



ROITHNER LASERTECHNIK GmbH

WIEDNER HAUPTSTRASSE 76
TEL. +43 1 586 52 43 -O, FAX. -44

1040 VIENNA
OFFICE@ROITHNER-LASER.COM

AUSTRIA



UVLUX305-3

- Deep Ultraviolet Light Emission Source
- 310 nm, 1-3 mW
- 4 chip LED array
-  UV-Curing, Phototherapy



Description

UVLUX305-3 is a series of **AlGaIn** based deep UV multi chip LED arrays, utilizing 4 parallel connected chip dies, with a typical peak wavelength of **310 nm** and optical output power of **1-3 mW**. It comes in hermetically sealed TO39 metal can package with hemispherical lens or flat glass window. **UVLUX305-3** is widely used for UV-curing, phototherapy, optical sensing and imaging applications.

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

Parameter	Symbol	Values		Unit
		Min.	Max.	
Power Dissipation, DC*	P_D		600	mW
Forward Current ($T_A=25^{\circ}C$)	I_F		80	mA
Operating Temperature	T_{OPR}	- 30	+ 55	$^{\circ}C$
Storage Temperature	T_{STG}	- 30	+ 100	$^{\circ}C$
Soldering Temperature	T_{SOL}		+ 190	$^{\circ}C$

* Maximum dissipated power must not exceed 200mW without thermal management

Electro-Optical Characteristics ($T_{CASE} = 25^{\circ}C$, $I_F = 80$ mA)

Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
Peak Wavelength ^{*1}	λ_P	305	310	315	nm
Spectral Width (FWHM)	$\Delta\lambda$		12	15	nm
Forward Voltage ^{*2}	V_F		5.5	7.5	V
Radiated Power ^{*3}	P_O	1		3	mW
Beam Angle (hemispherical lens)	$2\theta_{1/2}$		20		deg.
Beam Angle (flat window)	$2\theta_{1/2}$		120		deg.

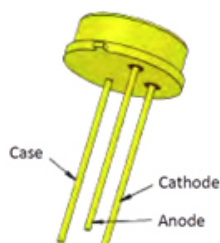
^{*1}wavelength measurement tolerance: ± 2 nm

^{*2}forward voltage measurement tolerance: ± 2 %

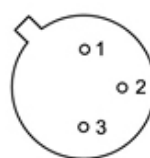
^{*3}output power measurement tolerance: ± 10 %

Electrical Connection

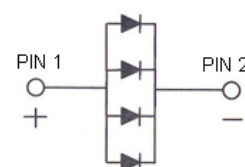
Pin #	Function
Pin 1	Anode
Pin 2	Cathode
Pin 3	Case



Bottom view:



Electrical layout:





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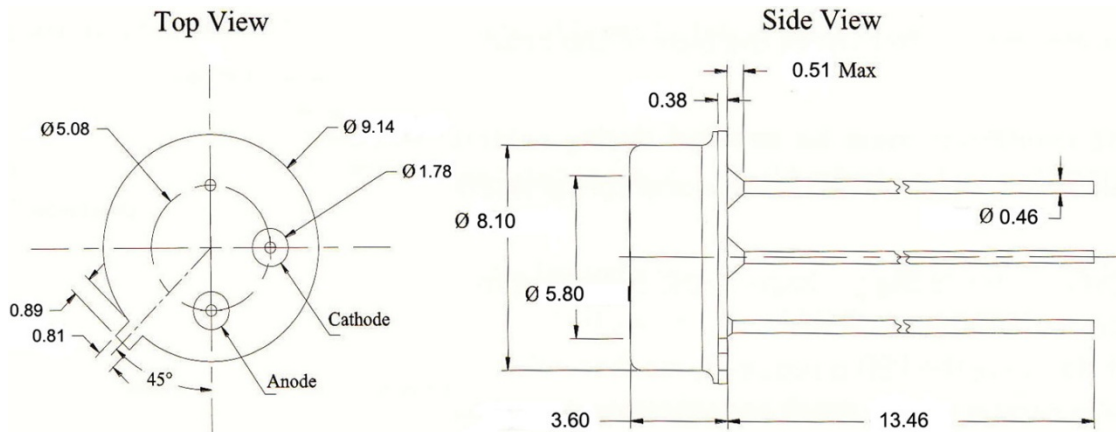
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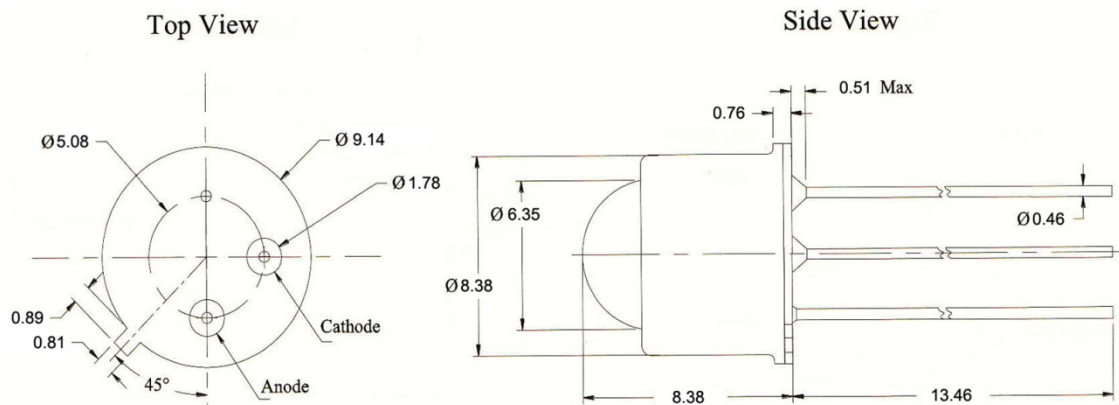
Outline Dimensions

FW - Flat window



All dimensions in mm

HL - Hemispherical lens



All dimensions in mm

Device Materials

Part	Material
Header	Fe-Ni alloy, plated Ni-Au
Leads	Fe-Ni alloy, plated Ni-Au
Bonding wires	Au
Lens	SiO ₂

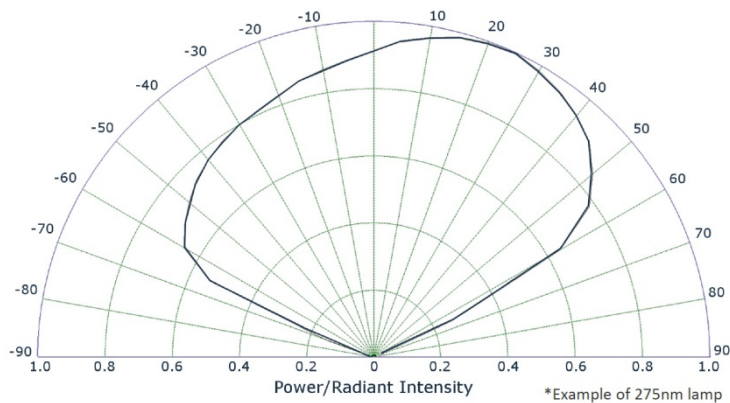
ROHS
COMPLIANT

Pb
Pb-Free

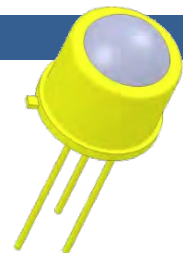
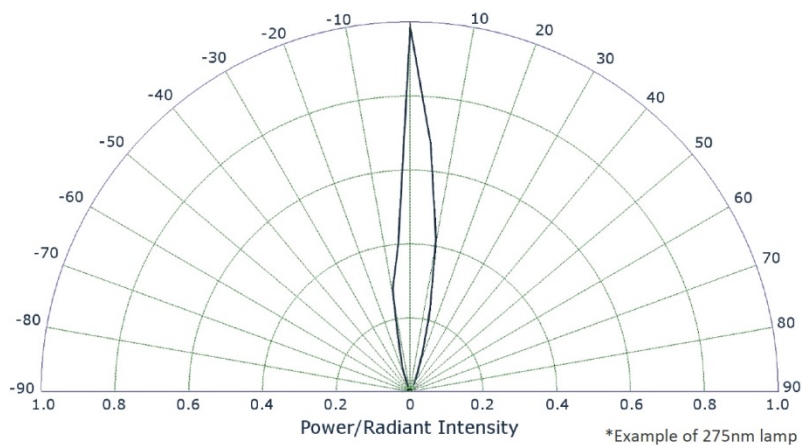


Emission Characteristics

FW - Flat window



HL - Hemispherical lens





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 only solder the leads. Soldering of header or cap will damage the LED
- Do only cut the leads at room temperature with an ESD protected tool
- Do not solder closer than 3 mm from base of the header
- Do form leads prior to soldering
- Do not impose mechanical stress on the header when forming the leads
- Do not apply current to the LED until it has cooled down to room temperature after soldering

Recommended soldering conditions:

dip soldering		hand soldering	
pre-heat time	max 30 s	soldering time	max 5 s
dipping time	max 5 s		
solder bath temperature	max 190 °C	solder temperature	max 190 °C

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:

UVTOP 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 UVTOP 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

