ROITHNER LASERTECHNIK GmbH
WIEDNER HAUPTSTRASSE 76 1040 VIENNA AUSTRIA
TEL. +43 1 586 52 43 -0, FAX. -44 OFFICE@ROITHNER-LASER.COM

UVLED370-11E

- **Ultraviolet Light Emitting Device**
- **375 nm, 8.5 mW**
- **TO46 Metal Can with Glass Lens**
- **ESD Protection Device**
- **RoHS Compliant**

RoHS COMPLIANT Pb-Free

Description

UVLED370-11E is an ultraviolet LED, typically emitting at **375 nm** with an optical output power of **8.5 mW**, and narrow bandwidth. It comes in a hermetically sealed TO46 metal can package with glass lens, and an integrated ESD protection device. **UVLED370-11E** is typically used for UV curing and fluorescence excitation.

Maximum Rating (T_{CASE} = 25°C)

Parameter	Symbol	Values		Unit
		Min.	Max.	
Power Dissipation	P_D		100	mW
Forward Current	I_F		25	mA
Pulse Forward Current*	I_{FP}		80	mA
Reverse Current	I_R		80	mA
Junction Temperature	T_J		+ 100	°C
Operation Temperature	T_{OPR}	- 30	+ 80	°C
Storage Temperature	T_{STG}	- 40	+ 100	°C

* I_{FP} conditions with pulse width ≤10ms and duty cycle ≤10%

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

Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
Peak Wavelength	λ_P	370	**375**	380	**nm**
Radiated Power	P_O		8.5		mW
Spectral Width (FWHM)	$\Delta\lambda$		10		nm
Forward Voltage	V_F	3.0	3.4	3.9	V
Beam Angle	$2\Theta_{1/2}$		10		deg.

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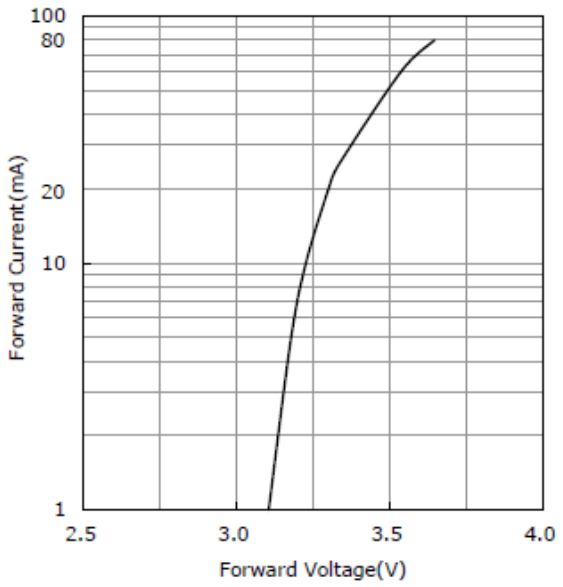
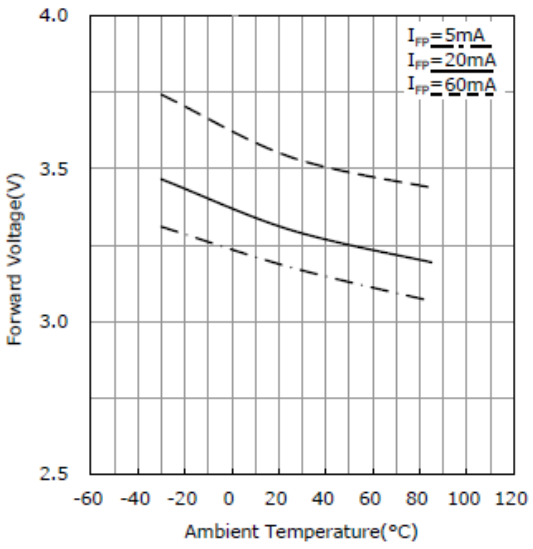
Performance Characteristics (T_{CASE} = 25°C)

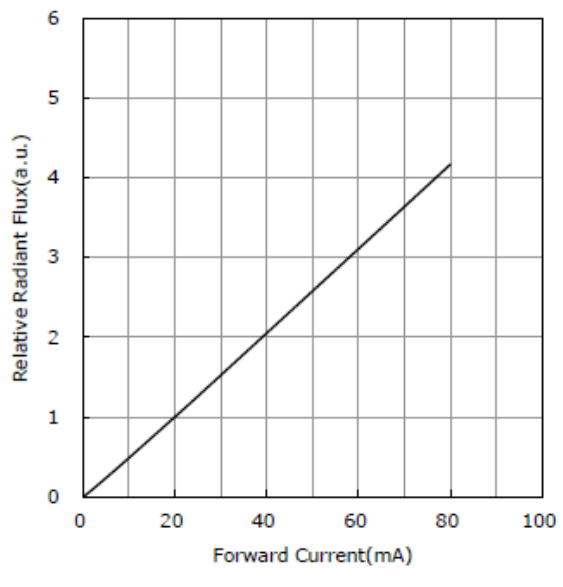
Forward Current vs. Forward Voltage



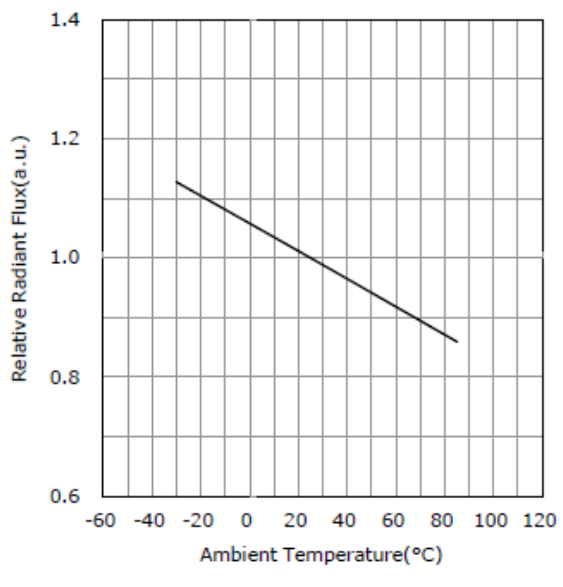
Forward Voltage vs. Ambient Temperature



Forward Current vs. Radiant Flux



Ambient Temp. vs. Radiant Flux



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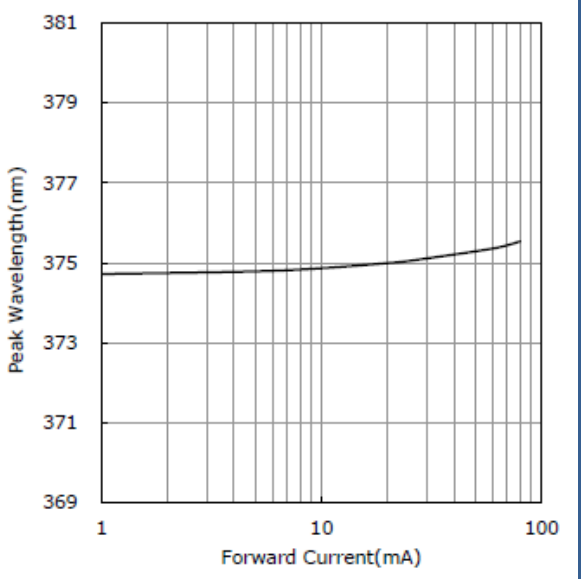
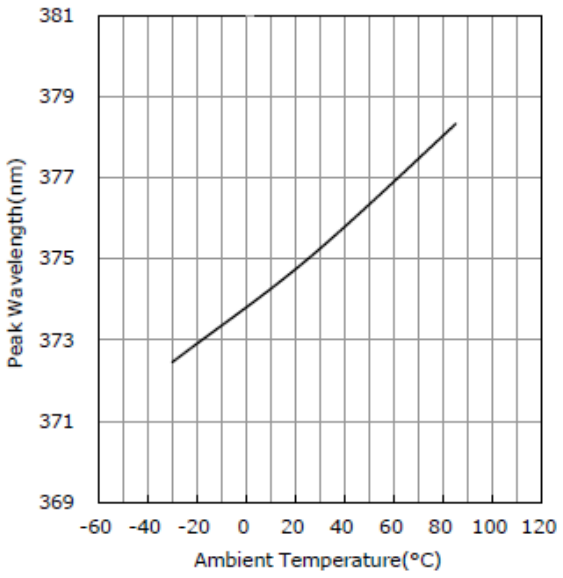
Performance Characteristics (T_{CASE} = 25°C)

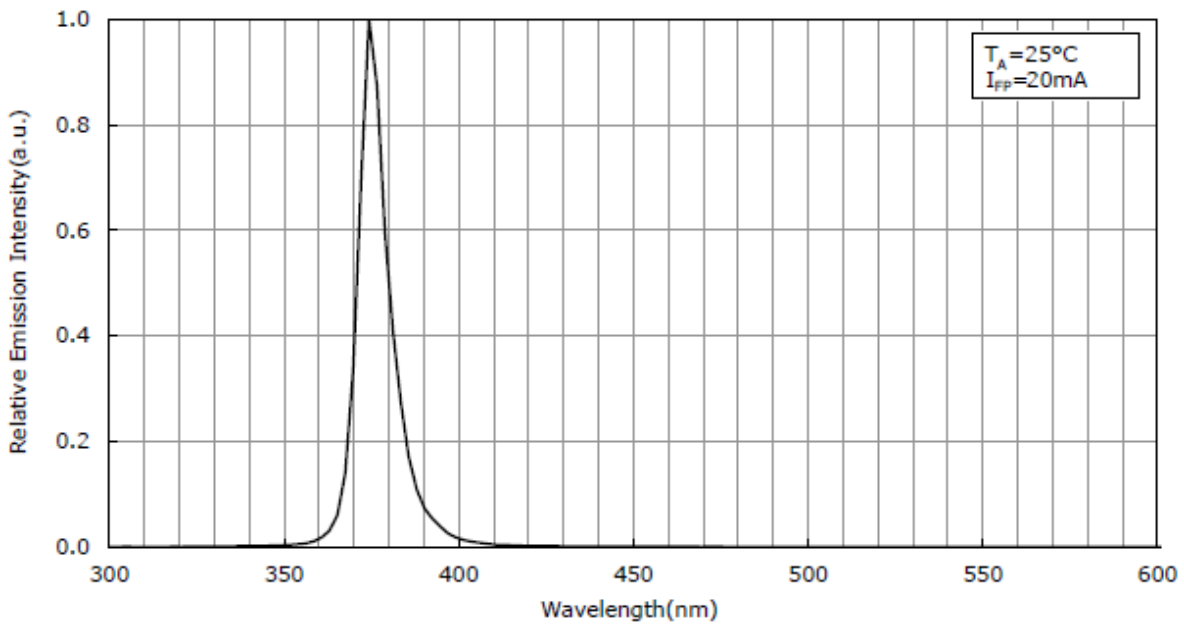
Forward Current vs. Peak Wavelength



Ambient Temp. vs. Peak Wavelength



Spectrum



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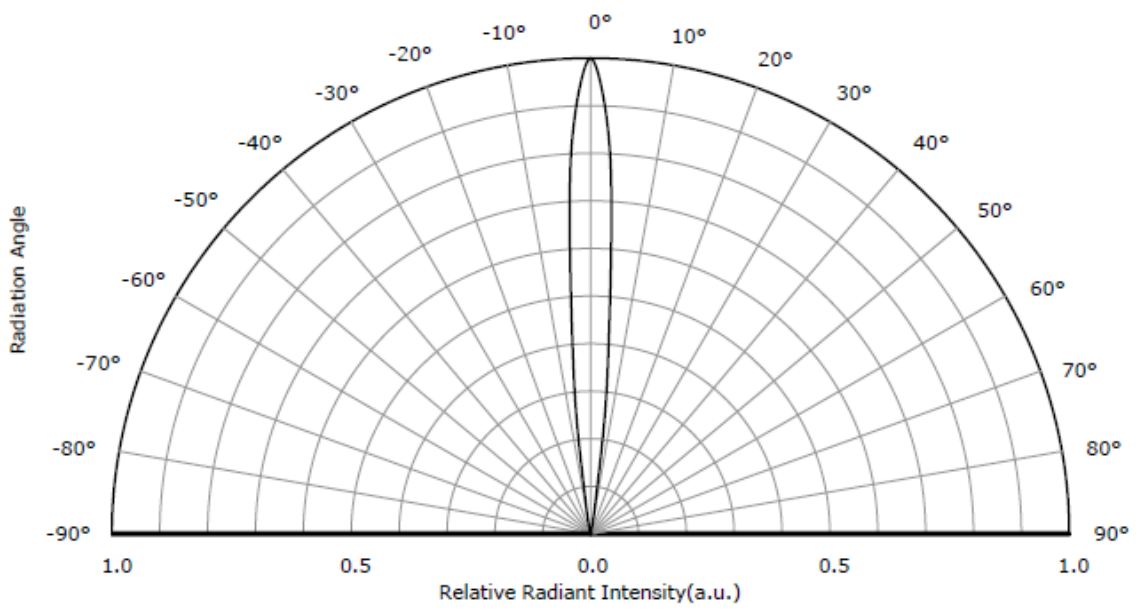
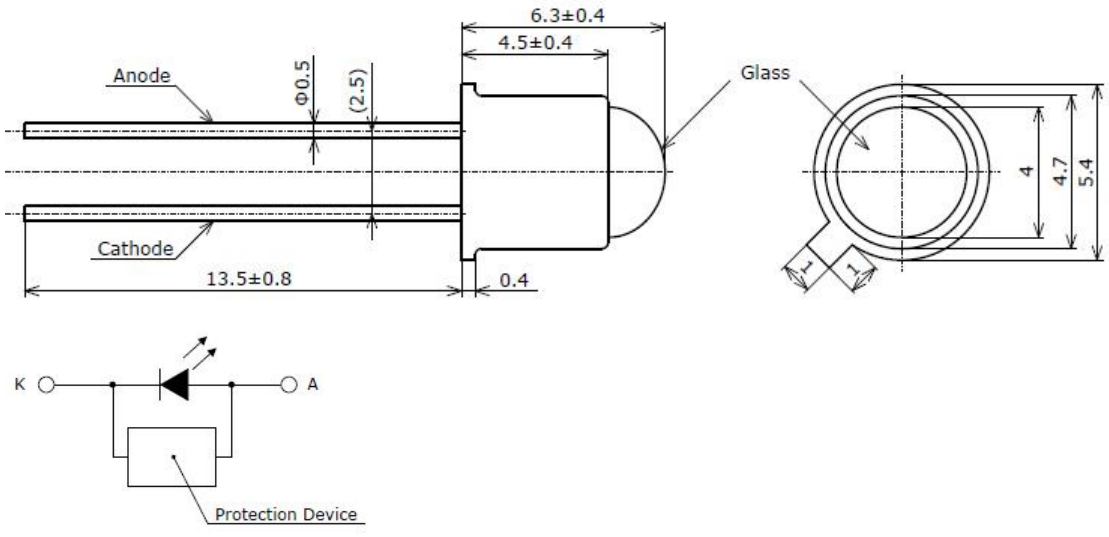
Performance Characteristics (T_{CASE} = 25°C)

Directivity



Outline Dimensions

TO46 package



All dimensions in mm [in]

Device Materials

Pin #	Material
Package	Kovar / Ni-plated
Leads	Kovar / Au-plated
Lens	Glass

Soldering

Hand Soldering Recommendation	
Temperature	350 °C max.
Soldering Time	3 s max.
Caution	Min. distance 3 mm from stem

Dip Soldering Recommendation	
Pre-heat	120 °C max.
Pre-heat Time	60 s max.
Solder Bath Temperature	260 °C max.
Dipping Time	10 s max.
Caution	Min. distance 3 mm from stem

Precautions for Use

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 these LEDs with a current source.**
  Current of a LED is an exponential function of the voltage across it. Usage of current regulated drive circuits is mandatory.
- Compliance to the maximum electrical specifications is paramount.

Storage:

- **Recommended storage temperature: ≤ 30 °C**
- **Recommended storage relative humidity: ≤ 70 %**