IBT-TO46-UV-255nm

TO46 255nm UVC LED



Product Descriptions

- This product is UV LED diode.
- Metal can TO46 package.
- Quartz glass drop Lens.
- Wavelength: 250-260 nm.
- The package design coupled with careful selection of component materials allows the products to perform with good reliability.

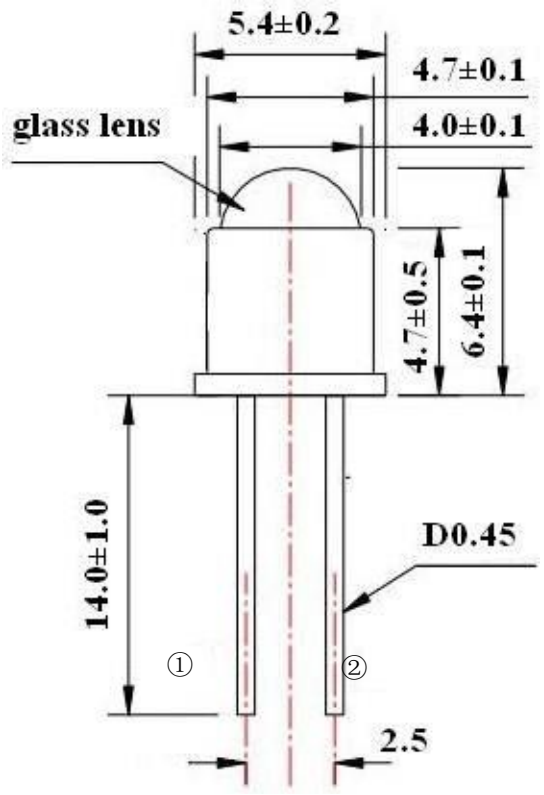
Features:

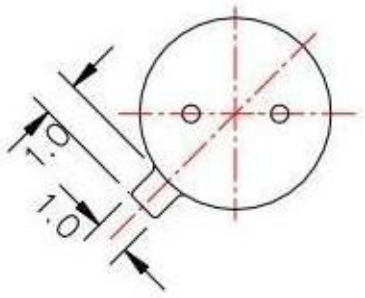
- Deep UV LED with emission from 250-260nm
- Metal can TO46 package.
- Ultra narrow beam angle of 10 degrees
- High Reliability package
- Quartz glass drop lens.
- RoHS and REACH compliant

Applications

- Biological and Chemical Analysis
- Medical Spectroscopy

Mechanical Dimensions





Notes:

1) ①Cathode Pad ②Anode Pad
2) The tolerance unless mentioned is ±0.20mm .unit=mm;
3) Protruded resin under flange 1.5mm Max.
4) Lead spacing is measured where the lead emerge from the package

Optical and Electrical Characteristics

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_f	I_f=20mA	5.0	5.8	7.5	V
Output Radiant Power	P_o	I_f=20mA	200	350	500	μW
Reverse Current	I_R	V_R=5V	---	---	5	μA
FWHM	Δλ	I_f=20mA	8	10	12	nm
Viewing Angle	$2\theta_{1/2}$	I_f=20mA	---	10	---	°
Thermal Resistance (junction-solder point)	R_{th}	I_f=20mA	---	65	---	° C/W

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Maximum Forward Current	$I_{f\text{-}max}$	50	mA
Junction Temperature	T_j	125	°C
Operating Temperature	T_{opr}	-30 ~ +55	°C
Storage Temperature	T_{stg}	-30 ~ +65	°C
Soldering Temperature	T_{sol}	+190	°C

Note1: Ratings are based on operation at a constant junction temperature of T = 25°C. Test conditions: 20 mA, 20 ms pulse at 25°C.

Note2: Tolerance: VF: ±0.1V, IV: ±5%, λ_p: ±3nm.

Note3: TO46-UV-C LEDs are designed for operation up to an absolute maximum forward drive current as specified above. Product lifetime data is specified at typical forward drive currents. Sustained operation at absolute maximum currents will result in a reduction of device lifetime compared to typical forward drive currents. Actual device lifetimes will also depend on junction temperature.

Note4: Caution must be taken not to stare at the radiation emitted from UV LEDs.

Part Number Nomenclature

IBT — **TO46** — **<UV>** — <255nm> — **<FF###>**

Product Family	Package Type	Color	Wavelength	Bin kit
IBT: UV TO46	Metal Can TO46	Ultraviolet	250 - 260 nm	Flux and Wavelength bin kit code - See ordering informaton

Optical & Electrical Characteristics

Fig.1 - Forward Current vs. Forward Voltage (Ta=25℃)

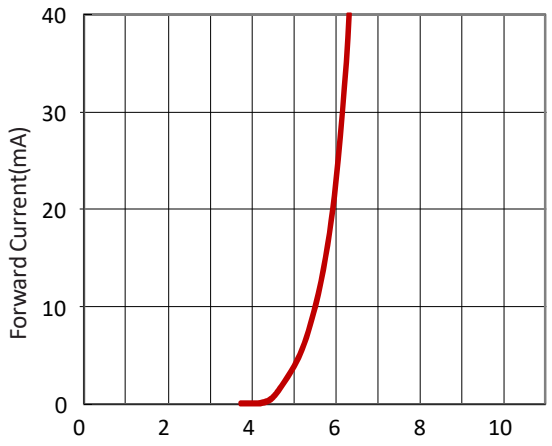


Fig.2 Radiant Intensity vs. Ambient Temperature(If=20mA)

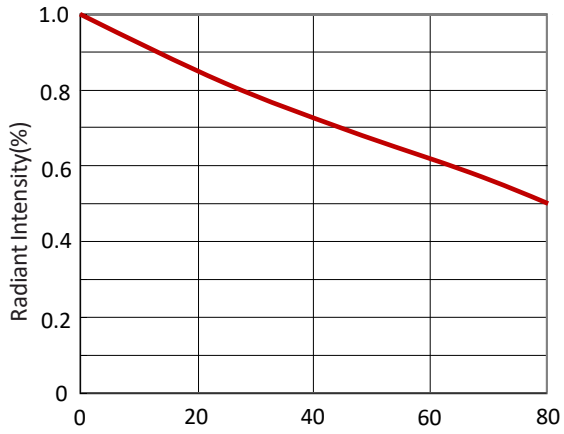


Fig.3 - Output Power vs. Forward Current (Ta=25℃)

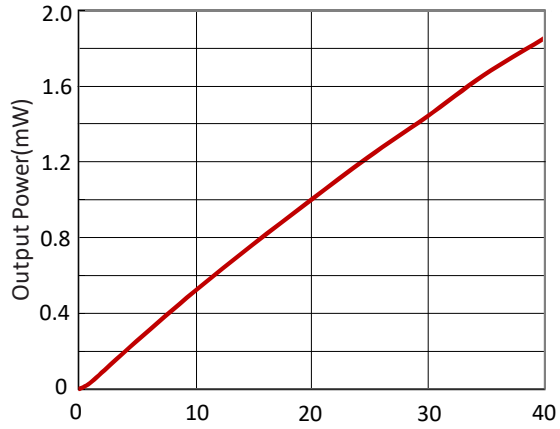
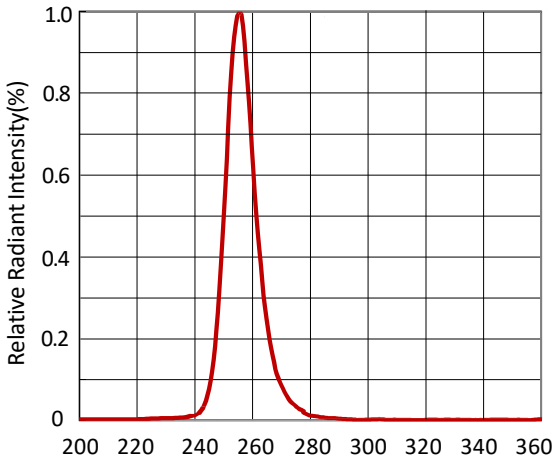
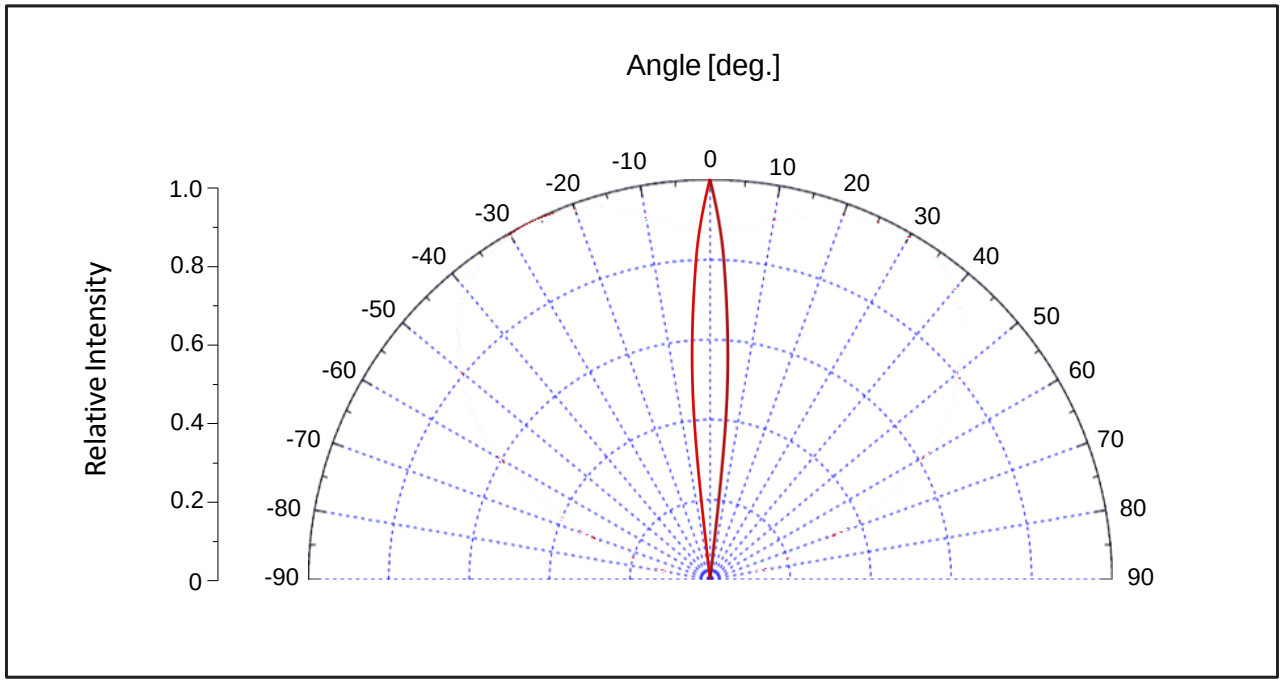


Fig.4 - Spectral Distribution (Ta=25℃)

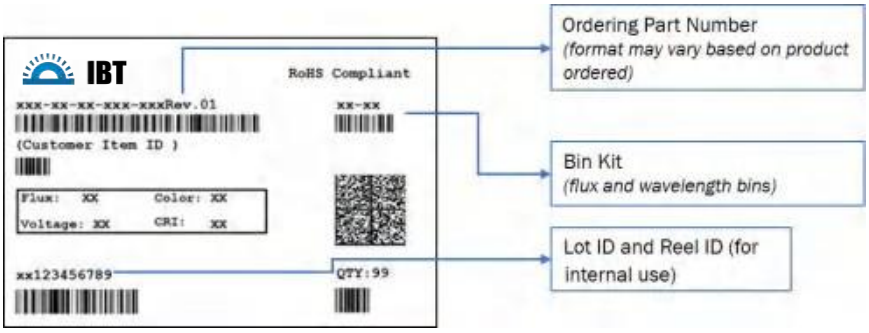


Radiation Pattern



Product Shipping & Labeling Information

TO46-UV Label Information



Precautions

1. UV Light

TO46-UV LEDs are short wavelength, deep UV LEDs. During operation, the LED emits high intensity UVC radiation, which is harmful to skin and eyes. UV light is also hazardous to skin and may cause cancer. Avoid exposure to deep UV light when LED is operational.

Precautions must be taken to avoid looking directly at the UV light without the use of UV light protective glasses. Do not look directly at the front or at the LED's lens when LED is operational.

2. Static Electricity (ESD)

TO46-UV is sensitive to ESD (Eletrostatic Discharge). Static electricity and surge voltages seriously damage UV LEDs and can result in complete failure of the device. Precautions must be taken against ESD when handling or operating these devices.

3. Operating Conditions

In order to ensure the correct functioning of these LEDs, compliance to maximum allowed specifications is important. UV LEDs are particularly sensitive to drive currents that exceed the max operating specifications and may be damaged by such drive curents. The use of current regulated drive circuits is strongly recommended when operating these devices. Customers should also provide adequate thermal management to ensure LEDs do not exceed maximum recommended temperatures. Operating LEDs at temperatures in excess of specification will result in damage and possibly complete failure of the device.

Soldering

1. Recommended Soldering Condition

dip soldering		hand soldering	
pre-heat time	max 30 s	soldering time	max 5 s
dipping time	max 5 s		
solder bath temperature	max 260 °C	solder temperature	max 260 °C

2. Notes

- Do aviod overheading of the LEDs.
- Do aviod ESD (Electrostatic discharge).
- Do aviod mechanical stress, shock and vibration.
- Do only use non-corrosive flux.
- Do only solder the leads. Soldering of header or cap will damage the device.
- 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 LEDs until it has cooled down to room temperature after soldering.

History of Changes

Rev		Description of Change
01	03/03/2019	Initial Release
02	03/04/2019	Tape and Reel drawing
03	30/11/2021	Model No. & Bin Code

