



## VL380-EMITTER

- UV High Power LED
- 380 nm, 200-300 mW
- Emitter Package, containing Zener diode
- Viewing Angle: 140°



### Description

**VL380-EMITTER** is a InGaN based, High Power UV single chip LED with a typical peak wavelength of **380 nm** and radiation of **200-300 mW**. It comes in standard emitter package, containing SI Zener diode for ESD protection, with Au soldering pins, Au plating copper heat sink, and molded with silicone resin.

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

Parameter	Symbol	Values		Unit
		Min.	Max.	
Power Dissipation	$P_D$		1300	mW
Forward Current	$I_F$		350	mA
Pulse Forward Current * <sup>1</sup>	$I_{FP}$		500	mA
Reverse Voltage	$V_F$		5	V
Junction Temperature	$T_J$		125	°C
Operating Temperature	$T_{CASE}$	- 40	+ 105	°C
Storage Temperature	$T_{STG}$	- 40	+ 120	°C
Lead Solder Temperature * <sup>2</sup>	$T_{SLD}$		+ 260	°C

\*<sup>1</sup> duty=1%, pulse width = 10  $\mu$ s

\*<sup>2</sup> must be completed within 5 seconds

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

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Peak Wavelength * <sup>1</sup>	$\lambda_P$	$I_F=350mA$	375		385	nm
Forward Voltage * <sup>2</sup>	$V_F$	$I_F=350mA$	3.0		4.0	V
Radiated Power * <sup>3</sup>	$P_O$	$I_F=350mA$	200		300	mW
Viewing Angle	$\varphi$	$I_F=100mA$		140		deg.

\*<sup>1</sup> measurement allowance:  $\pm 1$  nm

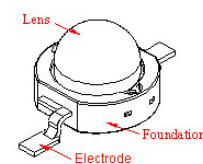
\*<sup>2</sup> measurement allowance:  $\pm 10\%$

\*<sup>3</sup> measurement allowance:  $\pm 0.1$  V

### Device Materials

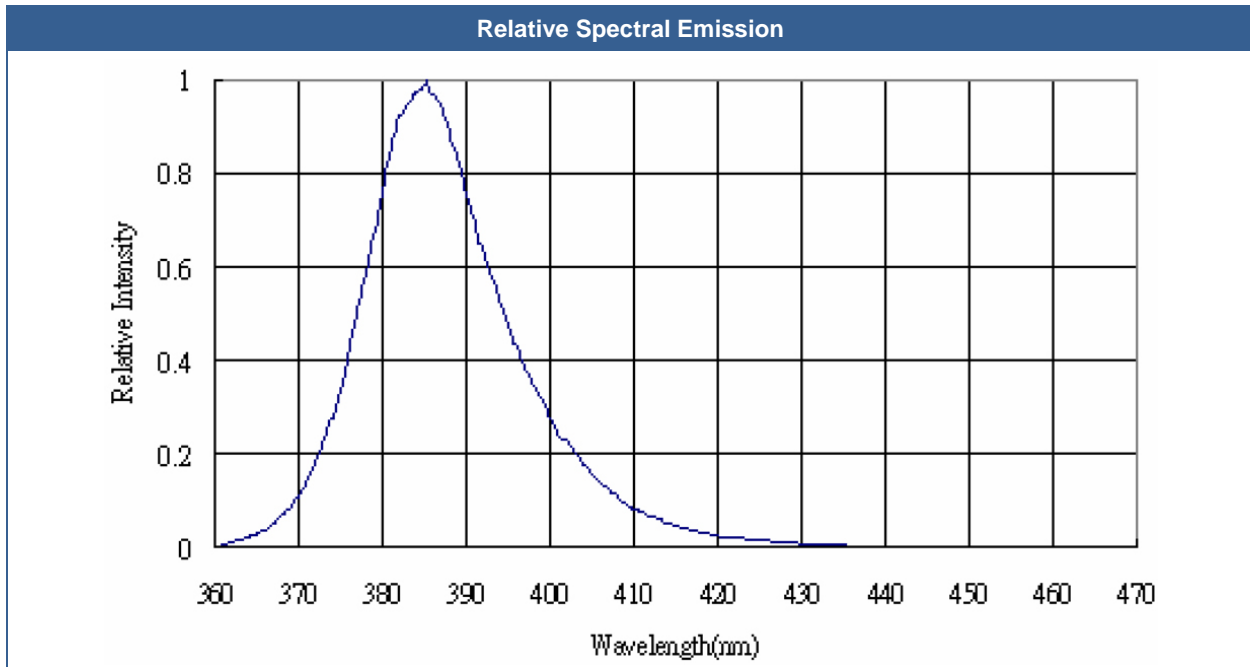
Item	Material
Foundation	Plastic
Lens	Silicone Resin
Electrodes	Au
Lead Frame *	Au Plating Copper Alloy

\* may be connected to Anode or Cathode

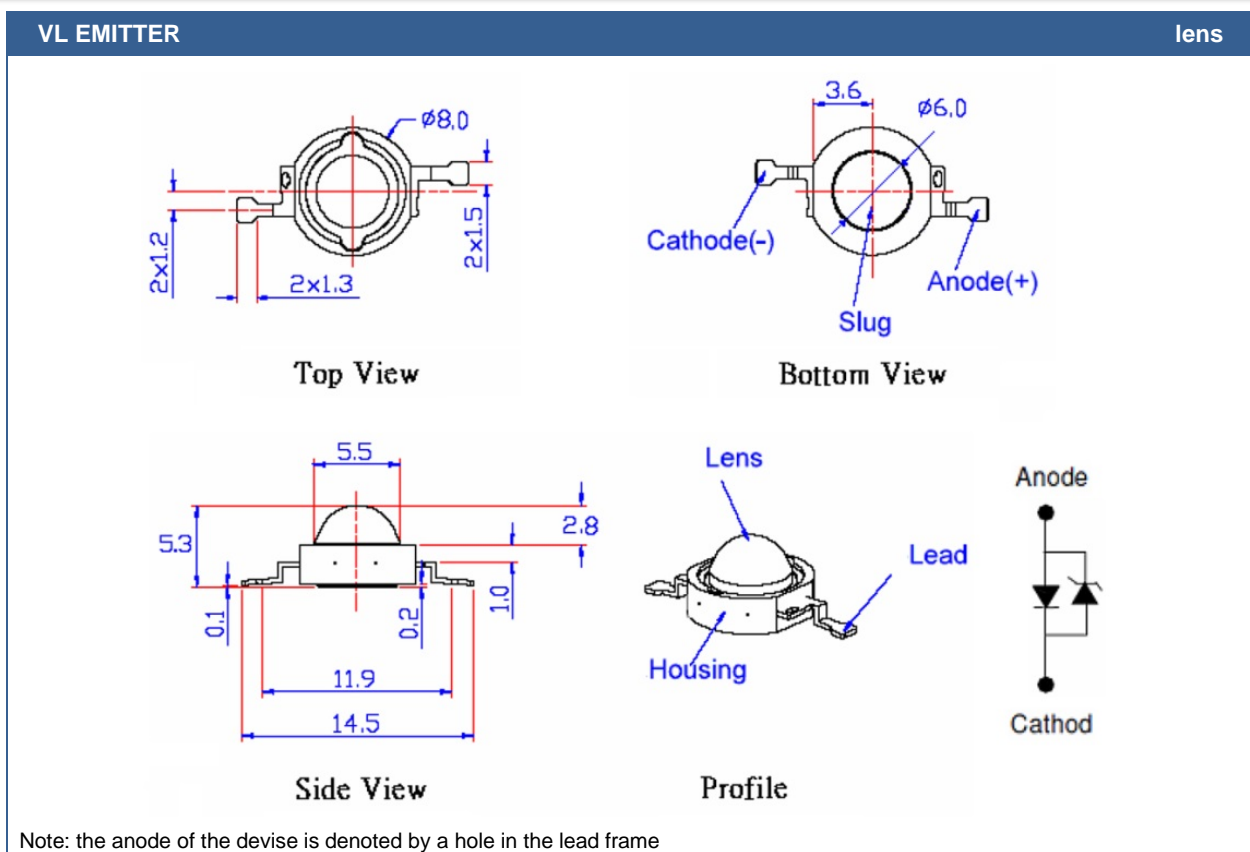




## Typical Performance Curves



## Outline Dimensions



Note: the anode of the device is denoted by a hole in the lead frame

All Dimensions in mm; Tolerance:  $\pm 0.2$  mm



## Precautions

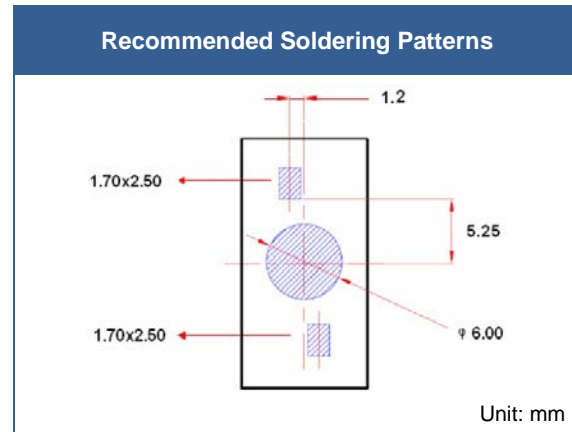
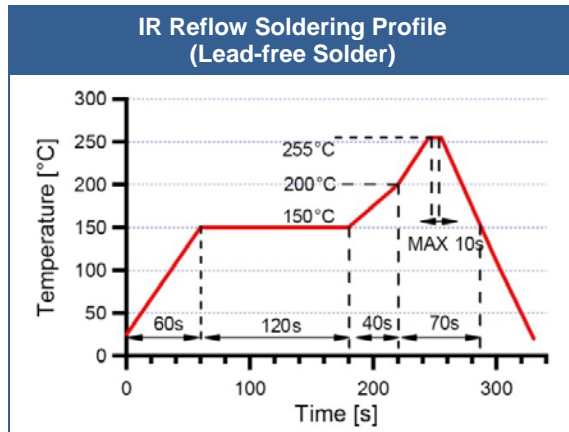
### Soldering:

- Do avoid overheating of the LED
- Do avoid electrostatic discharge (ESD)
- Do avoid mechanical stress, shock, and vibration
- Do only use non-corrosive flux
- Do not apply current to the LED until it has cooled down to room temperature after soldering

### Recommended soldering conditions:

This LED is designed to be reflow soldered on to a PCB. If dip soldered or hand soldered, its reliability cannot be guaranteed.

Nitrogen reflow soldering is recommended. Air flow soldering conditions can cause optical degradation, caused by heat and/or atmosphere.



Above table specifies the maximum allowed duration and temperature during soldering. It is strongly advised to perform soldering at the shortest time and lowest temperature possible.

### Cleaning:

**Cleaning with isopropyl alcohol, propanol, or ethyl alcohol is recommended**

DO NOT USE acetone, chloroform, trichloroethylene, or MKS

DO NOT USE ultrasonic cleaners

### 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.

### Radiation:

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

### Operation:

**Do only operate LEDs with a current source.**

Running these LEDs from a voltage source will result in complete failure of the device.

Current of a LED is an exponential function of the voltage across it. Usage of current regulated drive circuits is mandatory.