



**Opto Plus LED Corp.**  
**0.8" Case Mold Type LED Display**  
**OPD-Q8010UPG-BW**  
**OPD-Q8011UPG-BW**

● **FEATURES**

- 0.8 inch (20.4 mm) Digit Height.
- Low current operation.
- Case mold type.
- Black face, White segment.
- RoHS compliant, Pb Free.

● **DESCRIPTION**

The OPD-Q8010UPG-BW & OPD-Q8011UPG-BW is a 0.8 inch (20.4 mm) height quadruple digits display.

This device utilizes Pure Green LED chip which are made from InGaN on a transparent GaN. The display has Black face, White segment.

● **DEVICE**

| <b>PART NO</b><br>Pure Green | <b>DESCRIPTION</b> |
|------------------------------|--------------------|
| OPD-Q8010UPG-BW              | Common Anode       |
| OPD-Q8011UPG-BW              | Common Cathode     |

**RoHS Compliance**



**Pb free.**







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● **PG: PURE GREEN (InGaN/GaN)**

ABSOLUTE MAXIMUM RATING AT Ta=25°C

| Parameter                                     | Symbol           | Pure Green | Unit    |
|---|------------------|------------|---------|
| Power dissipation per dice                    | P <sub>AD</sub>  | 120        | mW      |
| Derating liner from 25°C per dice             | -                | 0.3        | mA / °C |
| Continuous forward current per dice           | I <sub>AF</sub>  | 30         | mA      |
| Peak current per dice (duty cycle 1/10, 1kHz) | I <sub>PF</sub>  | 100        | mA      |
| Reverse voltage per dice                      | V <sub>R</sub>   | 5          | V       |
| Operating temperature                         | T <sub>OPR</sub> | -25 to +85 | °C      |
| Storage temperature                           | T <sub>STG</sub> | -25 to +85 | °C      |

ELECTRICAL - OPTICAL CHARACTERISTICS AT Ta=25°C

| Characteristic               | Symbol         | Condition             | Min. | Typ. | Max. | Unit |
|------------------------------|----------------|-----------------------|------|------|------|------|
| Forward voltage              | V <sub>F</sub> | I <sub>F</sub> = 20mA | -    | 3.2  | 4.0  | V    |
| Reverse current              | I <sub>R</sub> | V <sub>R</sub> = 8V   | -    | -    | 10   | μA   |
| Dominant wavelength          | λ <sub>D</sub> | I <sub>F</sub> = 20mA | -    | 525  | -    | nm   |
| Luminous intensity           | I <sub>v</sub> | I <sub>F</sub> = 20mA | -    | 160  | -    | mcd  |
| Spectral radiation bandwidth | Δλ             | I <sub>F</sub> = 20mA | -    | 30   | -    | nm   |



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### OPD-Q8010UPG-BW

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#### ● PG: PURE GREEN (InGaN/GaN) CURVE

Typical Electro-optical Characteristic Curves  
(25 °C Free Air Temperature Unless Otherwise Specified)

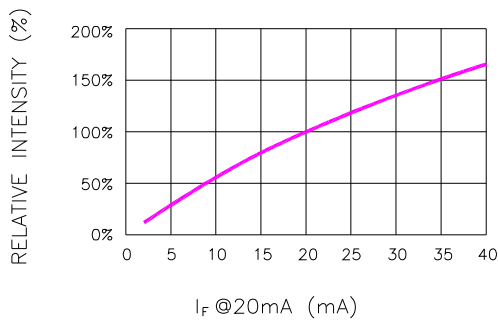


Fig.1 RELATIVE INTENSITY VS. FORWARD CURRENT

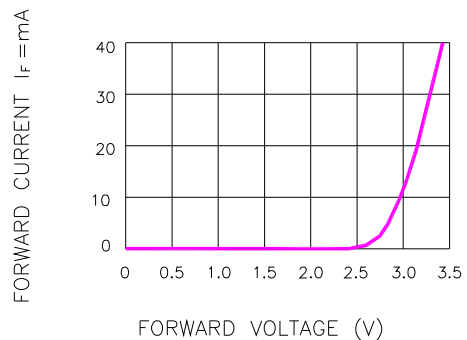


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

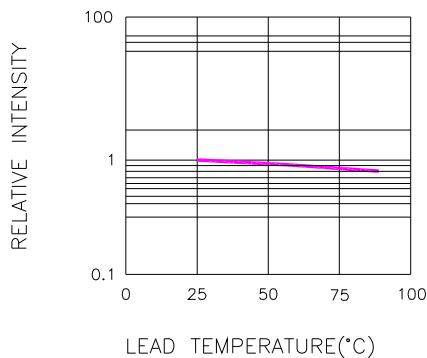


Fig.3 RELATIVE INTENSITY VS. LEAD TEMPERATURE  
(PULSED 20 mA; 300us PULSE, 10ms PERIOD)

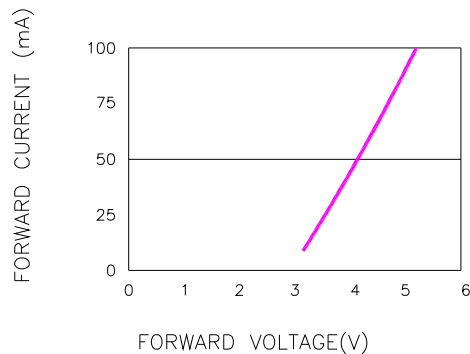


Fig.4 PEAK FORWARD VOLTAGE VS. FORWARD (100us TEST PULSE, 1% DUTY CYCLE)

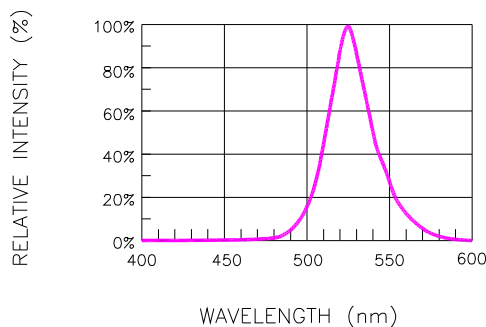


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

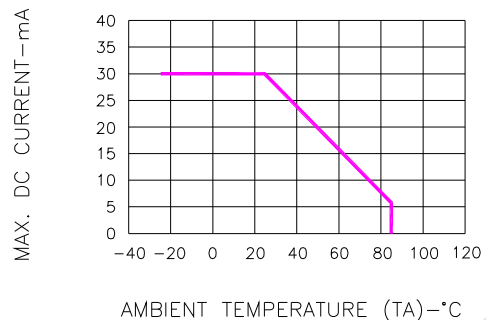


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE



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● **RECOMMEND SOLDERING PROFILE**



● **SOLDERING IRON**

Basic spec is  $\leq 4$  sec when 260°C. If temperature is higher, time should be shorter (+10°C→1 sec). Power dissipation of Iron should be smaller than 15W, and temperature should be controllable. Surface temperature of the device should be under 230°C.

● **REWORK**

Customer must finish rework within  $\leq 4$  sec under 245°C.