ROITHNER LASERTECHNIK GmbH
WIEDNER HAUPTSTRASSE 76 1040 VIENNA AUSTRIA
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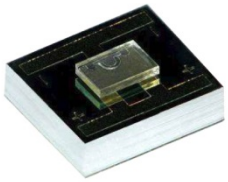
DUV325-CHIP

- **Deep Ultraviolet Light Emission Source**
- **325 nm, 1.5 mW**
- **Naked Bare Die**
- **Flip chip type**
- **Beam angle 144 deg.**



RoHS COMPLIANT Pb Pb-Free

Description

DUV325-CHIP is an **AlGaN** based DEEP-UV LED emission source, that is available as bare chip die, and in two different submount configurations. **DUV325-CHIP** is of **Flip Chip** type without any bonding wires obscuring the emitting area.

Maximum Rating (T_{CASE} = 25°C)

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

Electro-Optical Characteristics (T_{CASE} = 25°C, I_F =20 mA)

Parameter	Symbol	Values			Unit
		min.	Typ.	Max.	
Peak Wavelength	λ_P	320	325	330	nm
Radiated Power	P_O	**1.0**	**1.5**		**mW**
Spectral Width (FWHM)	$\Delta\lambda$		9		nm
Forward Voltage	V_F		5.0	5.5	V
Viewing Angle	$2\Theta_{1/2}$		**144**		**deg.**
Thermal resistance	$R\Theta_{J\text{-}REF}$		190		°C/W
Rise time*	t_R		/		ns
Fall time*	t_F		/		ns

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

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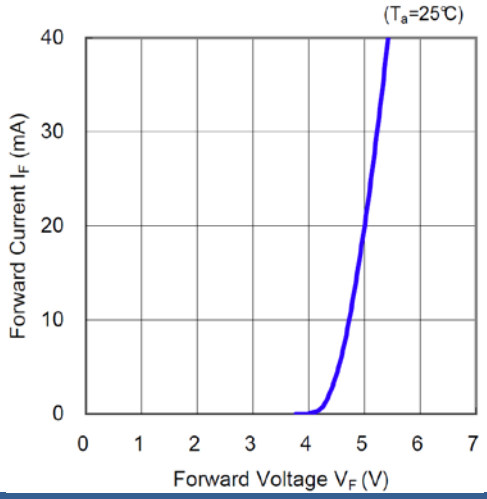
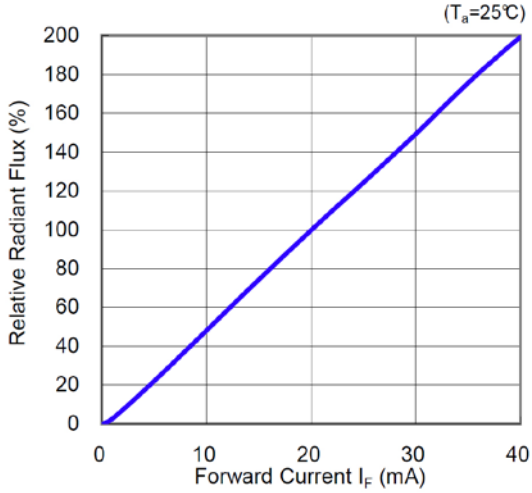
Performance Characteristics

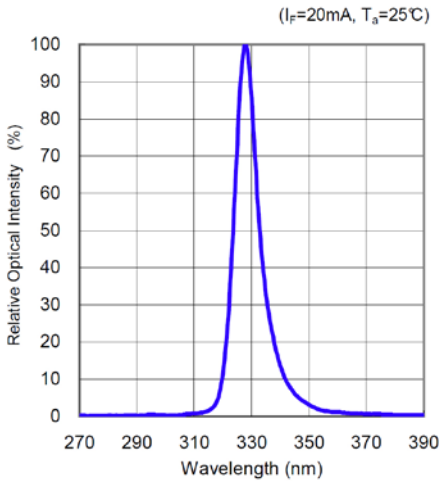
Forward Current vs. Forward Voltage



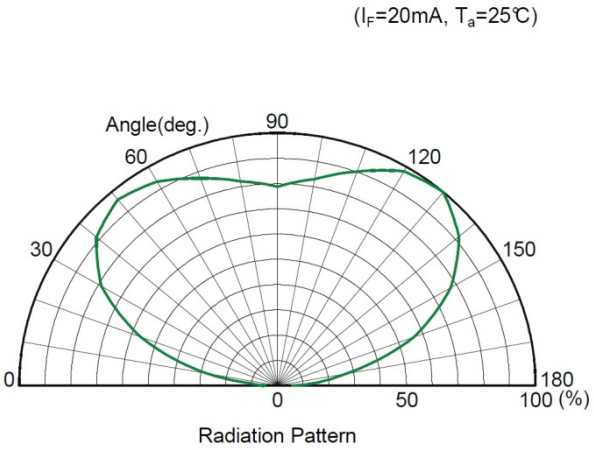
Forward Current vs. Relative Radiant Flux [%]



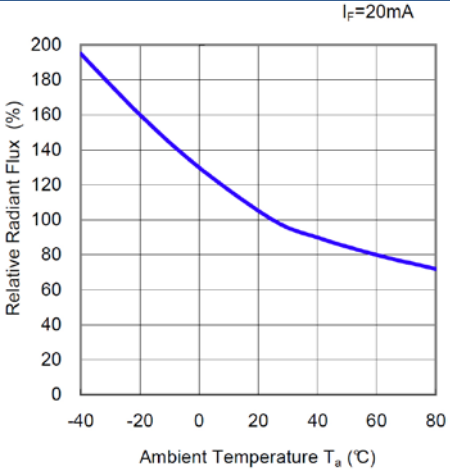
Relative Intensity vs. Peak Wavelength



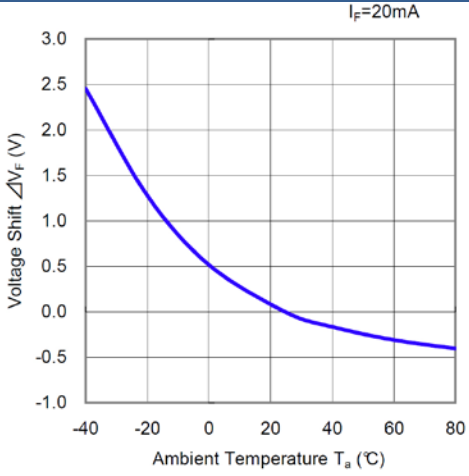
Radiation Pattern



Radiant Flux vs. Ambient Temp.



Voltage Shift vs. Ambient Temperature



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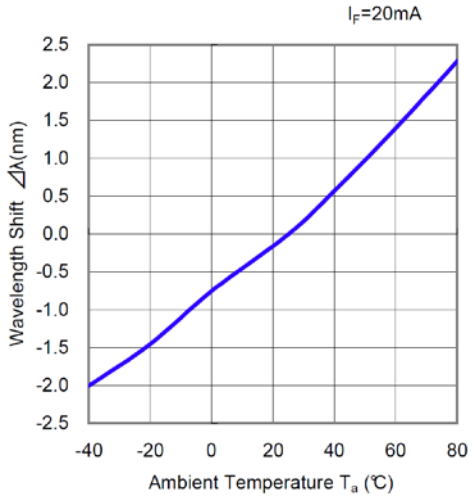
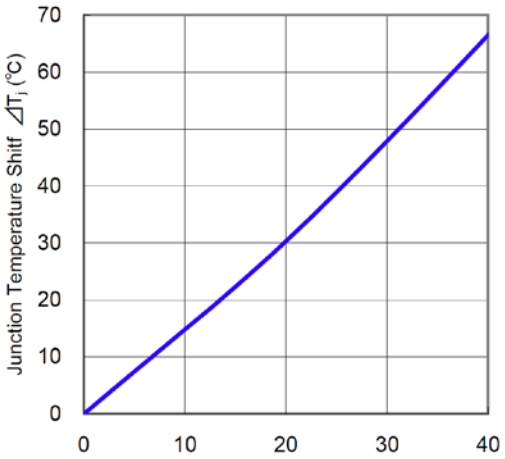
Performance Characteristics

Wavelength Shift vs. Ambient Temperature

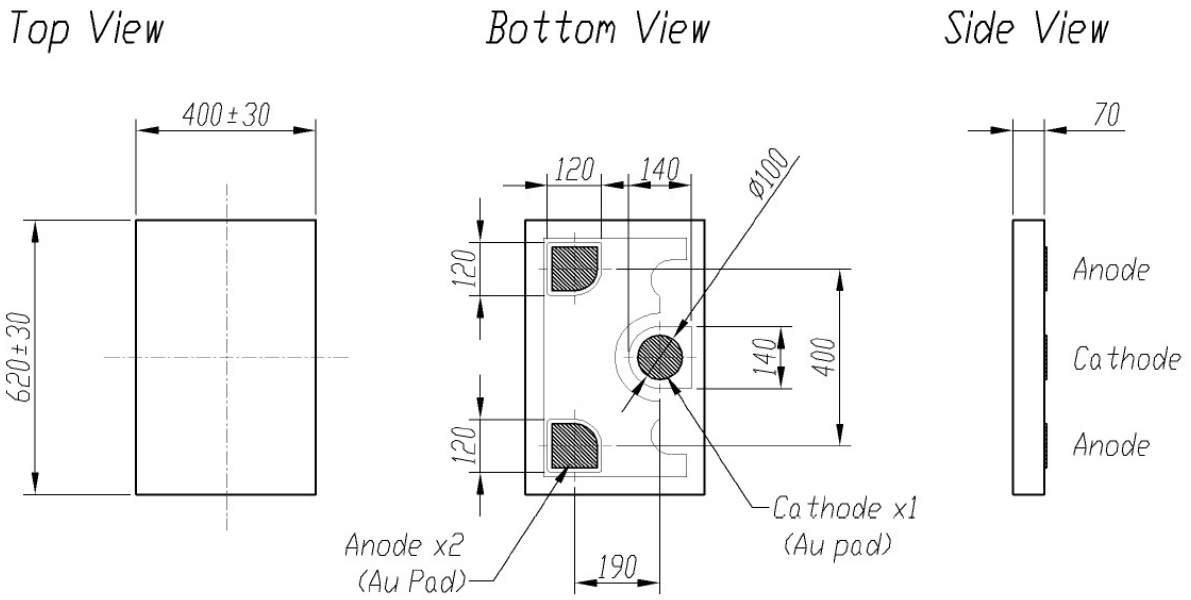


Junction Temp. vs. Forward Current



Outline Dimensions

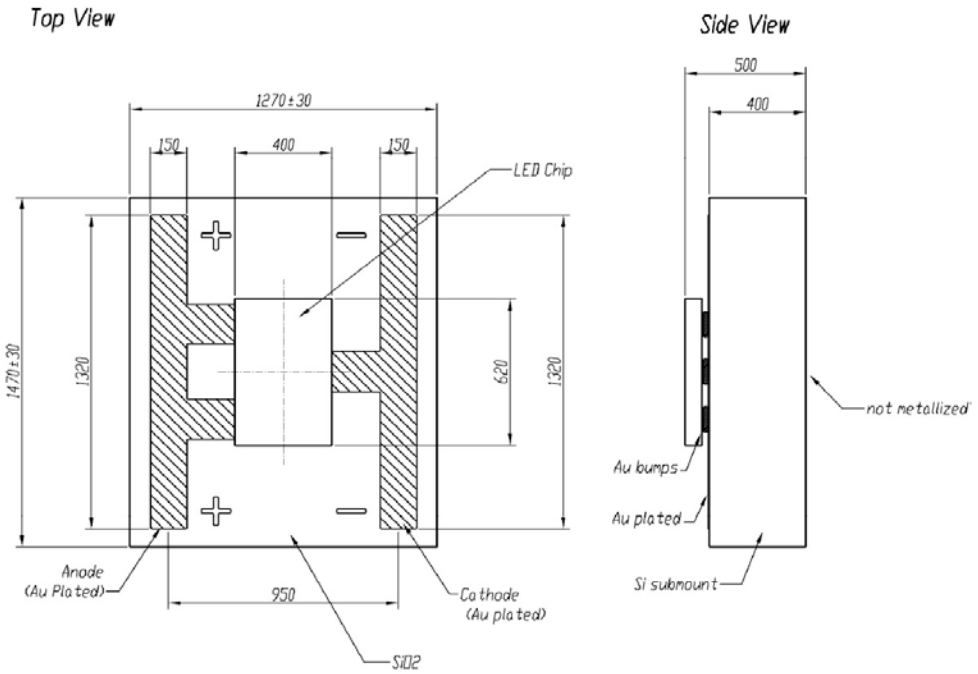
DUV280-CHIP



all dimensions in mm

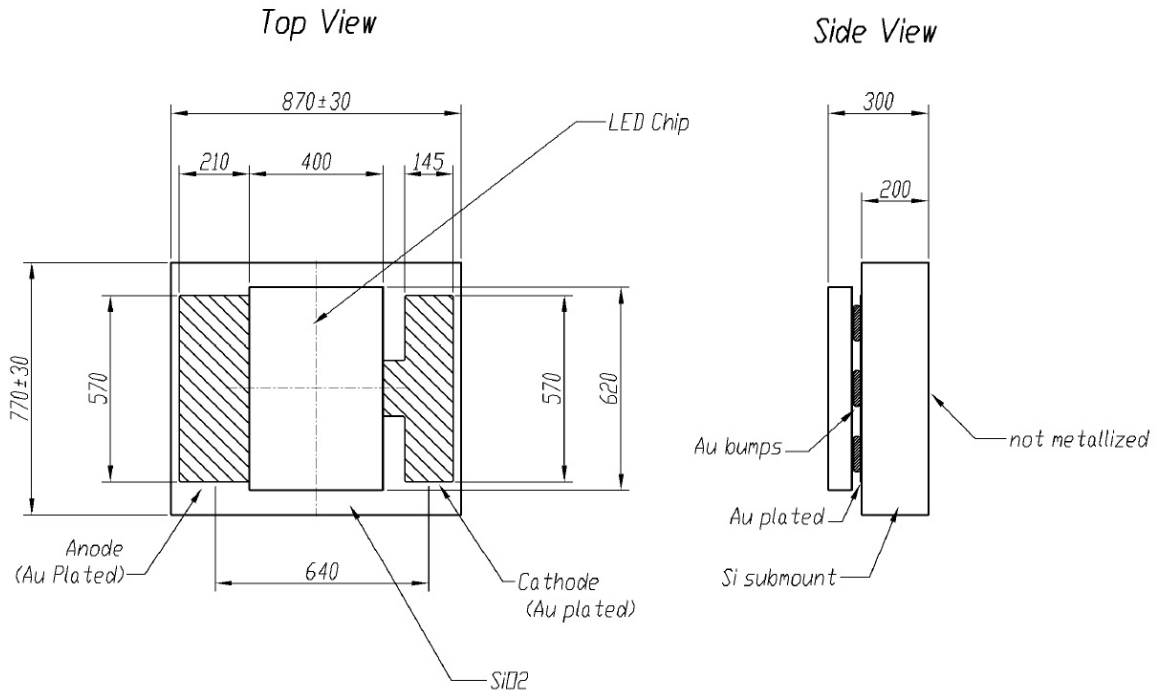
Outline Dimensions

DUV280-CS1



all dimensions in mm

DUV280-CS2



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:

Class 1

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