



UVR270-SC12P

- Deep Ultraviolet Light Emission Source
- 270 nm, 3 mW
- All Metal Design
- Beam Angle 120 deg.



Description

UVR270-SC12P is an AlGaIn based single emitter **DEEP-UV LED** with a typical peak wavelength of **270 nm** and an optical output power of **3 mW** at a current of **50 mA**. **UVR270-SC12P** comes in an all metal 4545 SMD package, soldered onto a hexagonal aluminium **STAR-PCB** with low thermal resistance.

Maximum Rating (T_{CASE} = 25°C)

Parameter	Symbol	Values		Unit
		Min.	Max.	
Power Dissipation, DC	P _D		500	mW
Forward Current*	I _F		50	mA
Thermal Resistance (junction-case)	R _{thv}		15	°C/W
Operating Temperature*	T _{OPR}	- 40	+ 60	°C
Storage Temperature	T _{STG}	- 40	+ 100	°C
Soldering Temperature (max. 5s)	T _{SOL}		260	°C

* Operation close to the absolute maximum ratings may affect device reliability



Electro-Optical Characteristics (T_{CASE} = 25°C, I_F = 50 mA)

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Peak Wavelength*	λ _P	265		275	nm
Radiated Power**	P_O	2	3		mW
Spectral Width (FWHM)	Δλ		15		nm
Forward Voltage	V _F		8		V
Viewing Angle	2θ_{1/2}		120		deg.

*Peak Wavelength measurement tolerance is ±3nm

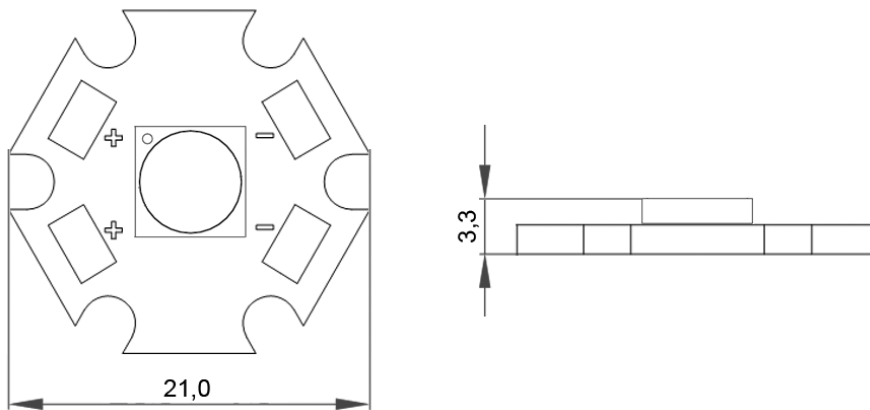
**Radiated power measurement tolerance is ±10%





Outline Dimensions

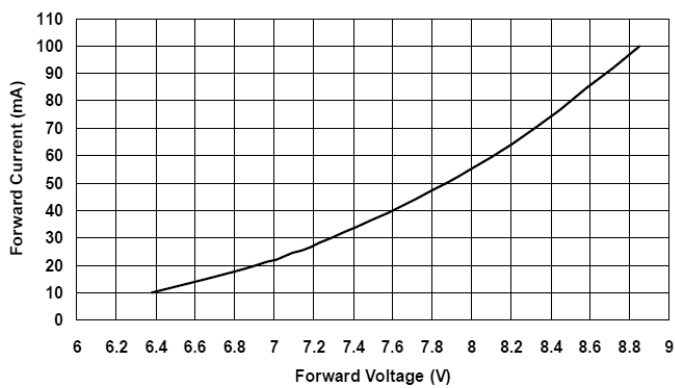
PCB



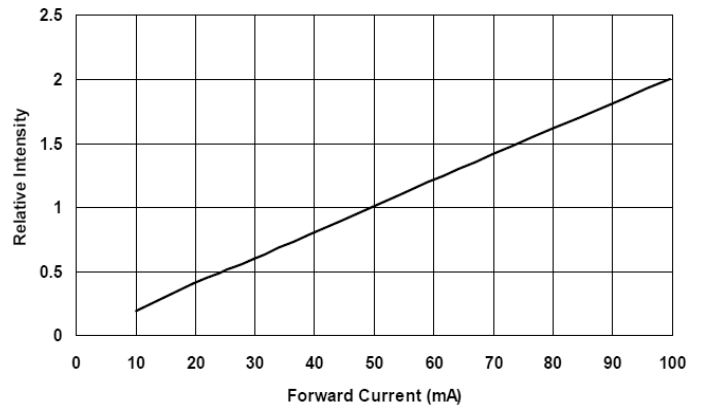
all dimensions in mm

Performance Characteristics

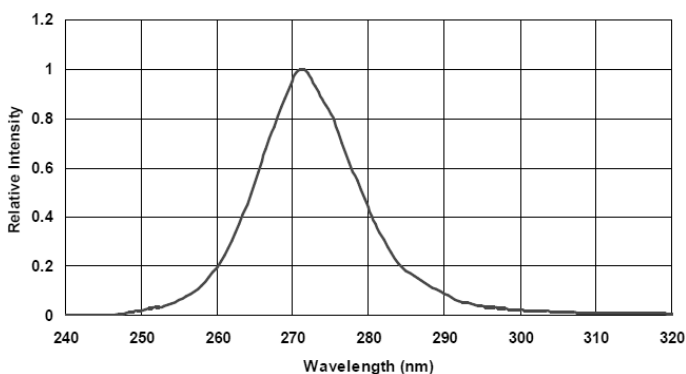
Forward Current vs. Forward Voltage



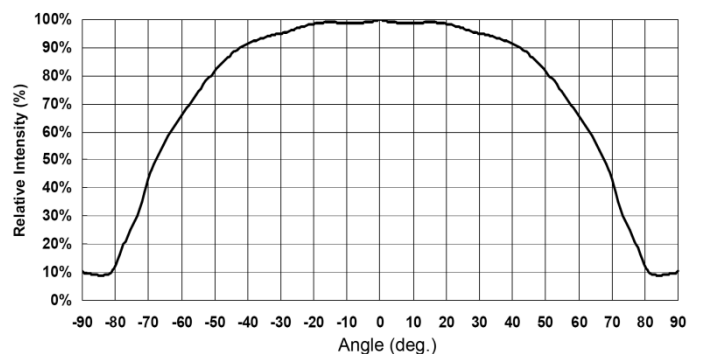
Relative Intensity vs. Forward Current



Spectrum



Radiation Pattern





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



Cleaning

For **cleaning**, it is advised to use alcohol based solvents like **isopropyl alcohol**