



## DUV-HL18M

- Deep Ultraviolet Light Emission Source
- 310, 325, 340 nm
- TO18 metal can
- Hemispherical UV lens
- Beam angle 24 deg.



### Description

**DUV-HL18M** is a series of **AIGaN** based single emitter DEEP-UV LEDs in a hermetically sealed TO18 package, utilizing a hemispherical UV glass lens with a beam angle of 24 degree. **DUV-HL18M** is available from 310 nm up to 340 nm peak wavelength with an optical output power of typically 1.3 mW.

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

Parameter	Symbol	Values		Unit
		Min.	Max.	
Forward Current ( $T_A=25^{\circ}C$ )	$I_F$		40	mA
Operating Temperature	$T_{OPR}$	- 20	+ 80	$^{\circ}C$
Storage Temperature	$T_{STG}$	- 40	+ 100	$^{\circ}C$
Soldering Temp. Hand (max 5s)	$T_{SOL}$		+ 350	$^{\circ}C$
Soldering Temp. Reflow (max 3s)	$T_{SOL}$		+ 250	$^{\circ}C$

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

Parameter	Symbol	DUV310-HL18M	DUV325-HL18M	DUV340-HL18M	Unit
Peak Wavelength*	$\lambda_P$	310 $\pm$ 5	325 $\pm$ 5	340 $\pm$ 5	nm
<b>Radiated Power**</b>	<b><math>P_O</math></b>	<b>1.2</b>	<b>1.5</b>	<b>1.3</b>	<b>mW</b>
Spectral Width (FWHM)	$\Delta\lambda$	15	11	9	nm
Forward Voltage	$V_F$	5.0	4.5	4.0	V
<b>Viewing Angle</b>	<b><math>2\theta_{1/2}</math></b>	<b>24</b>			<b>deg.</b>

\*Peak Wavelength Measurement tolerance is  $\pm 3\text{nm}$ .

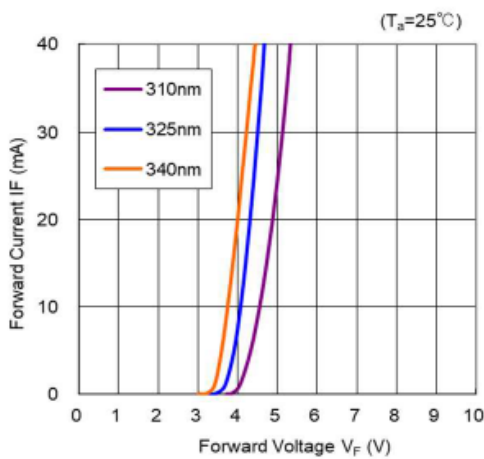
\*\*Radiant Flux Measurement tolerance is  $\pm 10\%$



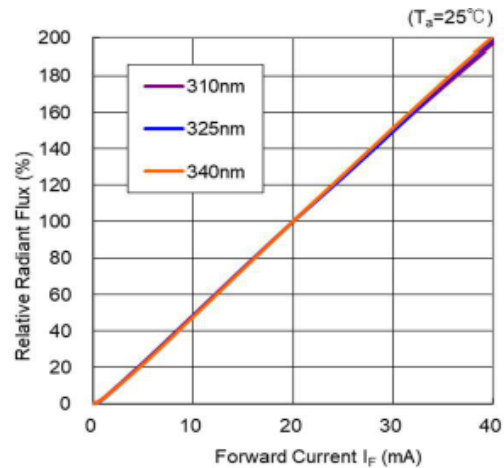


## Performance Characteristics

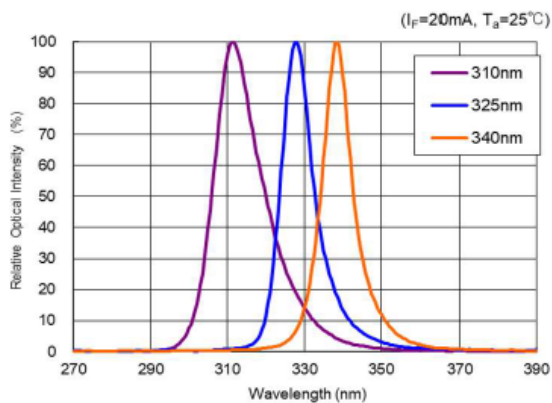
Forward Current vs. Forward Voltage



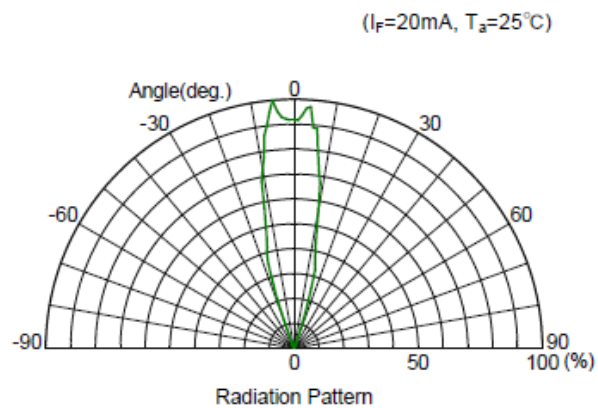
Forward Current vs. Relative Radiant Flux [%]



Spectrum



Radiation Pattern



## Device Materials

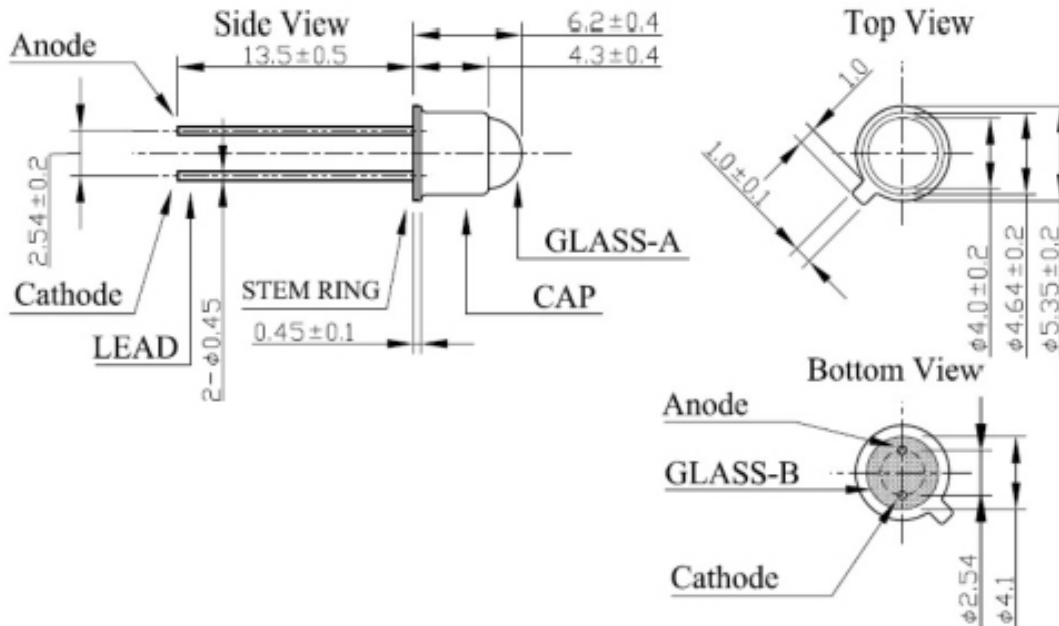
Pin #	Material
Glass A	UV
Cap	Fe-Ni alloy, Ni plating
Stem ring	Fe-Ni alloy, Au plating
Glass B	Hard-glass (Black)
Leads	Fe-Ni alloy, Au plating





## Outline Dimensions

### TO18



Dimensions are subject to change for without notice.

all dimensions in mm

## 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

