ProLight Opto
Technology Corporation

ProLight PUUA-100LLL-NK2P
100W UV module LED
Technical Datasheet
Version: P1.0

Prolight Opto ® ProEngine Series

Features

- High Efficacy 100W UV LED
- Dimension: 33.2mm(L) x 35mm(W)
- Quartz Glass Lens
- View angle 60°
- No dark zone for linear lighting
- Good uniformity
- RoHS compliant

Main Applications

- UV gluing, UV curing, UV marking
- UV drying of printing inks and lacquers
- Currency inspection
- Forensic analysis-urine, protein stains
- Leak detection using fluorescent dyes
- Detects fluorescing minerals and gems
- Indoor Lighting
- Outdoor Lighting

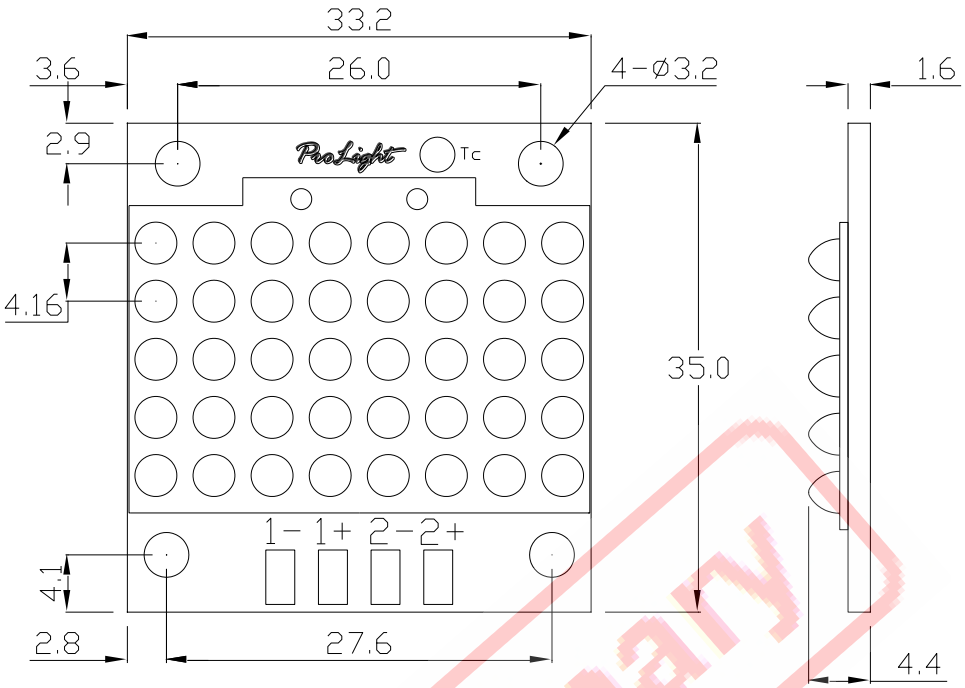
Introduction

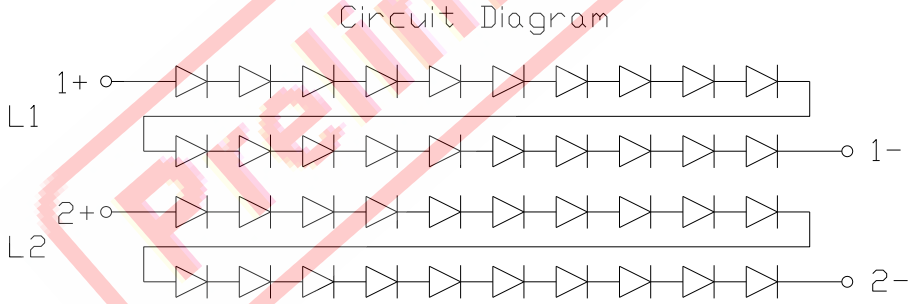
·The input power is 100Watt, the multi-chip ultra high power ProEngine Series delivers never before seen radiometric power output from a single emitter.

No. 89, Xiyuan Rd., Zhongli City, Taoyuan County 320,
Taiwan (R.O.C.)
Tel ：+886-3-461-8618
Fax ：+886-3-461-8677
www.prolightopto.com

2016/02
DS-0498

Mechanical Dimensions





Notes:
1. Drawing not to scale.
2. All dimensions are in millimeters.
3. Unless otherwise indicated, tolerances are ± 0.10mm.
4. Please do not solder the emitter by manual hand soldering, otherwise it will damage the emitter.
5. **Please do not use a force of over 0.3kgf impact or pressure on the lens of the LED, otherwise it will cause a catastrophic failure.**

*The appearance and specifications of the product may be modified for improvement without notice.

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Flux Characteristics of L1+L2, T_J = 25°C

Color	Part Number module	Radiometric Power (mW) @1000mA		Refer @1400mA	
		Minimum	Typical	Minimum	Typical
UV	PUUA-100LLL-NK2P	30000	35000	44000	51200

- ProLight maintains a tolerance of ± 7% on flux and power measurements.
- Please do not drive at rated current more than 1 second without proper heat sink.

Electrical Characteristics of L1+L2, T_J = 25°C

Color	Forward Voltage V_F (V) @1000mA			Forward Voltage V_F (V) Refer @1400mA each
	Min.	Typ.	Max.	Typ.
UV	60	65	70	68

- ProLight maintains a tolerance of ± 0.1V for Voltage measurements.

Optical Characteristics at 500mA of L1+L2, T_J = 25°C

Color	Peak Wavelength λp			Total included Angle (degrees)	Viewing Angle (degrees)
	Min.	Typ.	Max.	$\theta_{0.90V}$	$2\theta_{1/2}$
UV	390 nm	395 nm	400 nm	120	60

- ProLight maintains a tolerance of ± 1nm for dominant wavelength measurements.

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Absolute Maximum Ratings for the L1 + L2

Parameter	UV
DC Forward Current (mA)	1400
Peak Pulsed Forward Current (mA)	2000 (less than 1/10 duty cycle@1KHz)
LED Junction Temperature	110°C
Operating Board Temperature at Maximum DC Forward Current	-40°C - 85°C
Storage Temperature	-40°C - 100°C
Reverse Voltage	Not designed to be driven in reverse bias

Peak Wavelength Bin Structure for L1 + L2 loop

Color	Bin Code	Minimum Wavelength (nm)	Maximum Wavelength (nm)
UV	1	390	395
	2	395	400

- ProLight maintains a tolerance of ± 1nm for peak wavelength measurements.

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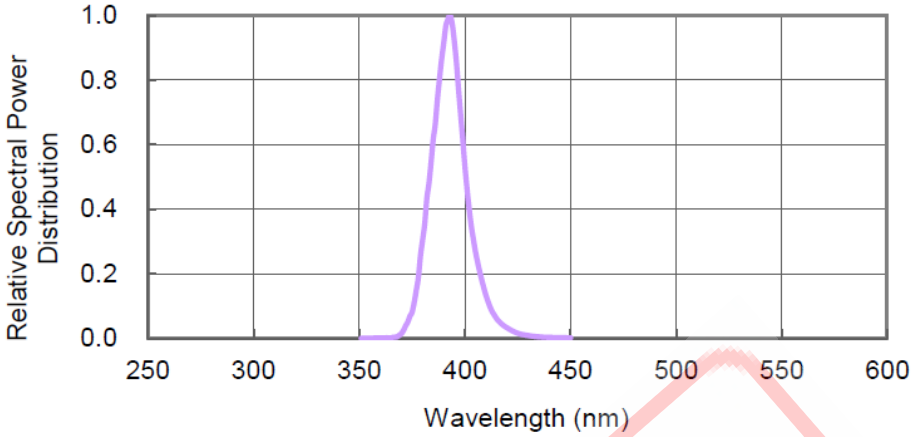
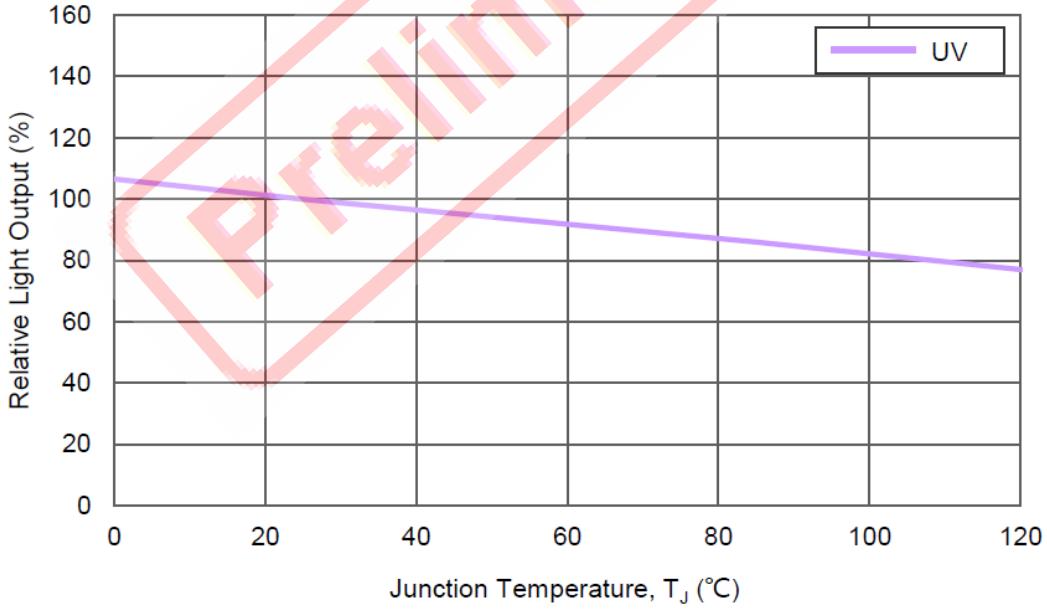
Color Spectrum, T_J = 25°C

1. UV



Light Output Characteristics

Relative Light Output vs. Junction Temperature at 1400mA for L1 + L2



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Forward Current Characteristics, T_J = 25°C

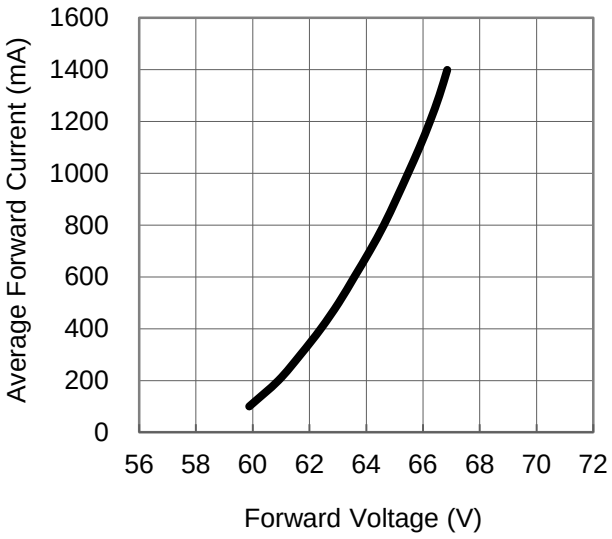


Fig 1. Forward Current vs. Forward Voltage for UV.

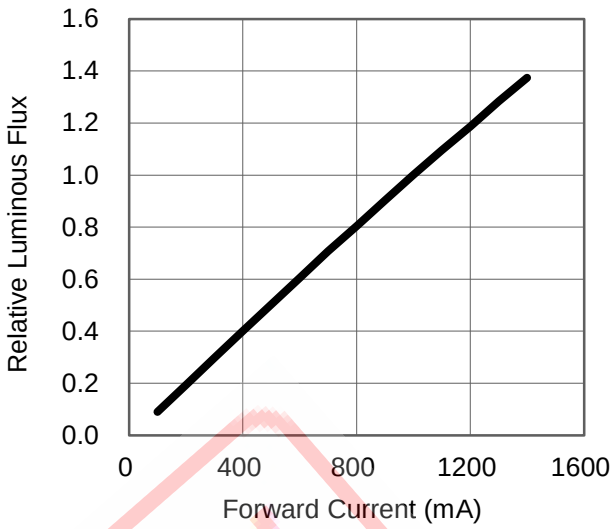
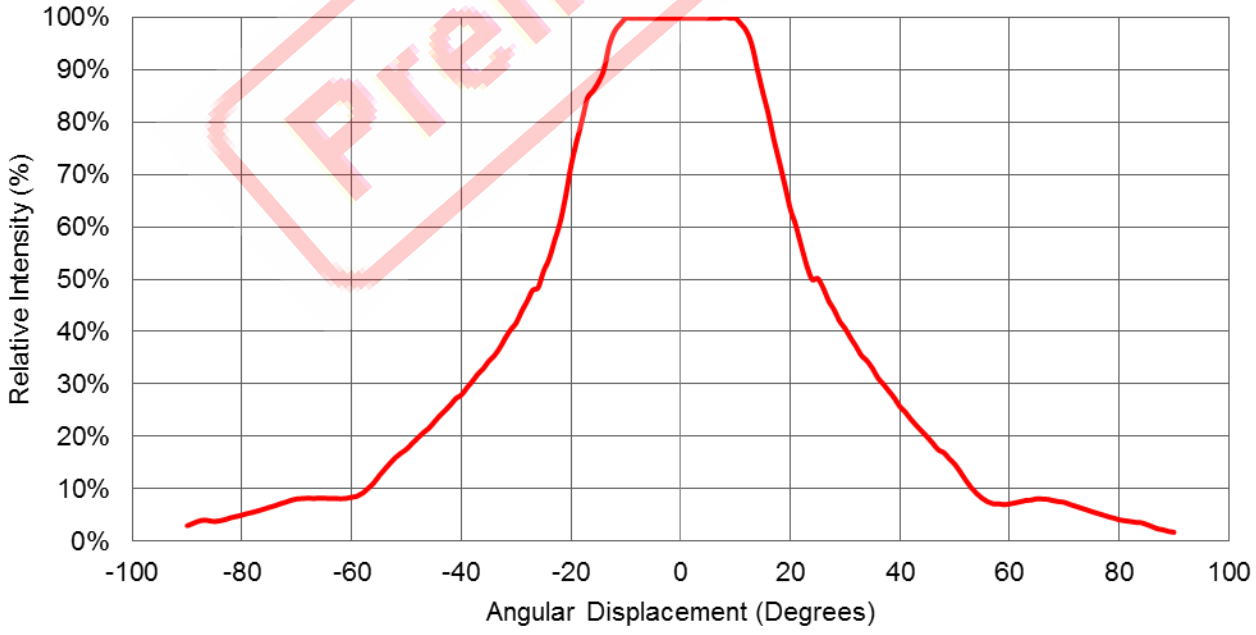


Fig 2. Relative Luminous Flux vs. Forward Current for UV at T_J=25 maintained.

Typical Representative Spatial Radiation Pattern

Lambertian Radiation Pattern



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Precaution for Use

- The modules light output are intense enough to cause injury to human eyes if viewed directly Precautions must be taken to avoid looking directly at the modules with unprotected eyes.
- The modules are sensitive to electrostatic discharge. Appropriate ESD protection measures must be tajen when working with the modules. Non-compliance with ESD protection measures may lead to damage or destruction of the product.
- The products should be stored away from direct light in dry location.
- This device should not be used in any type of fluid such as water, oil, organic solvent and etc. When cleaning is required, isopropyl alcohol should be used.
- When the LEDs are illuminating, operating current should be decide after considering the package maximum temperature.
- The appearance, specifications and flux bin of the product may be modified for improvement without notice. Please refer to the below website for the latest datasheets. http://www.prolightopto.com/

Handling of Silicone Lens LEDs

Notes for handling of silicone lens LEDs

- Please do not use a force of over 0.3kgf impact or pressure on the quartz lens, otherwise it will cause a catastrophic failure.
- The LEDs should only be picked up by making contact with the sides of the LED body.
- Avoid touching the silicone lens especially by sharp tools such as Tweezers.
- Avoid leaving fingerprints on the quartz lens.
- Please store the LEDs away from dusty areas or seal the product against dust.
- When populating boards in SMT production, there are basically no restrictions regarding the form of the pick and place nozzle, except that mechanical pressure on the silicone lens must be prevented.
- Please do not mold over the silicone lens with another resin. (epoxy, urethane, etc)

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