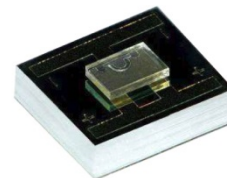




## DUV310-CHIP

- Deep Ultraviolet Light Emission Source
- 310 nm, 1.6 mW
- Naked Bare Die
- Flip chip type
- Beam angle 144 deg.



### Description

**DUV310-CHIP** is an **AlGaN** based DEEP-UV LED emission source, that is available as bare chip die, and in two different submount configurations. **DUV310-CHIP** is of **Flip Chip** type without any bonding wires obscuring the emitting area.

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

Parameter	Symbol	Values		Unit
		Min.	Max.	
Forward Current ( $T_A=25^{\circ}C$ )	$I_F$		40	mA
Reverse Current ( $V_R=5V$ )	$I_R$		1	$\mu A$
Reverse Voltage ( $I_R=10\mu A$ )	$V_R$		5	V
Operating Temperature	$T_{OPR}$	- 30	+ 80	$^{\circ}C$
Storage Temperature	$T_{STG}$	- 40	+ 100	$^{\circ}C$
Soldering Temperature (max. 5s)	$T_{SOL}$		+ 300	$^{\circ}C$

### Electro-Optical Characteristics ( $T_{CASE} = 25^{\circ}C$ , $I_F = 20$ mA)

Parameter	Symbol	Values			Unit
		min.	Typ.	Max.	
Peak Wavelength	$\lambda_P$	305	310	315	nm
<b>Radiated Power</b>	<b><math>P_O</math></b>	<b>0.8</b>	<b>1.6</b>		<b>mW</b>
Spectral Width (FWHM)	$\Delta\lambda$		10		nm
Forward Voltage	$V_F$		6.5	7.5	V
<b>Viewing Angle</b>	<b><math>2\theta_{1/2}</math></b>		<b>144</b>		<b>deg.</b>
Thermal resistance	$R\theta_{J-REF}$		190		$^{\circ}C/W$
Rise time*	$t_R$		/		ns
Fall time*	$t_F$		/		ns

\* frequency=100kHz, duty cycle=1%,  $I_{FP}=200mA$



## Performance Characteristics

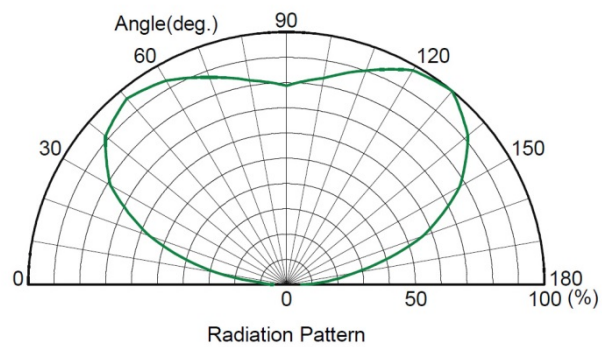
Forward Current vs. Forward Voltage

Forward Current vs. Relative Radiant Flux [%]

Relative Intensity vs. Peak Wavelength

Radiation Pattern

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



Radiant Flux vs. Ambient Temp.

Voltage Shift vs. Ambient Temperature



## Performance Characteristics

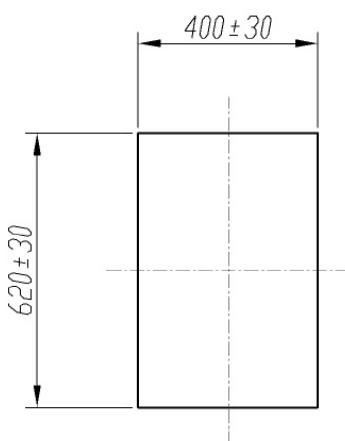
Wavelength Shift vs. Ambient Temperature

Junction Temp. vs. Forward Current

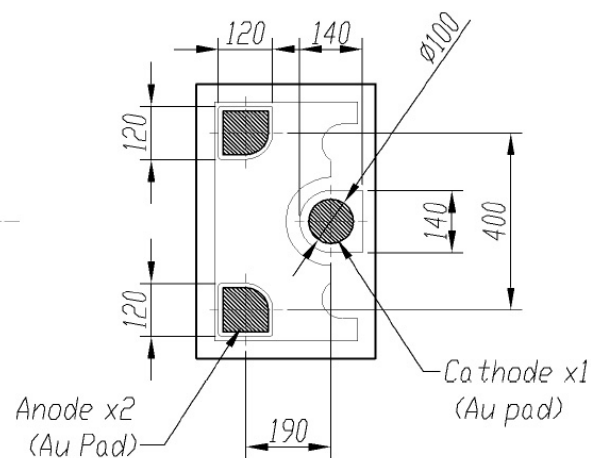
## Outline Dimensions

DUV265-CHIP

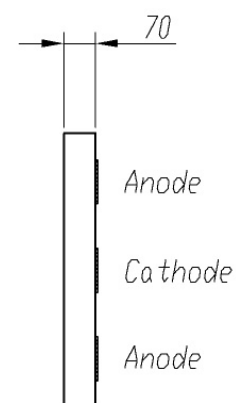
Top View



Bottom View



Side View



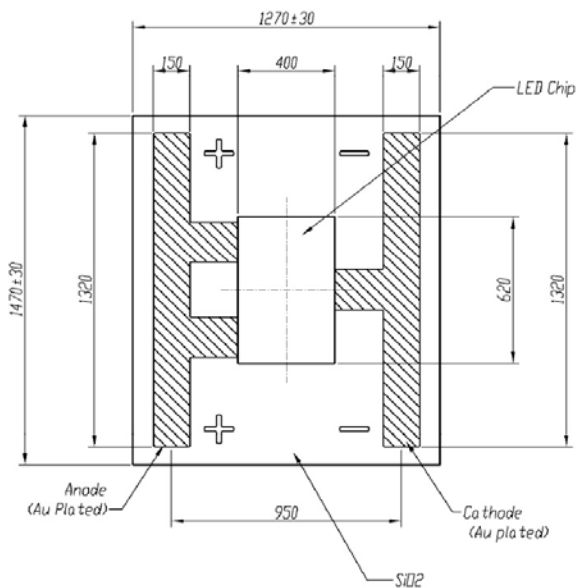
all dimensions in mm



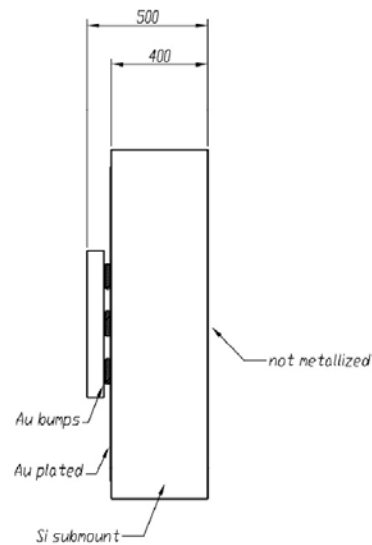
## Outline Dimensions

### DUV265-CS1

Top View



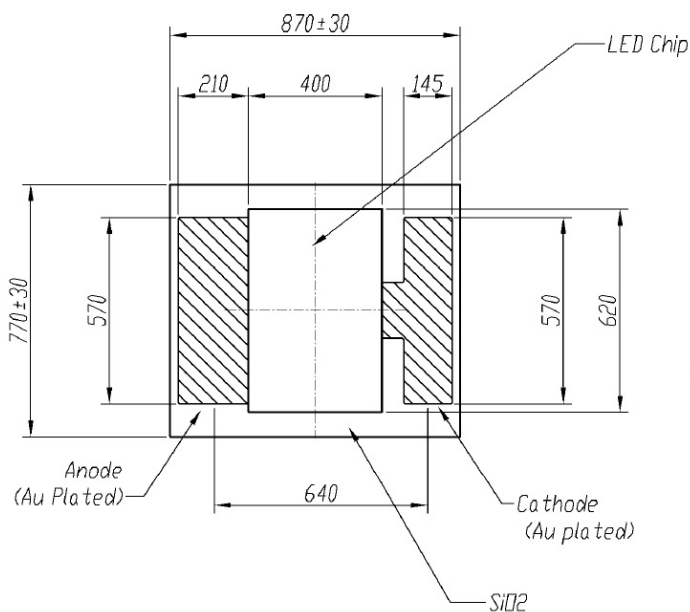
Side View



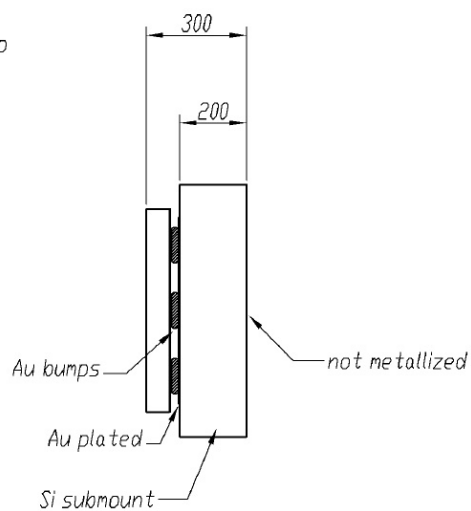
all dimensions in mm

### DUV265-CS2

Top View



Side View



all dimensions in mm



## Device Materials

Pin #	Material
-	-
Anode	Au plated
Cathode	Au plated
Submount	Si



## Precautions

### 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 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

