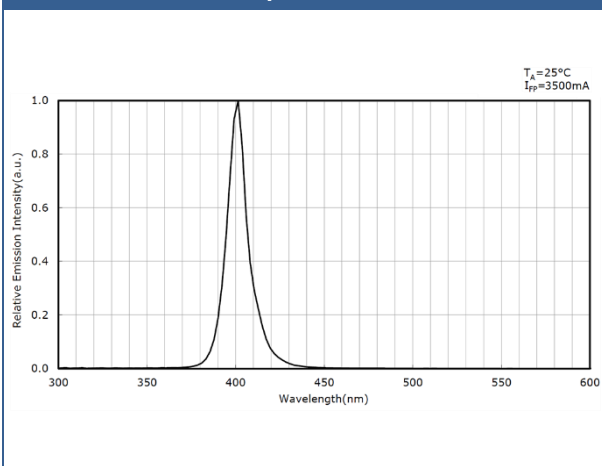
Peak Wavelength vs. Ambient Temperature



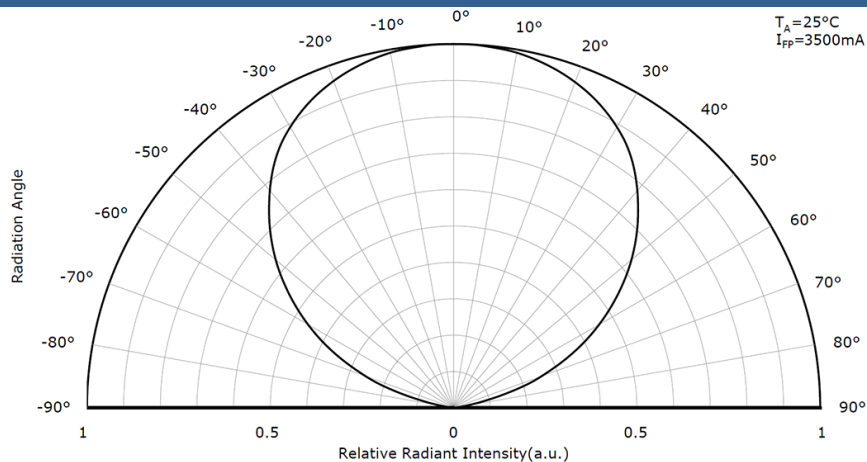
Peak Wavelength vs. Forward Current



Relative Spectral Emission



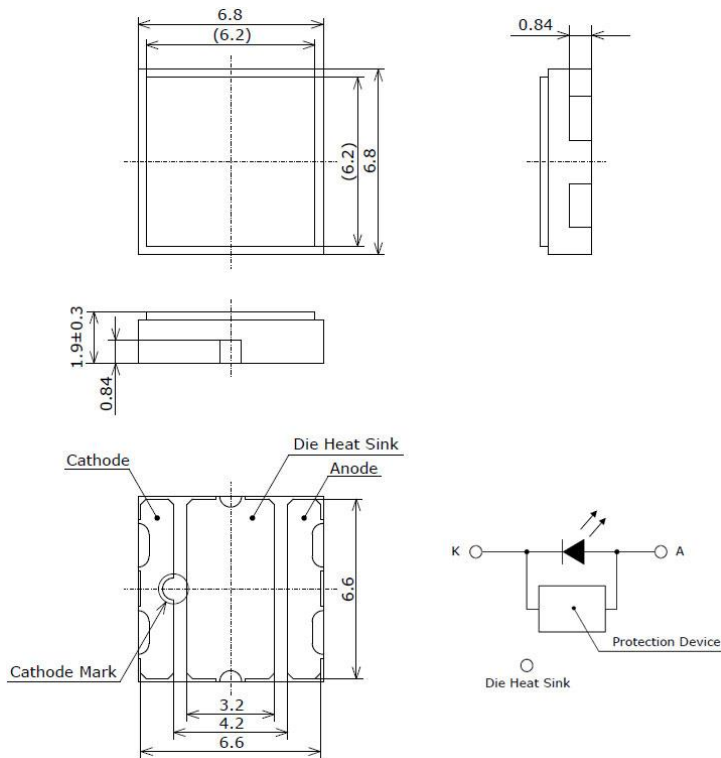
Directivity





Outline Dimensions

6868 SMD package



All dimensions in mm [in]

Device Materials

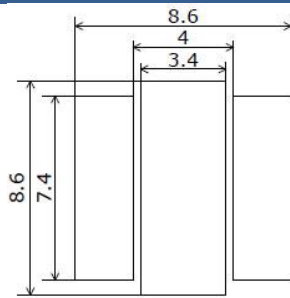
PIN #	Material
Package	Ceramics
Glass	Hard Glass
Adhesive	Silicone Adhesive
Electrodes	Au-plated
Die Heat Sink	Au-plated
Weight	0.26 g





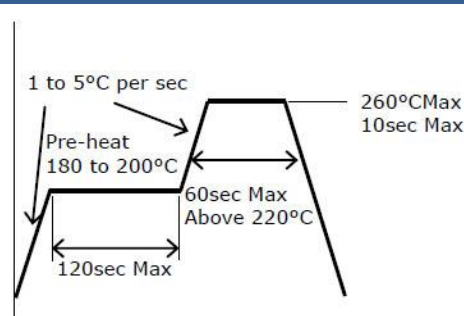
Soldering Information

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: $\leq 70\text{ }%$**