



ROITHNER LASERTECHNIK GmbH

WIEDNER HAUPTSTRASSE 76
TEL. +43 1 586 52 43 -0, FAX. -44

1040 VIENNA
OFFICE@ROITHNER-LASER.COM

AUSTRIA



DUV310-SD353EN

- Deep Ultraviolet Light Emission Source
- 310nm, 43mW @ 350 mA
- ESD protection
- SiO₂ lens
- Beam angle 35 deg.



Description

DUV310-SD353EN is an AlGaN based single emitter **DEEP-UV LED** with a typical peak wavelength of **310 nm** and an optical output power of typically **43 mW @ 350 mA** in a 3535 SMD package. It features an **integrated ESD protection** device and Quartz glass dome lens. **DUV310-SD353EN** is ready for reflow soldering process, and can be delivered on tape.

Absolute Maximum Ratings



Parameter	Symbol	min.	max.	Unit
Forward Current	I_F		600	mA
Junction Temperature	T_J		100	°C
Operating Temperature	T_{OPR}	- 30	85	°C
Storage Temperature	T_{STR}	- 40	85	V

Electro-Optical Characteristics (T_{CASE} = 25°C, I_F = 350 mA)

Parameter	Symbol	min.	typ.	max.	Unit
Peak Wavelength*	λ_P	303	308	313	nm
Radiated Power**	P_O	31	43		mW
Spectral Width (FWHM)	$\Delta\lambda$		15	20	nm
Forward Voltage	V_F		5.9		V
Viewing Angle	$2\theta_{1/2}$		35		deg.

*Peak Wavelength measurement tolerance is ± 3 nm

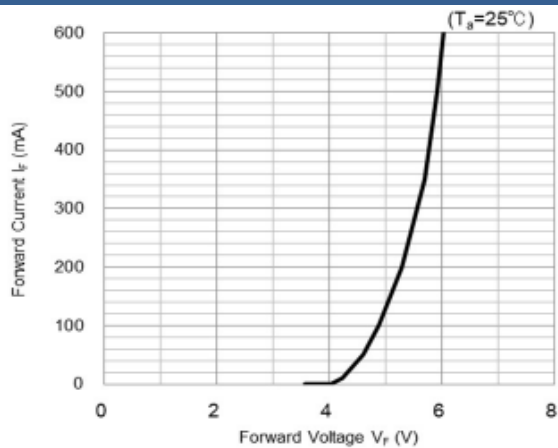
**Radiated power measurement tolerance is $\pm 10\%$

 WARNING	
	<ul style="list-style-type: none"> • LEDs emit very strong UV radiation. • Do not look at the LED light with the naked eye or irradiate the skin. UV radiation can harm your eyes and skin. • To prevent UV radiation exposure, wear protective eyewear and protective equipment. • If LEDs are embedded in devices, please indicate warning labels against the UV light LED used. • Keep out of reach of children.

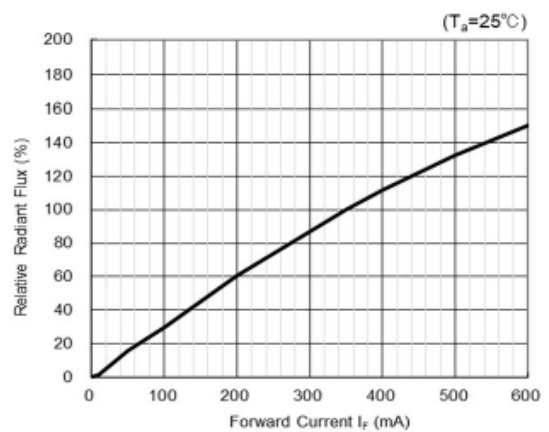


Performance Characteristics

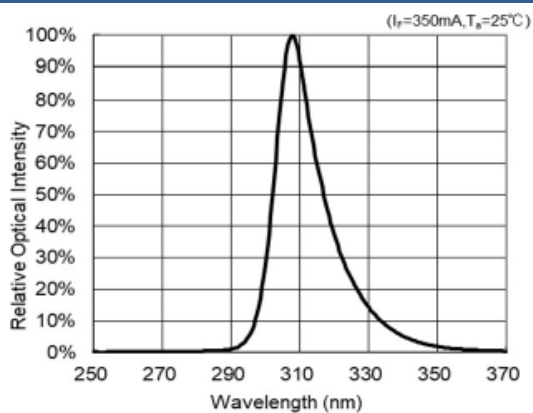
Forward Current vs. Forward Voltage



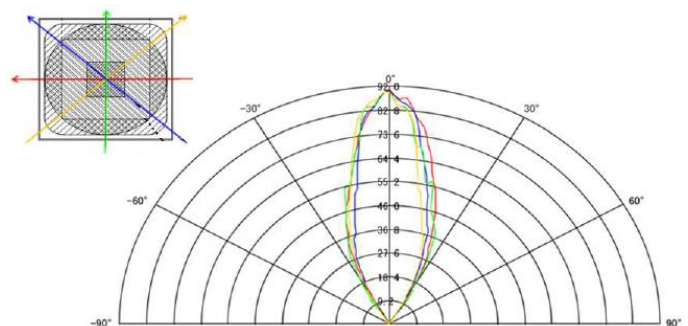
Forward Current vs. Relative Radiant Flux [%]



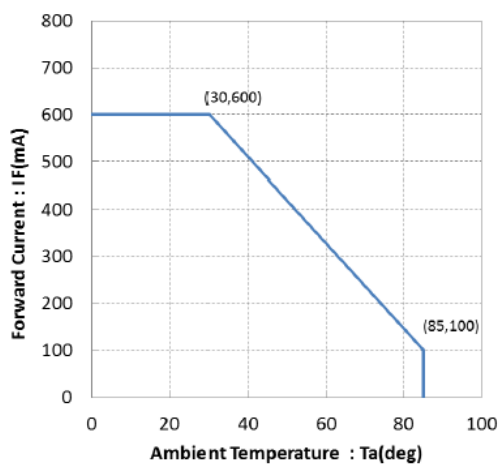
Spectrum



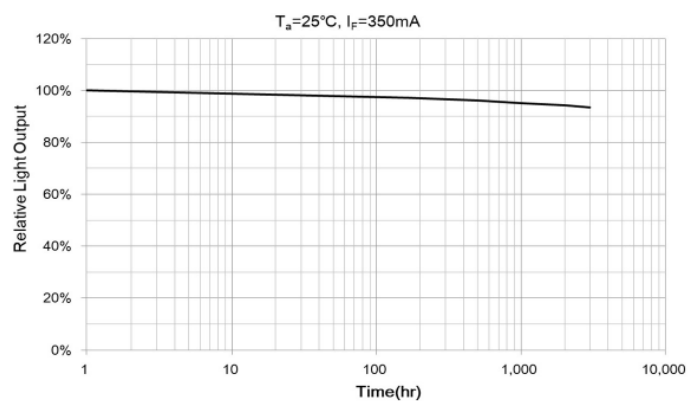
Radiation Pattern



Forward Current vs. Ambient Temperature



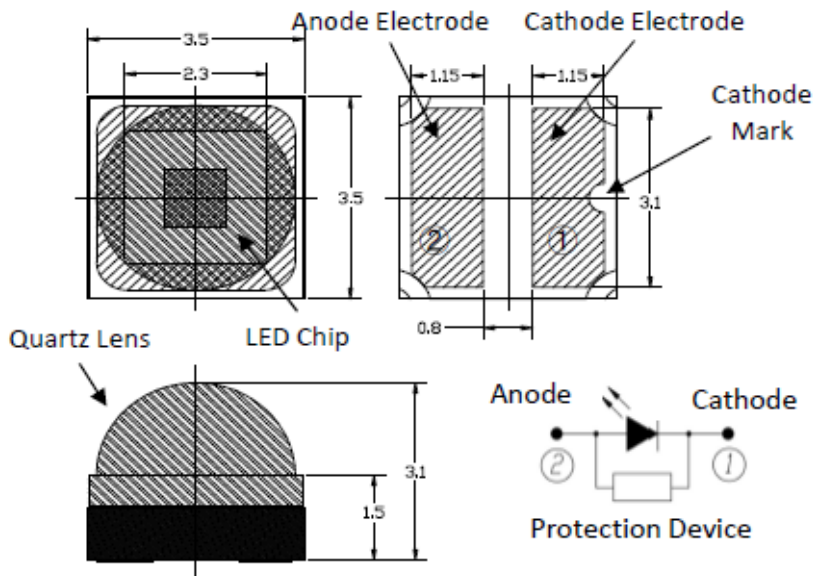
Life Time





Outline Dimensions

SMD 3535

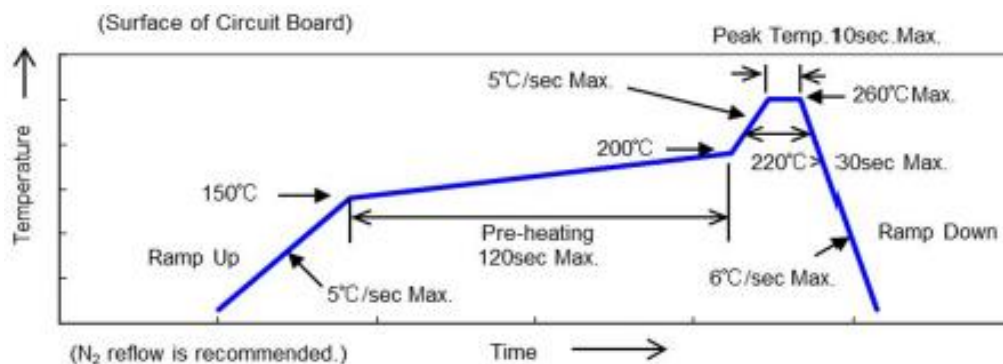


all dimensions in mm

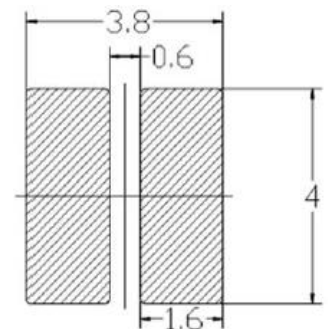
Soldering

SMD 3535

Reflow soldering profile



Recommended solder pad



all dimensions in mm

Accessories

SD35-PCB

A printed Cu circuit board with Ni finish and Au contact plates, designed for easily soldering and mounting the SD35 series LEDs. Ideally suited for prototyping and evaluation





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