




F5U280

Hermetic UVC Light Emitting Diode

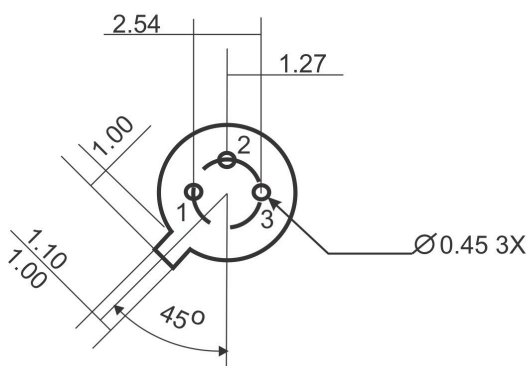
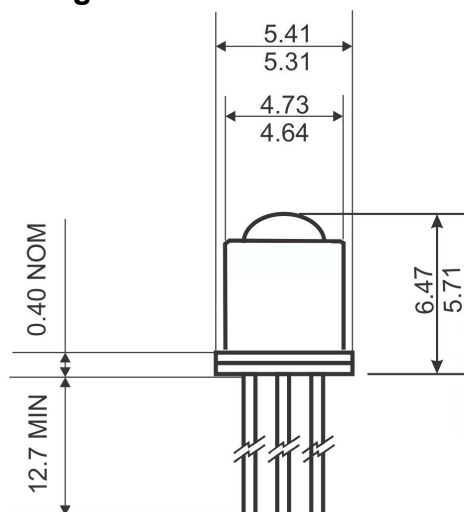
Features

- Wavelength : 280 nm
- Matched to the L14U1 photodetector
- Narrow viewing angle
- High radiant intensity - typ. 33 mW/Sr
- RoHS compliant 

Description

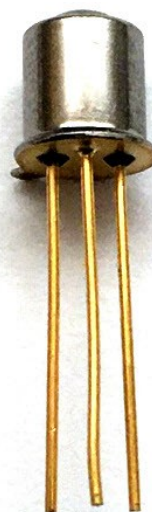
The F5U280 is a 280 nm LED in a lensed TO-46 package.

Package Dimensions

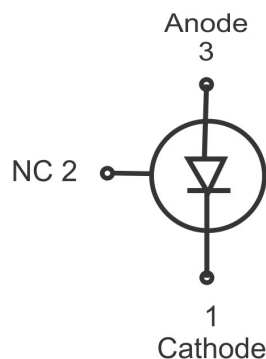


Notes:

1. Dimensions for all drawings are in mm.
2. Tolerances of + or - 0.25mm on all non-nominal dimensions, unless otherwise specified.
3. The NC (not connected) lead can be soldered to the ground plane to drain the heat from the package.



Schematic





Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In Addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only.

Parameter	Symbol	Rating	Units
Operating Temperature	T_{OPG}	-30°C to $+85^\circ\text{C}$	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40°C to $+85^\circ\text{C}$	$^\circ\text{C}$
Solder Temperature (Iron) ^(2,3,4,5)	$T_{\text{SOL-I}}$	240°C for 5 sec	$^\circ\text{C}$
Solder Temperature (Flow) ^(2,3,4)	$T_{\text{SOL-F}}$	260°C for 10 sec	$^\circ\text{C}$
Continuous Forward Current ⁽¹⁾	I_F	150	mA

Electrical/Optical Characteristics ($T_A = 25^\circ\text{C}$)

Parameter	Test Conditions	Symbol	Min	Typ	Max	Units
Peak Emission Wavelength	$I_f = 20\text{mA}$	λ_p	275	280	285	nm
Spectral Bandwidth	$I_f = 20\text{mA}$	$\Delta\lambda$		11	15	nm
Temperature Coefficient of λ	$I_f = 20\text{mA}$	$T_{C\lambda}$		0.027		nm/K
Emission Angle at 1/2 Power	$I_f = 20\text{mA}$	Θ		+/- 3		Deg.
Forward Voltage	$I_f = 20\text{mA}$	V_f	4.0	4.8	6.2	V
Total Radiant Flux ⁽⁶⁾	$I_f = 20\text{mA}$	P_o		1.4		mW
Radiant Intensity	$I_f = 20\text{mA}$	I_E		33		mW/Sr
Temperature Coefficient of I_E	$I_f = 20\text{mA}$	T_{CIE}		-0.39		%/K

Notes:

- 1 Derate forward current linearly 2.2 mA above 25°C ambient.
- 2 RMA flux is recommended.
- 3 Methanol or Isopropyl alcohols are recommended as cleaning agents.
- 4 Soldering iron tip 1.6mm minimum from housing.
- 5 As long as leads are not under stress or spring tension.
- 6 Total Radiant Flux, P_o , is the total power radiated by the device into a solid angle of 2π steradians.



Typical Performance Characteristics

Fig. 1 : Forward Current vs Forward Voltage

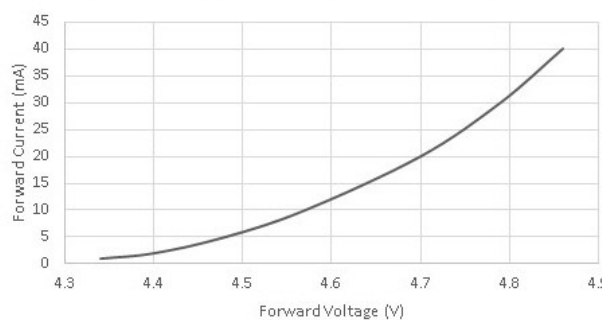


Fig.2 : Radiant Flux vs Forward Current

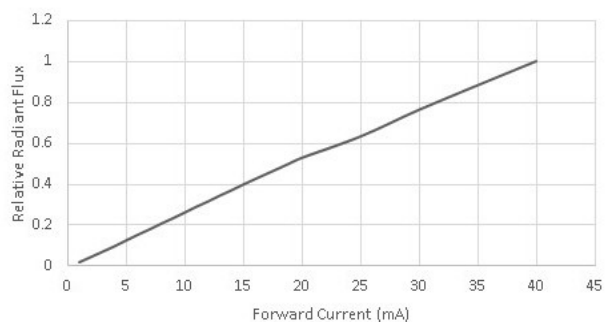


Fig.3: Normalized Intensity vs Wavelength

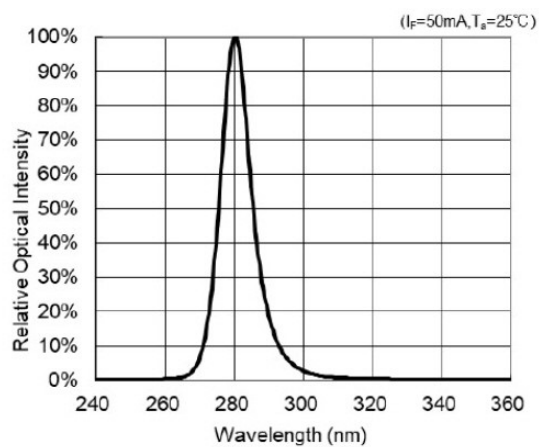
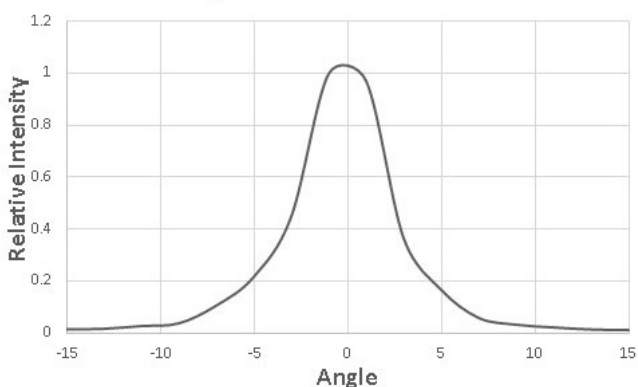


Fig.4: Emission Pattern





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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness



WARNING

- LEDs emit very strong UV radiation.
- Do not look at the LED light with naked eyes as UV radiation can harm your eyes.
- To prevent UV radiation exposure, wear protective eyewear.
- Avoid exposure to skin as UV radiation can harm your skin.
- If LEDs are embedded in devices, please indicate warning labels against the UV light.
- Keep out of reach of children.