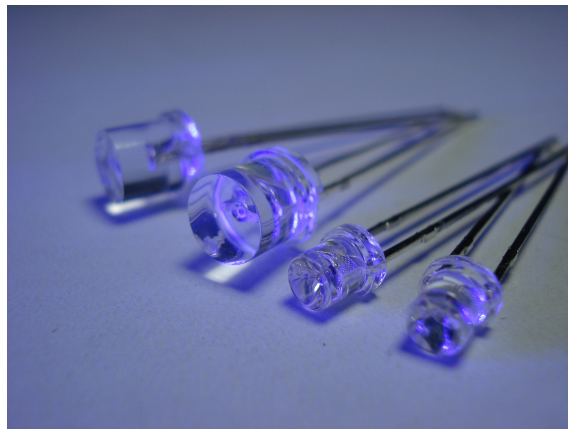


## UV LED LAMP - 410nm Series

### Product Pictures.



### Product Applications.

Light sources for UV curing  
Light sources for photocatalyst air cleaner / purifier  
Fluorescence disclosing and verification  
Chemical analysis equipment  
Medical and biomedical applications  
Hazardous materials detection.  
Industrial emitters

### Product Features.

Peak wavelength: typ. 410nm  
Industry standard lead spacing  
Superior ESD protective circuit  
UV resistant special resin provides high reliability  
Tight tolerance of +/- 5nm binning shipment  
Low Voltage DC Operated  
Lead(Pb)Free Product-RoHS Compliant

### Absolute Maximum Ratings. (Ta=25°C)

| Item                         | Symbol | Value                   | Unit |
|------------------------------|--------|-------------------------|------|
| DC Forward Current           | IF     | 20                      | mA   |
| Peak Pulse Forward Current*1 | IFP    | 100                     | mA   |
| Allowable Reverse Current    | IR     | 50                      | mA   |
| Power Dissipation            | PD     | 80                      | mW   |
| Operating Temperature        | TOPR   | -40 ~ +85               | °C   |
| Storage Temperature          | TSTG   | -40 ~ +100              | °C   |
| Soldering Temperature        | TSOL   | 260 ± 5°C for 5 seconds |      |

\*Note:

1. IFP Conditions: Pulse Width  $\leq$  10msec, Duty  $\leq$  1/10

**VioLED International Inc.**

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**Electro-Optical Characteristics. (Ta=25°C)**

| Item                      | Symbol         | Condition | Value        |      |      | Unit |
|---------------------------|----------------|-----------|--------------|------|------|------|
|                           |                |           | Min.         | Typ. | Max. |      |
| Forward Voltage*1         | VF             | IF=20mA   | 3.2          | -    | 4.2  | V    |
| Peak Wavelength*2         | $\lambda_p$    | IF=20mA   | 405          | 410  | 415  | nm   |
| Optical Power Output *3   | PO             | IF=20mA   | 10           | -    | 16   | mW   |
| Reverse (Leakage) Current | IR             | VR = 5V   | <50          |      |      | uA   |
| Viewing Angle             | 2 $\theta$ 1/2 | IF=20mA   | 20 / 15 / 90 |      |      | deg. |

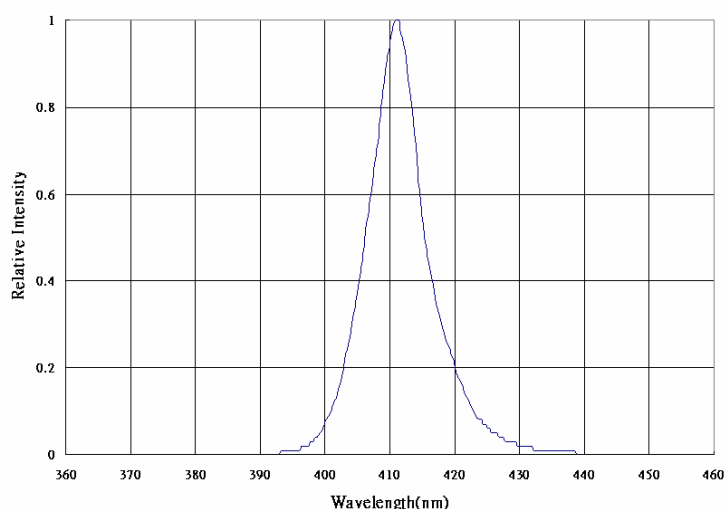
\*Note:

1. Forward voltage measurement allowance is  $\pm 0.2V$
2. Peak wavelength measurement allowance is  $\pm 2nm$
3. Optical output measurement allowance is  $\pm 10\%$
4. Viewing Angle: 3mm Round Type: 20° / 5mm Round Type:15° / 5mm Cylinder Type: 90°.

**Materials.**

| Item          | Material                               |
|---------------|----------------------------------------|
| Die           | InGaN based                            |
| Zener diode   | Si                                     |
| Lead-frame    | Ag Plating, Iron Alloy                 |
| Bonding wire  | Au                                     |
| Encapsulation | UV-resistant epoxy resin (Water Clear) |

**Typical Spectrum.**



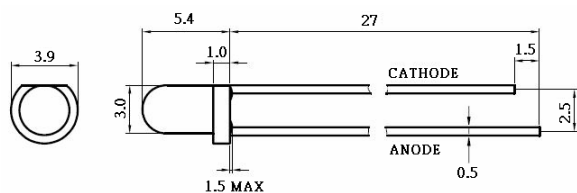
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## Dimension Figures.

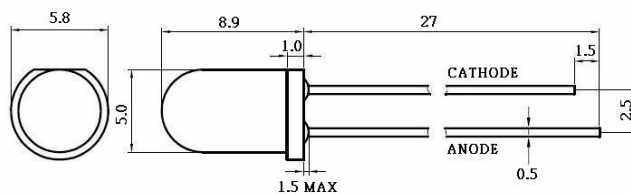
### (1) 410-3R20

(410±5nm / 3mm Round Type / 20 degree)



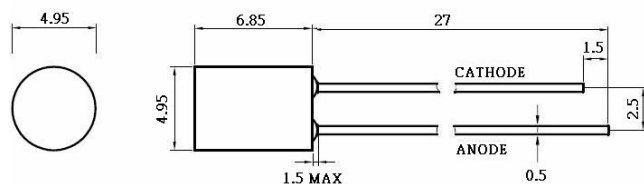
### (2) 410-5R15

(410±5nm / 5mm Round Type / 15 degree)



### (3) 410-5C90

(410±5nm / 5mm Cylinder Type / 90 degree)



\*Notes:

1. Unit : mm
2. Tolerance: ±0.15mm

## Circuit Diagram

