



## XSL-365-TF5

- UV Through Hole LED
- 365 nm, 1.5 mW
- TO-46 Metal Can Package
- Beam Angle:  $\pm 50^\circ$
- ESD Protection Device



### Description

**XSL-365-TF5** is an ultraviolet LED, emitting at a peak wavelength of typically 365 nm and optical output power of 1.5 mW @ 20 mA. It comes in a **TO-46 metal can package** with **flat glass window** and a beam angle of  $100^\circ$ , and features an **integrated Z-diode** against Electrostatic Discharge (ESD)

### Maximum Ratings\*

Parameter	Symbol	Values		Unit
		Min.	Max.	
Power Dissipation	$P_D$		100	mW
Forward Current	$I_F$		25	mA
Pulse Forward Current **	$I_{FP}$		100	mA
Reverse Current	$I_R$		85	mA
Operating Temperature	$T_{CASE}$	- 30	+ 80	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	- 30	+ 100	$^\circ\text{C}$
Lead Solder Temperature ( $t_{max. 3s}$ )	$T_{SLD}$		+ 260	$^\circ\text{C}$

\* Operating close to or exceeding these parameters may damage the device

\*\* duty cycle = 10 %, pulse width = 100  $\mu\text{s}$

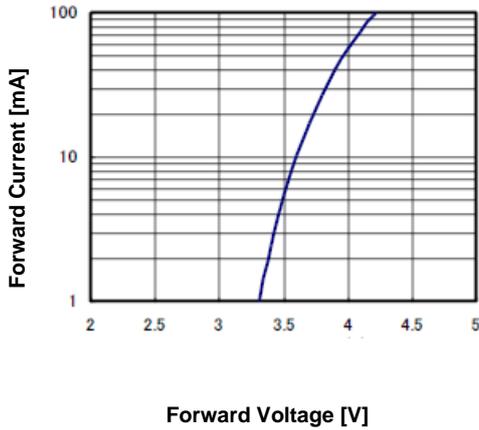
### Electro-Optical Characteristics ( $T_{CASE} = 25^\circ\text{C}$ )

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Peak Wavelength	$\lambda_P$	$I_F = 20 \text{ mA}$	363		370	nm
Half Width	$\lambda_\Delta$	$I_F = 20 \text{ mA}$		15		nm
Forward Voltage	$U_F$	$I_F = 20 \text{ mA}$	3.2	3.6	4.2	V
Total Radiated Power	$P_O$	$I_F = 20 \text{ mA}$	1.2		1.8	mW
Beam Angle	$2\theta_{1/2}$	$I_F = 20 \text{ mA}$		100		deg.

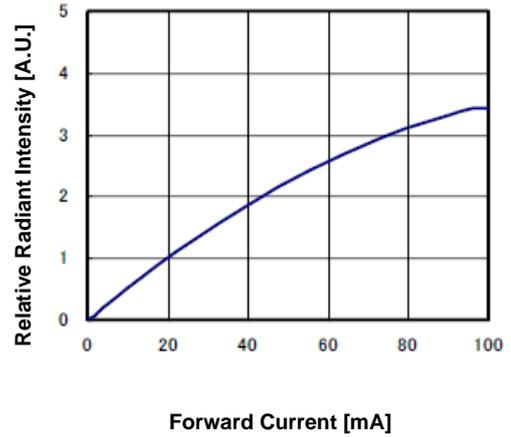


## Typical Performance Curves

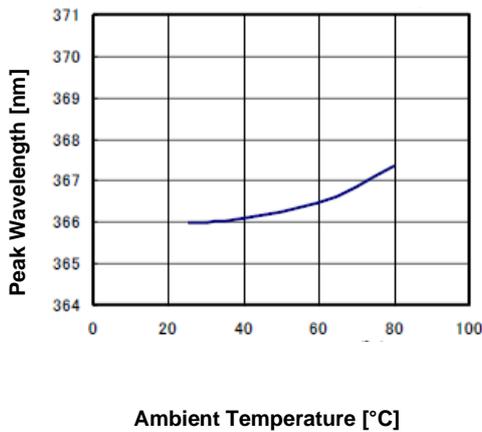
### Forward Current vs. Forward Voltage



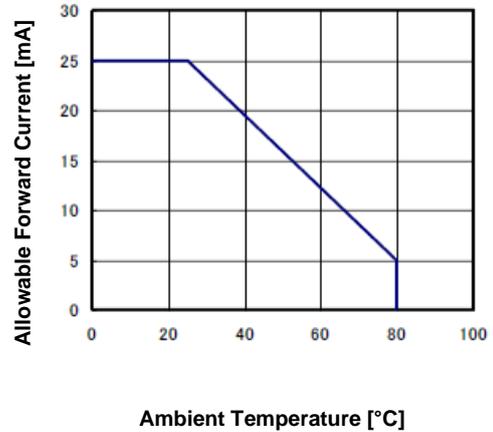
### Relative Radiant Intensity vs. Forward Current



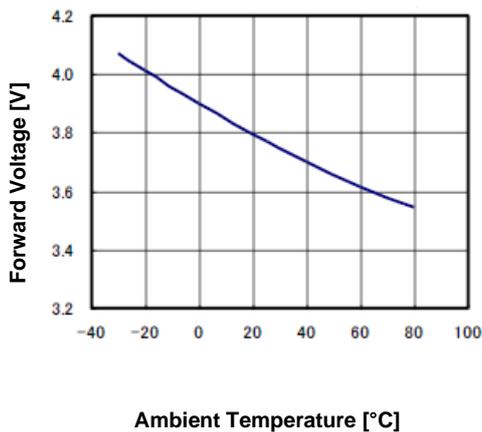
### Peak Wavelength vs. Ambient Temperature



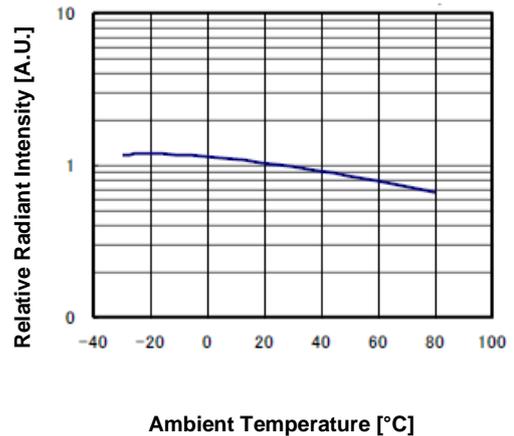
### Allowed Forward Current vs. Amb. Temperature



### Forward Voltage vs. Ambient Temperature



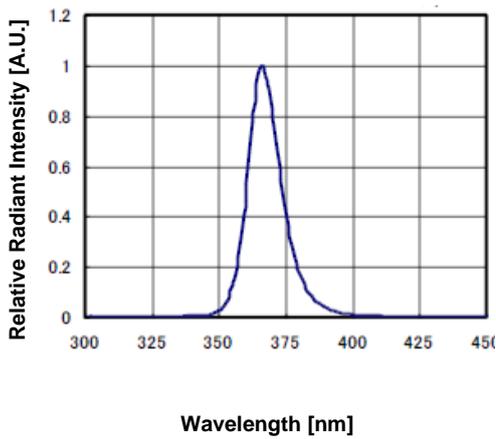
### Rel. Radiant Intensity vs. Ambient Temperature



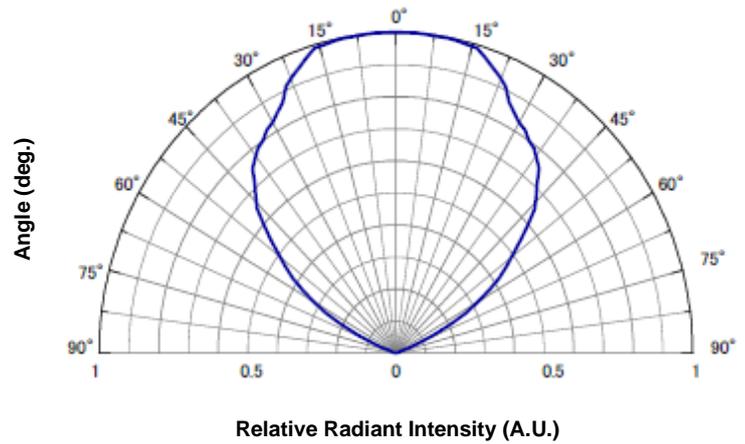


## Typical Performance Curves

Radiation Characteristics



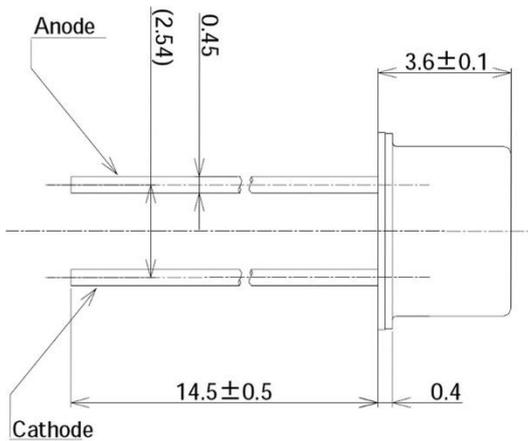
Radiation Characteristics



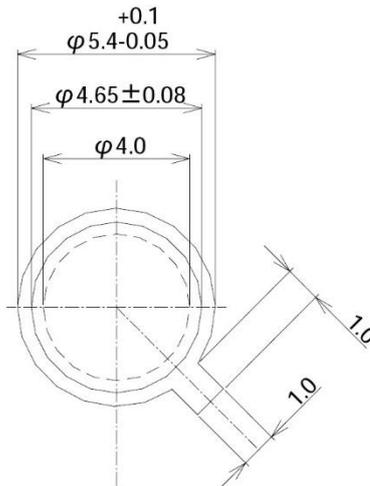
## Outline Dimensions

TO-46

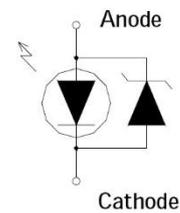
Side View



Top View



Internal circuit



all dimensions in mm



## General Notes

### Soldering

- Do avoid overheating of the LED
- Do avoid electrostatic discharge (ESD)
- Do avoid mechanical stress, shock, and vibration
- Do only use non-corrosive flux
- Do not apply current to the LED until it has cooled down to room temperature after soldering

### Cleaning

- **Cleaning with isopropyl alcohol, propanol, or ethyl alcohol is recommended**
- DO NOT USE acetone, chloroform, trichloroethylene, or MKS
- DO NOT USE ultrasonic cleaners

### 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 LED.

### Radiation

- During operation these LEDs do emit light, which **could be hazardous to skin and eyes, and may cause cancer.**
- Do avoid exposure to the emitted light. Protective glasses if needed
- It is further advised to attach a warning label on products/systems.

### 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.

© All Rights Reserved

The above specifications are for reference purpose only and subjected to change without prior notice