



**Part No.: U3535C2VGB20**

**Product picture**



**Product introduction**

This series of deep uv packaging products are specially designed for applications with high radiation power and directivity requirements. The surface of the packaging body in the form of a patch device, and the use of special uv glass, so as to optimize the product life and performance. It can be used in plant lighting, fluorescence analyzer, medical testing, food and pharmaceutical processing, sterilization and other fields.

**Features**

- ✧ Ceramic packaging
- ✧ Standard SMD process
- ✧ In line with the ROHS standard

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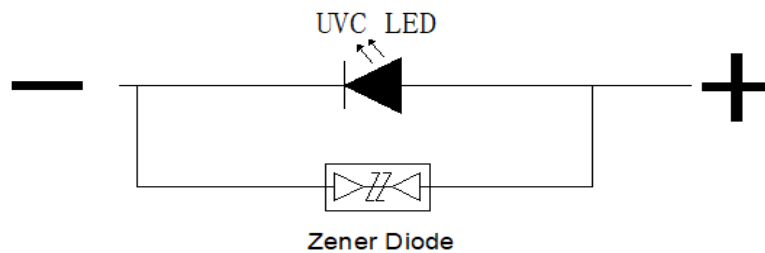
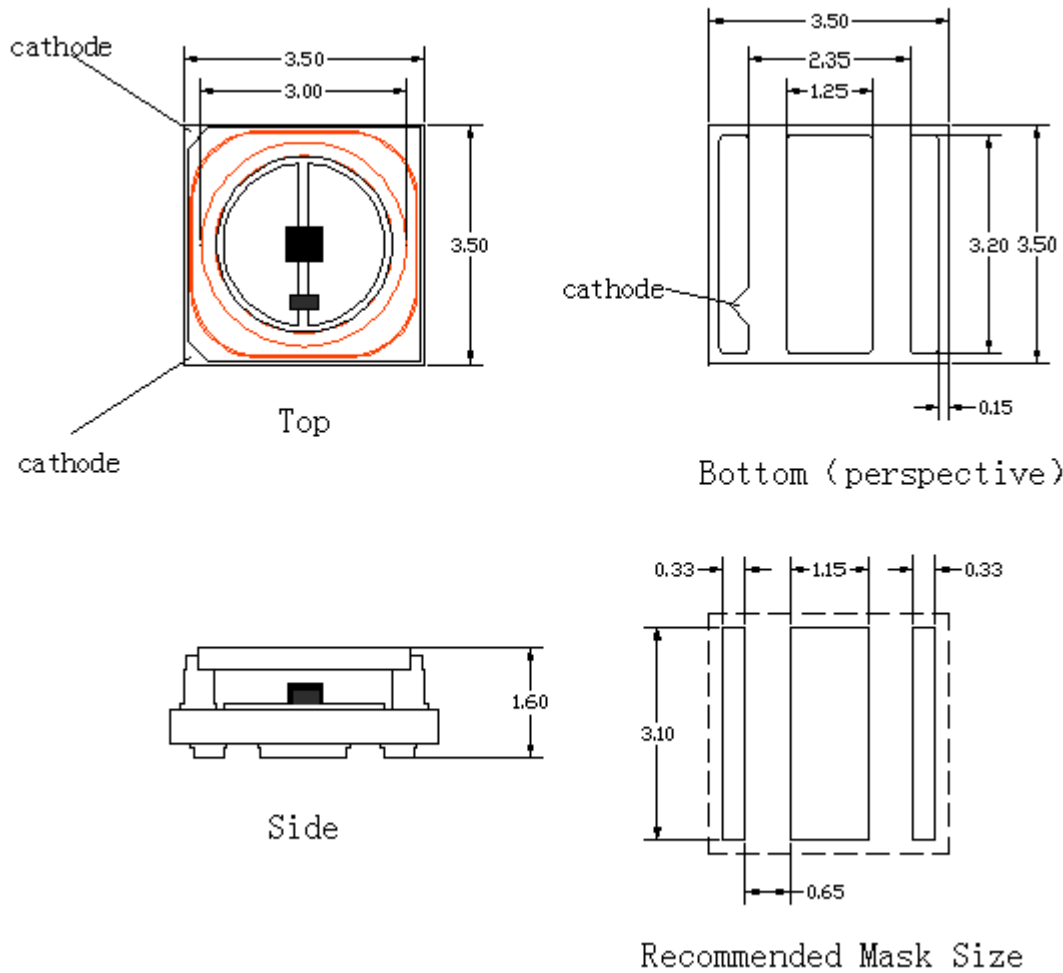
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**Outline dimensions: (Unit: mm, The tolerance  $\pm 0.1\text{mm}$ )**





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**Photoelectric properties (Ta = 25°C)**

| Parameter                   | Forward current | Symbol           | Min. | Typ | Max | Unit |
|-----------------------------|-----------------|------------------|------|-----|-----|------|
| The peak wavelength         | If=60mA         | $\lambda_p$      | 270  | 275 | 280 | nm   |
| Output Radiated power       |                 | $P_{opt}$        | --   | 8   | --  | mW   |
| Forward Voltage             |                 | $V_f$            | 5    | 5.5 | 6.5 | V    |
| FWHM                        |                 | $\Delta \lambda$ | --   | 9   | --  | nm   |
| Viewing Angle               |                 | $2\theta_{1/2}$  | --   | 120 | --  | °    |
| Thermal resistance (Tj-Tsp) |                 | Rth              | --   | 27  | --  | °C/W |
| Output Radiated power       | If=120mA        | $P_{opt}$        | --   | 15  | --  | mW   |

Instructions: Tc = 25°C; The tolerance of Forward voltage:  $\pm 0.1V$ ; The tolerance of Radiation flux:  $\pm 8\%$ ; The tolerance of peak wavelength :  $\pm 3nm$ .

**Limit service condition :**

| Parameter              | Symbol | Unit | Range            |
|------------------------|--------|------|------------------|
| Forward current        | If     | mA   | $\leq 120$       |
| Junction temperature   | Tj     | °C   | $\leq 90$        |
| Working temperature    | Topr   | °C   | -30-60           |
| The welding conditions | Tsol   | -    | 260°C < 5seconds |



Photoelectric parameter curve :

Fig.1 Relative Radiant Power VS Forward Current

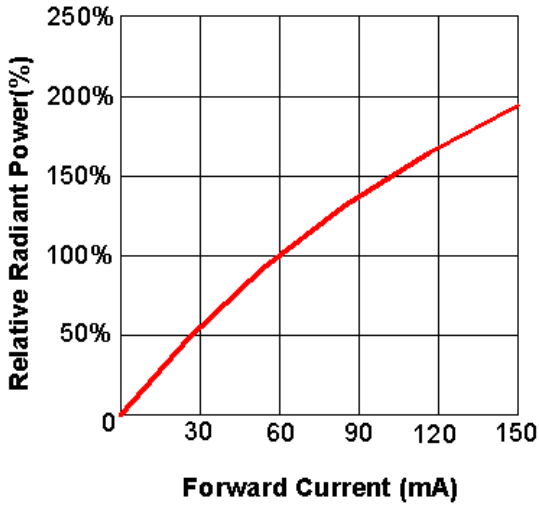


Fig.2 Forward Current VS Forward Voltage (Ta=25 °C)

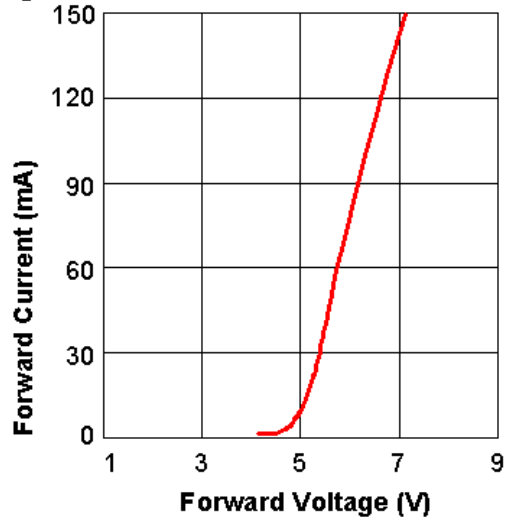


Fig.3 Forward Voltage VS Ambient Temperature

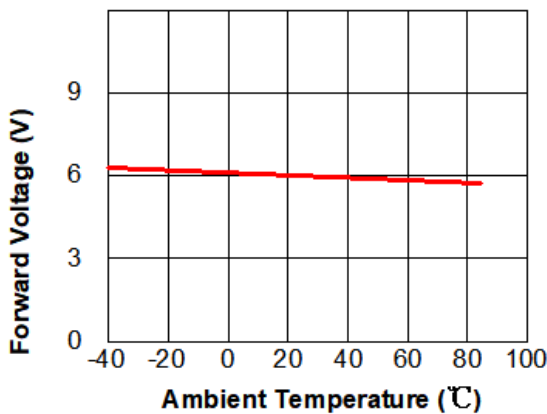
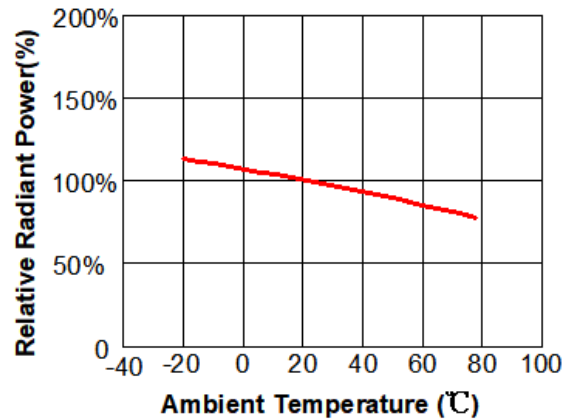


Fig.4 Relative Radiant Power VS Ambient Temperature





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Fig.5 Peak Wavelength VS Forward Current

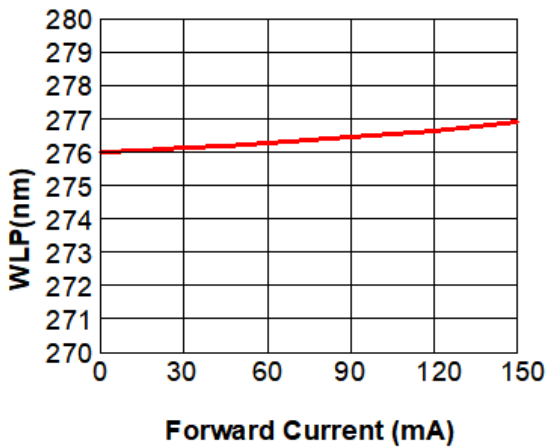


Fig.6 Forward Current VS Ambient Temperature

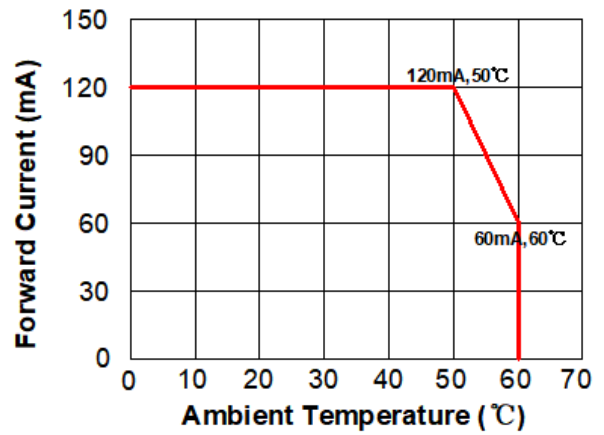


Fig.7 Relative Intensity VS WLP

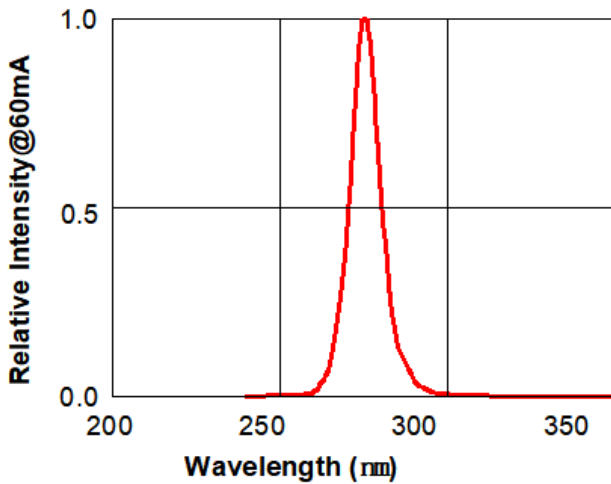
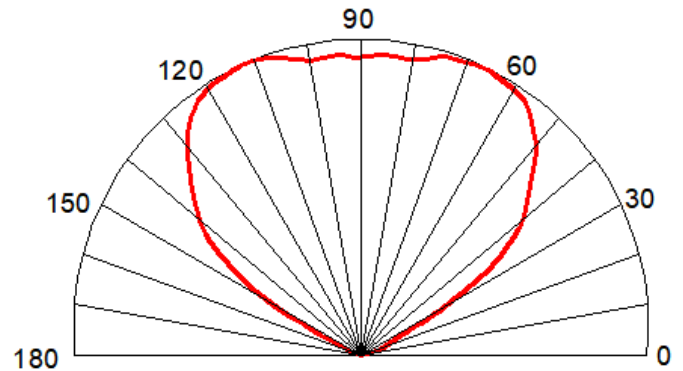


Fig.8 Radiation pattern@60mA





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**Reliability test**

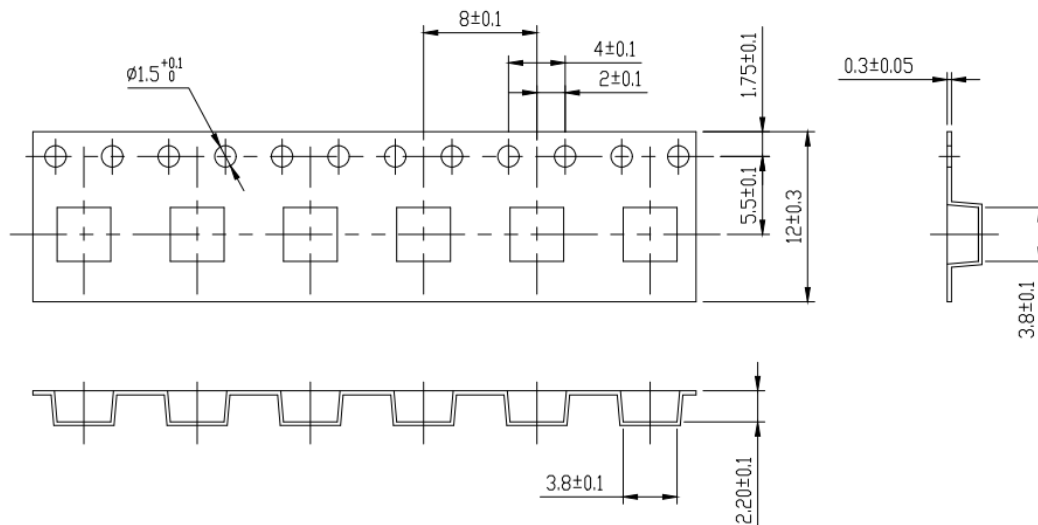
| Test                         | Test Conditions  | Failure Criterion                    |
|------------------------------|--|--------------------------------------|
| Normal temperature life test | 25°C, 60mA, 1000Hours  | Forward voltage,<br>$V_f > 110\%$    |
| High temperature storage     | 100°C, 1000Hours   |                                      |
| Low temperature storage      | -40°C, 1000Hours   |                                      |
| Temperature cycle (100times) | -40°C (30mins) ~ +25°C (5mins)<br>+100°C(30mins) ~ +25°C (5mins) | Radiation power,<br>$P_{opt} < 70\%$ |

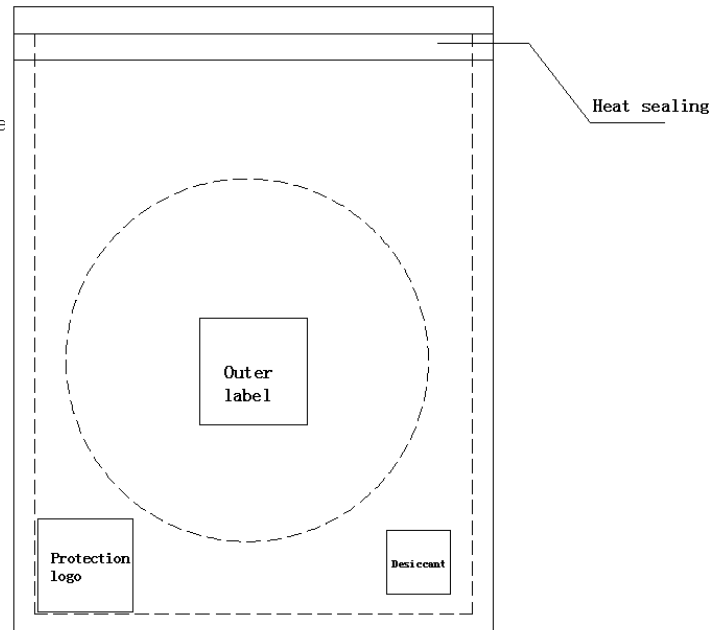
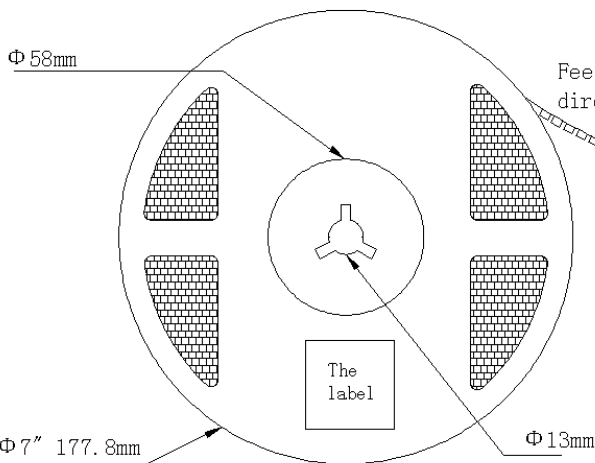
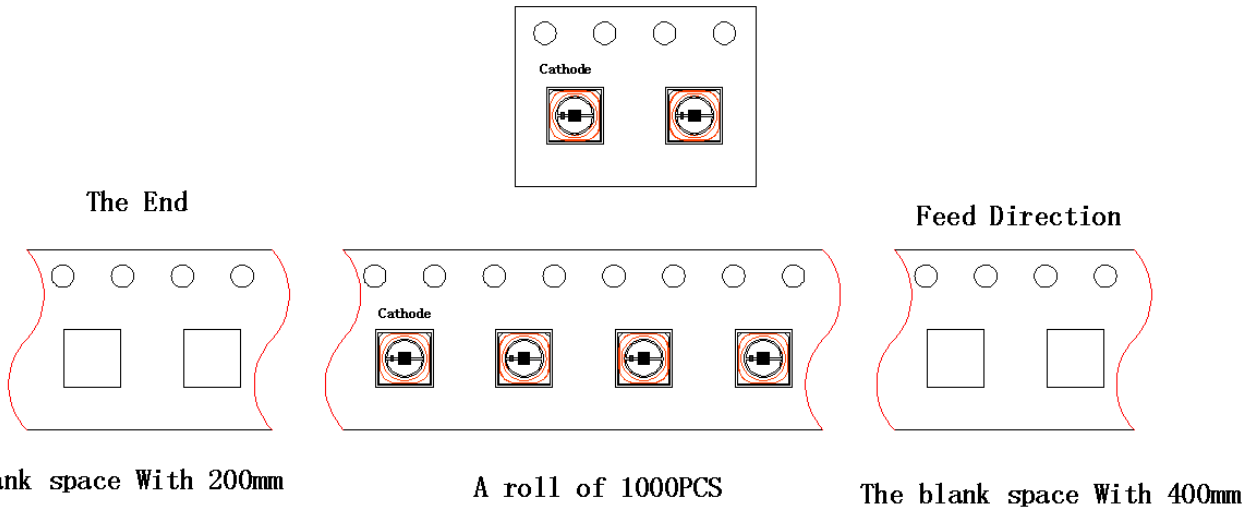
Notice:

Test the device at room temperature

**Packing**

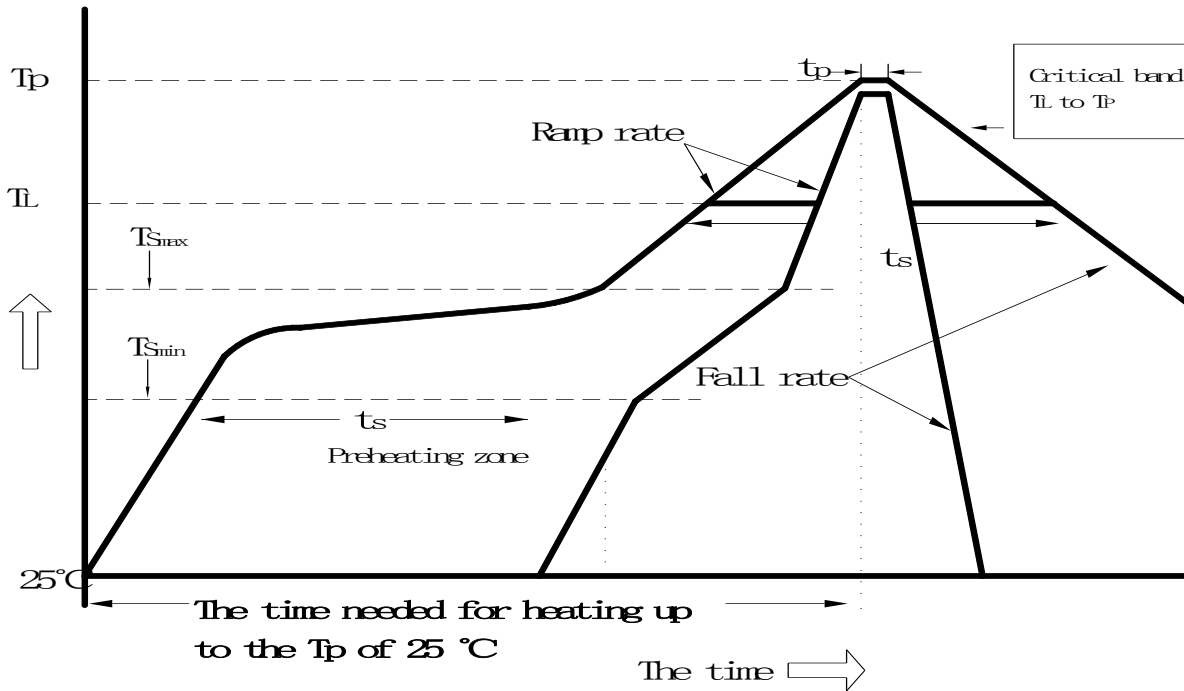
(Unit: mm)







**Recommend suitable temperature curve formula**



| Temperature curve characteristics                            | Lead-free solder |
|--|------------------|
| Ramp rate (T <sub>Smax</sub> to T <sub>P</sub> )             | Max 3°C/S        |
| Preheat: minimum temperature(T <sub>Smin</sub> )             | 150°C            |
| Prehea: maximum temperature(T <sub>Smax</sub> )              | 200°C            |
| Maintain a higher temperature: temperature (T <sub>L</sub> ) | 60-180 S         |
| Liquid temperature (T <sub>L</sub> )                         | 217°C            |
| Maintain a higher temperature: time (T <sub>L</sub> )        | 60-150 S         |
| T <sub>p</sub> /temperature                                  | 260°C            |
| Specify the time within 5°C of the actual peak temperature   | 20-40 S          |
| The slope rate (T <sub>p</sub> to T <sub>L</sub> )           | Max 6°C/S        |
| The time needed for heating up to theT <sub>p</sub> of 25 °C | Max 8 min        |