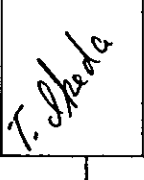
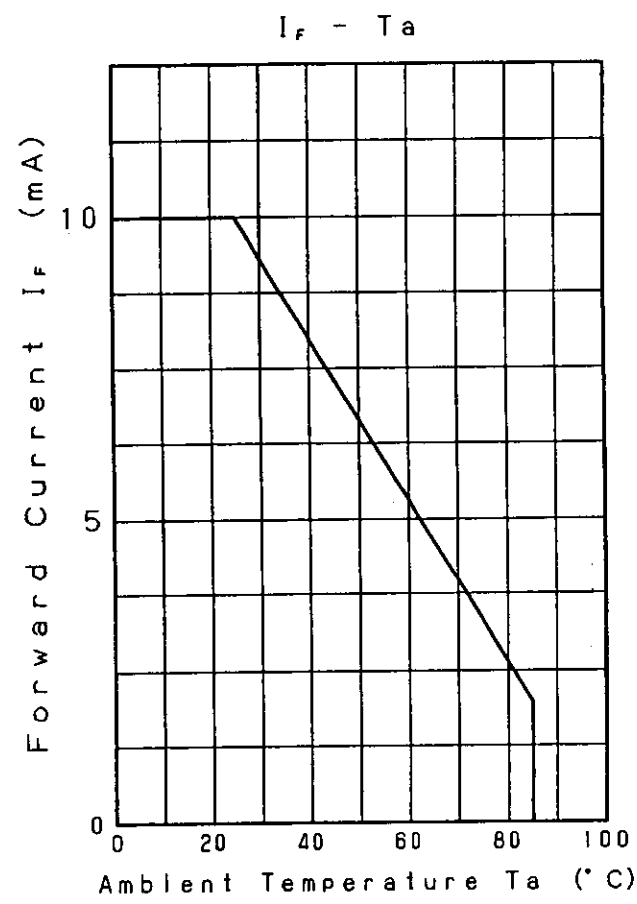
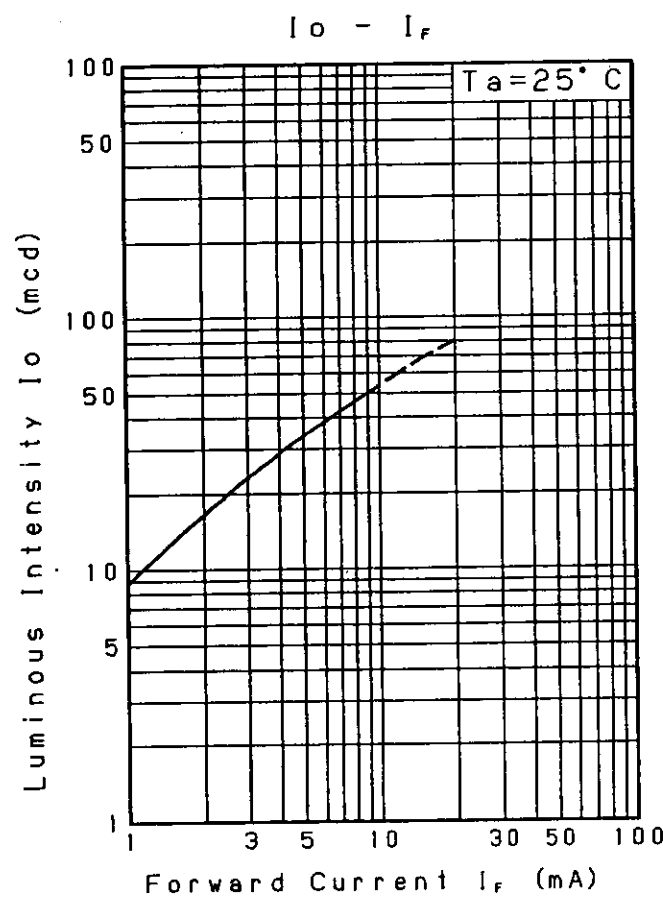
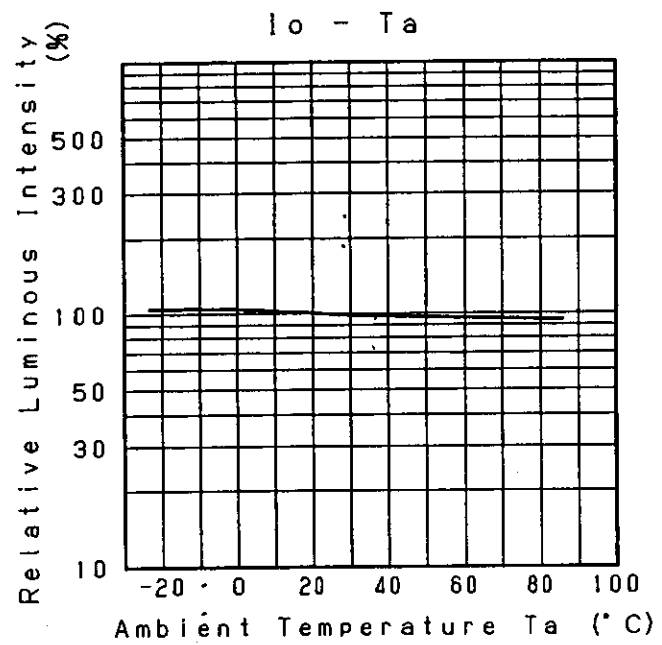
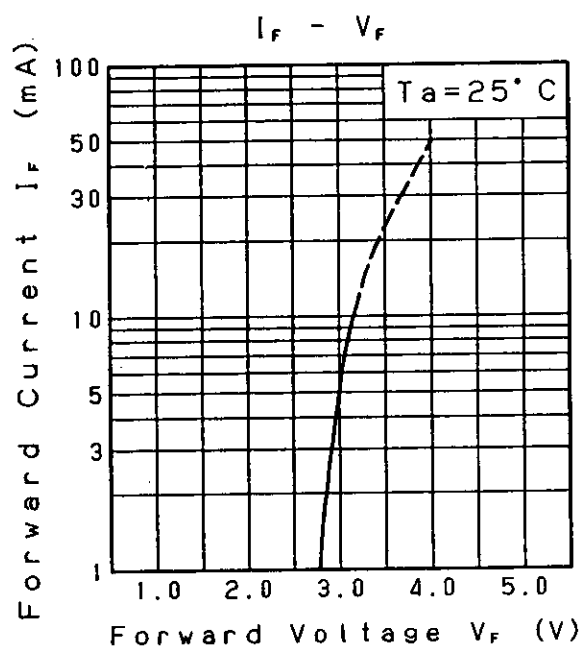
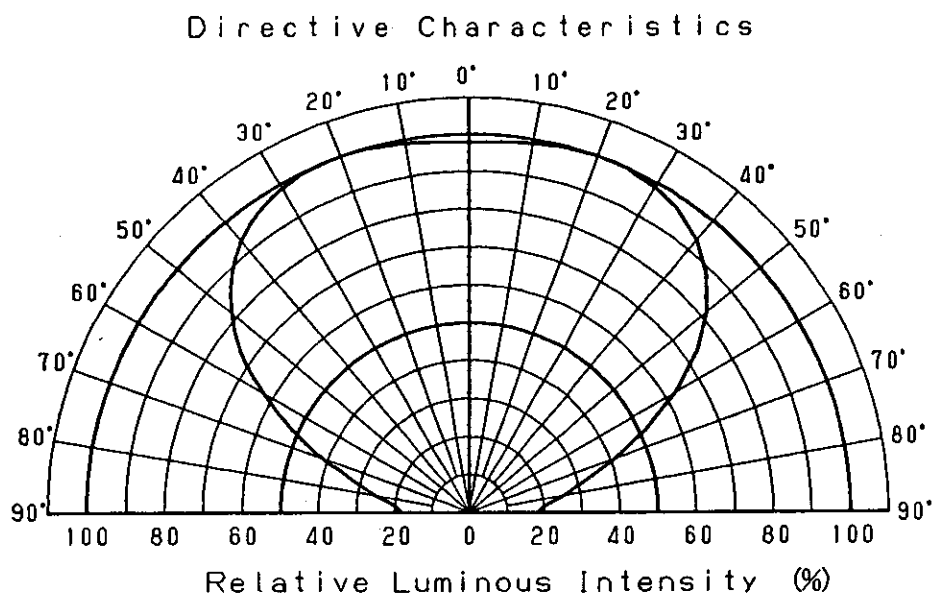
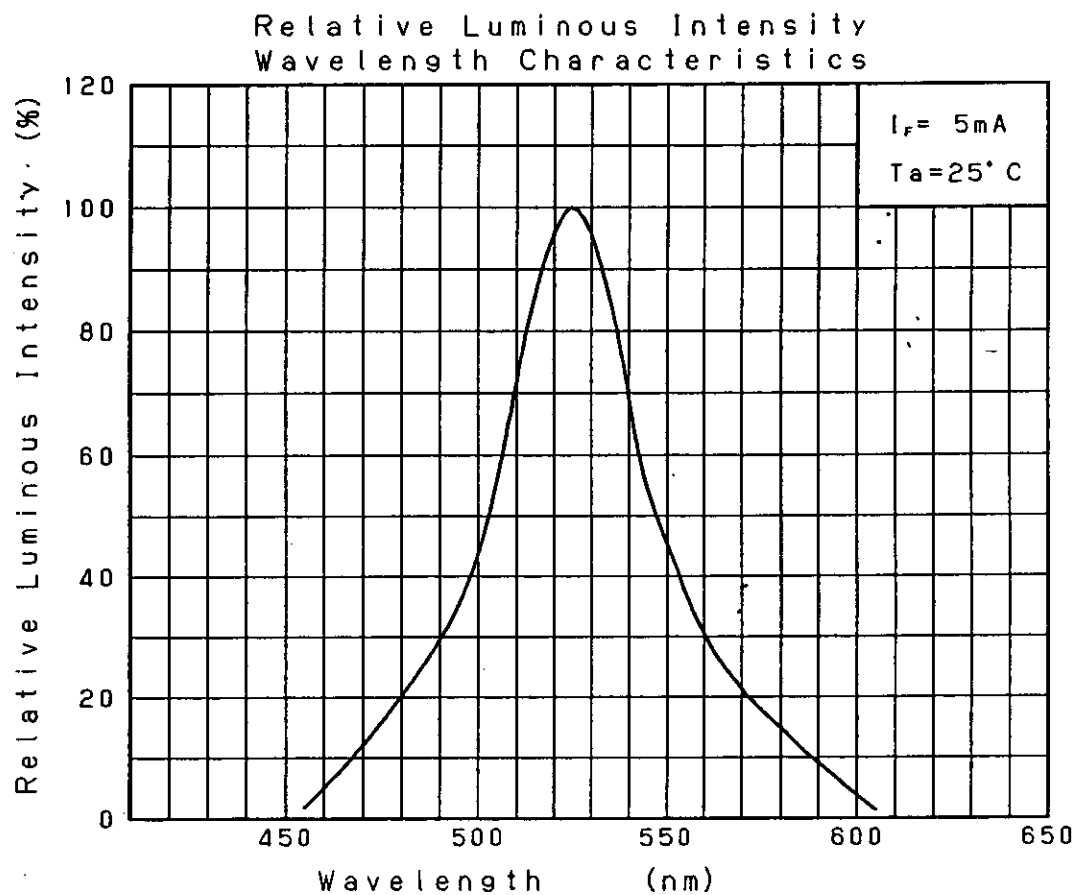


|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                   |                                                                                   |                           |                  |                |                 |                  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------|------------------|----------------|-----------------|------------------|--|--|
| Approved                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Checked                                                                           | Designed                                                                          | DEVELOPMENT SPECIFICATION |                  |                |                 |                  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                       |  |  | P/N : LNJ612W8WRA         |                  |                |                 |                  |  |  |
| TYPE                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                   | Pure green Light Emitting Diode                                                   |                           |                  |                |                 |                  |  |  |
| MATERIAL                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                   | GaN                                                                               |                           |                  |                |                 |                  |  |  |
| APPLICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   | Indicators                                                                        |                           |                  |                |                 |                  |  |  |
| OUTLINE                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                   | Attached                                                                          |                           |                  |                |                 |                  |  |  |
| ABSOLUTE MAXIMUM RATINGS                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                   | P                                                                                 | I <sub>FF</sub> *         | I <sub>FDC</sub> | V <sub>R</sub> | T <sub>OP</sub> | T <sub>stg</sub> |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                   | 40                                                                                | 50                        | 10               | 5              | -25~+85         | -30~+100         |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                   | mW                                                                                | mA                        | mA               | V              | °C              | °C               |  |  |
| CONDITION                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   | Ta = 25 ± 3 °C                                                                    |                           |                  |                |                 |                  |  |  |
| Test Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   |                           |                  |                |                 |                  |  |  |
| Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Symbol                                                                            |                                                                                   | Condition                 | Typ              | Limit          |                 | Unit             |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                   |                                                                                   |                           |                  | Min            | Max             |                  |  |  |
| Forward Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V <sub>F</sub>                                                                    |                                                                                   | I <sub>F</sub> = 5 mA     | 3.0              |                | 3.7             | V                |  |  |
| Reverseleakage Current                                                                                                                                                                                                                                                                                                                                                                                                                                                 | I <sub>R</sub>                                                                    |                                                                                   | V <sub>R</sub> = 5 V      |                  |                | 10              | μA               |  |  |
| Luminous Intensity                                                                                                                                                                                                                                                                                                                                                                                                                                                     | I <sub>o</sub>                                                                    |                                                                                   | I <sub>F</sub> = 5 mA     | 34               | 10.3           |                 | mcd              |  |  |
| Peak Emission Wavelength                                                                                                                                                                                                                                                                                                                                                                                                                                               | λ <sub>p</sub>                                                                    |                                                                                   | I <sub>F</sub> = 5 mA     | 525              |                |                 | nm               |  |  |
| Spectral Line Half Width                                                                                                                                                                                                                                                                                                                                                                                                                                               | Δλ                                                                                |                                                                                   | I <sub>F</sub> = 5 mA     | 45               |                |                 | nm               |  |  |
| * The condition of pulse current I <sub>FF</sub> is 1ms pulse width, 10% duty cycle.                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                   |                                                                                   |                           |                  |                |                 |                  |  |  |
| 1. If you have any questions or take special operation, please contact to Panasonic office.                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                                                                                   |                           |                  |                |                 |                  |  |  |
| (Example) •Low current (below 1 mA DC)                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                   |                                                                                   |                           |                  |                |                 |                  |  |  |
| •Pulse current (Pw ≤ 10 ms, Duty ≤ 10 %)                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                   |                                                                                   |                           |                  |                |                 |                  |  |  |
| 2. Do not apply mechanical stress during soldering.                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                   |                                                                                   |                           |                  |                |                 |                  |  |  |
| 3. Terminal:Plated with gold on copper base.                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                   |                                                                                   |                           |                  |                |                 |                  |  |  |
| 4. Package : Light white diffusion type                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                   |                                                                                   |                           |                  |                |                 |                  |  |  |
| 5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   |                           |                  |                |                 |                  |  |  |
| This LED is sensitive to static electricity and care should be fully taken in handling it.                                                                                                                                                                                                                                                                                                                                                                             |                                                                                   |                                                                                   |                           |                  |                |                 |                  |  |  |
| Particularly, when an overvoltage is applied, which exceeds the absolute maximum rating of the the LED, its energy damages the LED. Therefore, take utmost proactive measures against static electricity and surge as to building an assembly line and handling the LED halfway the process.                                                                                                                                                                           |                                                                                   |                                                                                   |                           |                  |                |                 |                  |  |  |
| (1) Check the entire drive circuit including the power source. For example, a surge current, etc., generated at power-on/off should not exceed the absolute maximum rating of the LED. Also, insert an appropriate protective circuit into the LED drive circuit.                                                                                                                                                                                                      |                                                                                   |                                                                                   |                           |                  |                |                 |                  |  |  |
| (2) Beware of destruction by static electricity in handling the LED. As proactive measures against static electriciy, it is effective to earth your body(via 1MΩ), spread conductive mat on the floor, wear semiconductive work uniform and shoes, and use semiconductive containers. Also, be sure to earth the nose of a soldering iron. It is recommended to use an ionizer, etc., in the facility or environment where static electricity may be generated easily. |                                                                                   |                                                                                   |                           |                  |                |                 |                  |  |  |
| Mar. 5. 1999                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                   |                                                                                   |                           |                  |                |                 |                  |  |  |

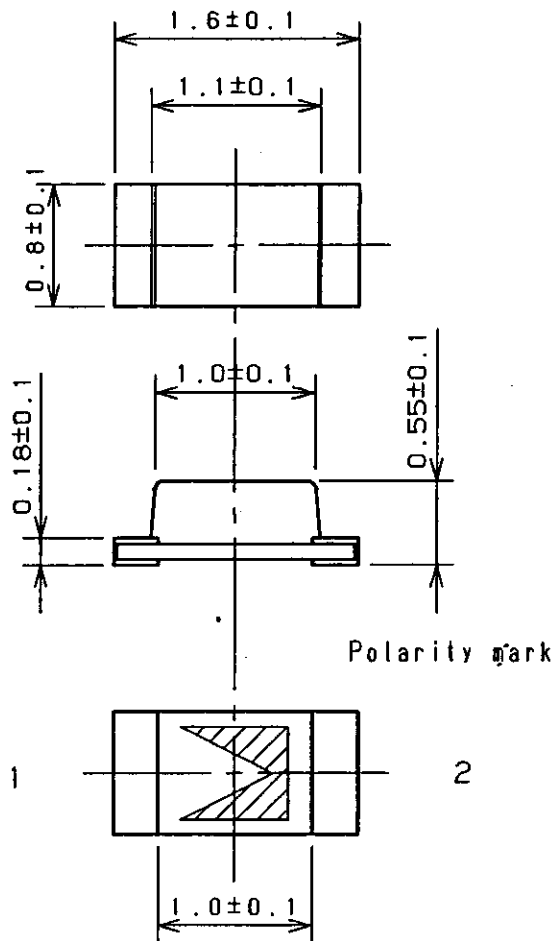


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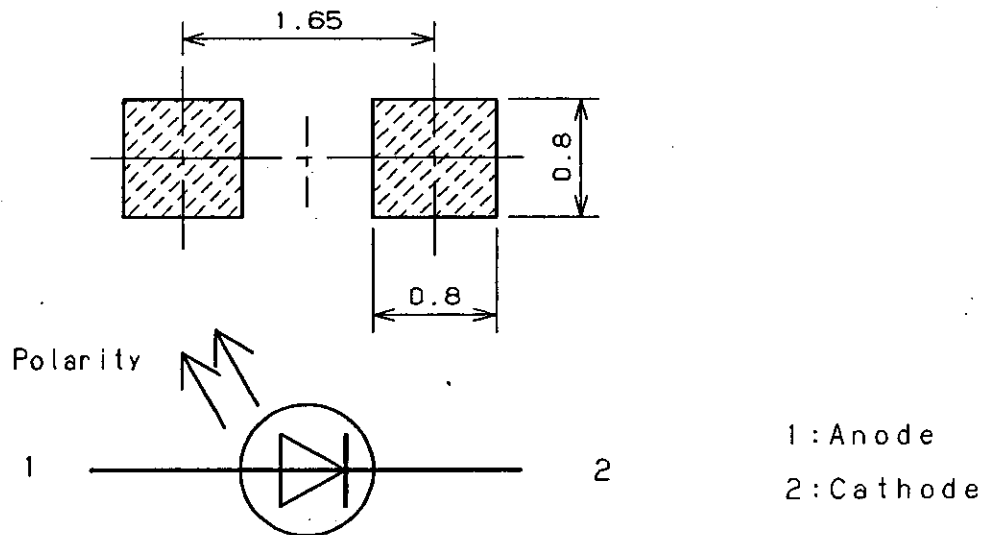
|                 |                 |                   |                           |  |  |  |
|-----------------|-----------------|-------------------|---------------------------|--|--|--|
| Approved        | Checked         | Designed          | DEVELOPMENT SPECIFICATION |  |  |  |
| <i>A. Yama.</i> | <i>T. Ikeda</i> | <i>A. Kikuchi</i> | P/N:LNJ612WBWRA           |  |  |  |
|                 |                 |                   |                           |  |  |  |



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| Mar. 5.1999 |  |  |  |
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Recommended Land Layout



(NOTE)

- 1.Measurement of the package doesn't include electrode projection.
- 2.Unit:mm

|            |  |  |  |
|------------|--|--|--|
| Mar.5.1999 |  |  |  |
|            |  |  |  |