



**THE DATASHEET OF  
EAPL3527GA5**



### Mini Top View LEDs EAPL3527GA5

PRELIMINARY



#### Features

- P-LCC-2 package.
- White package.
- Optical indicator.
- Colorless clear window.
- Wide viewing angle.
- Suitable for vapor-phase reflow.
- Computable with automatic placement equipment.
- Available on tape and reel (8mm Tape).
- Pb-free.
- ESD protection.

#### Applications

- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD, switch and symbol.
- Light pipe application.
- General use.

## Device Selection Guide

| Chip Materials | Emitted Color   | Resin Color |
|----------------|-----------------|-------------|
| InGaN          | Brilliant Green | Water Clear |

## Absolute Maximum Ratings (Ta=25°C)

| Parameter                              | Symbol | Rating  | Unit |
|--|--------|---|------|
| Reverse Voltage                        | VR     | 5   | V    |
| Forward Current                        | IF     | 25  | mA   |
| Peak Forward Current (Duty 1/10 @1KHz) | IFP    | 100   | mA   |
| Power Dissipation                      | Pd     | 95  | mW   |
| Electrostatic Discharge(HBM)           | ESD    | 2000  | V    |
| Operating Temperature                  | Topr   | -40 ~ +85   | °C   |
| Storage Temperature                    | Tstg   | -40 ~ +90   | °C   |
| Soldering Temperature                  | Tsol   | Reflow Soldering : 260 °C for 10 sec.<br>Hand Soldering : 350 °C for 3 sec. |      |

### Electro-Optical Characteristics (Ta=25°C)

| Parameter                    | Symbol           | Min.  | Typ.  | Max.  | Unit | Condition |
|------------------------------|------------------|-------|-------|-------|------|-----------|
| Luminous intensity           | $I_v$            | 360   | ----- | 900   | mcd  | IF=20mA   |
| Viewing Angle                | 2 $\theta$ 1/2   | ----- | 120   | ----- | deg  | IF=20mA   |
| Peak Wavelength              | $\lambda_p$      | ----- | 518   | ----- | nm   | IF=20mA   |
| Dominant Wavelength          | $\lambda_d$      | 517.5 | ----- | 535.5 | nm   | IF=20mA   |
| Spectrum Radiation Bandwidth | $\Delta \lambda$ | ----- | 35    | ----- | nm   | IF=20mA   |

Note:

1. Tolerance of Luminous Intensity:  $\pm 11\%$
2. Tolerance of Dominant Wavelength:  $\pm 1\text{nm}$
3. Tolerance of Forward Voltage:  $\pm 0.1\text{V}$

### Bin Range of Luminous Intensity

| Bin | Min | Max | Unit | Condition |
|-----|-----|-----|------|-----------|
| T2  | 360 | 450 | mcd  | IF=20mA   |
| U1  | 450 | 565 |      |           |
| U2  | 565 | 715 |      |           |
| V1  | 715 | 900 |      |           |

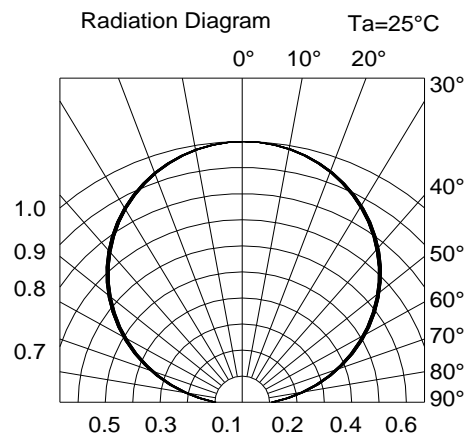
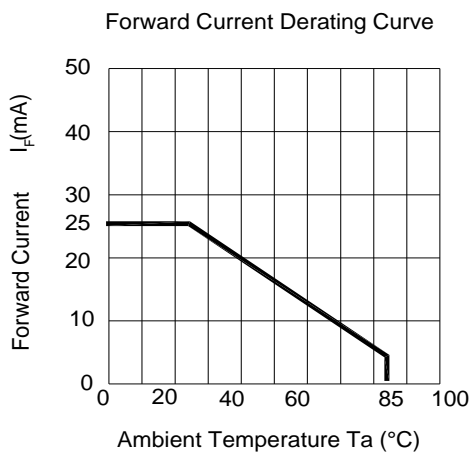
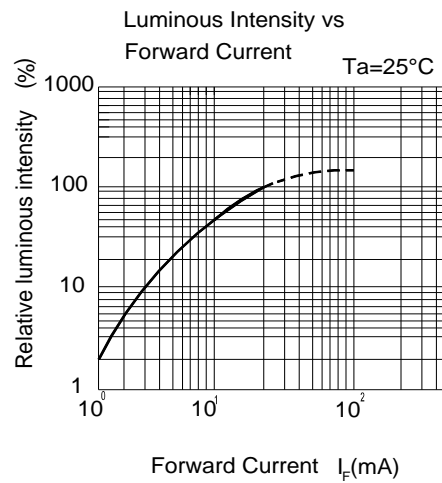
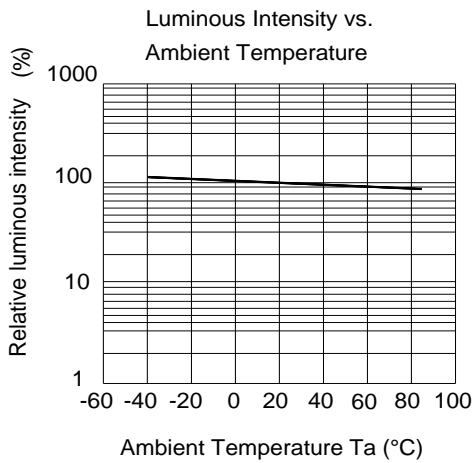
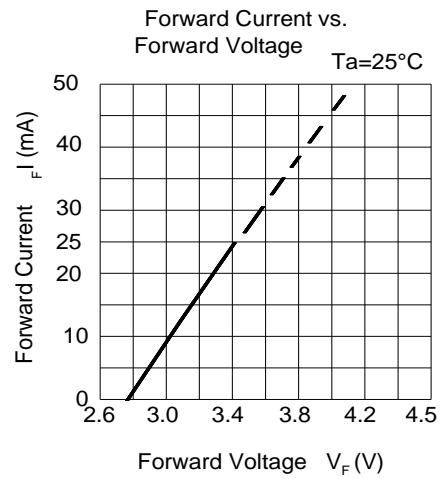
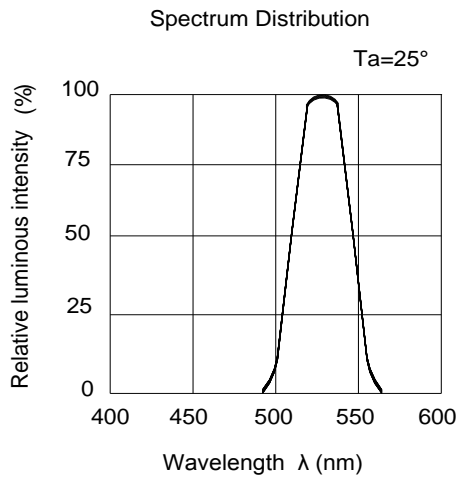
Note: Tolerance of Luminous Intensity:  $\pm 11\%$

**Bin Range of Dominant Wavelength**

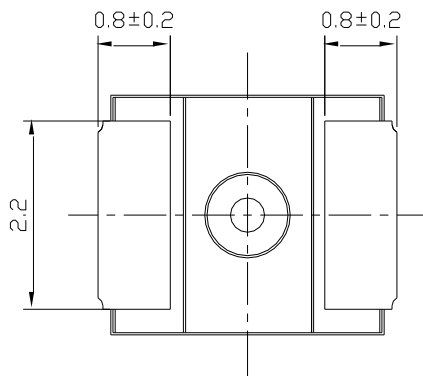
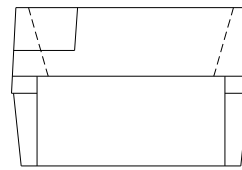
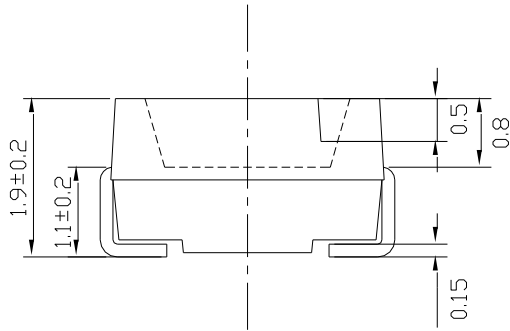
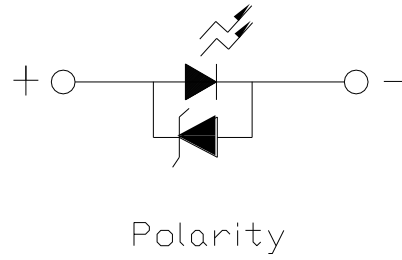
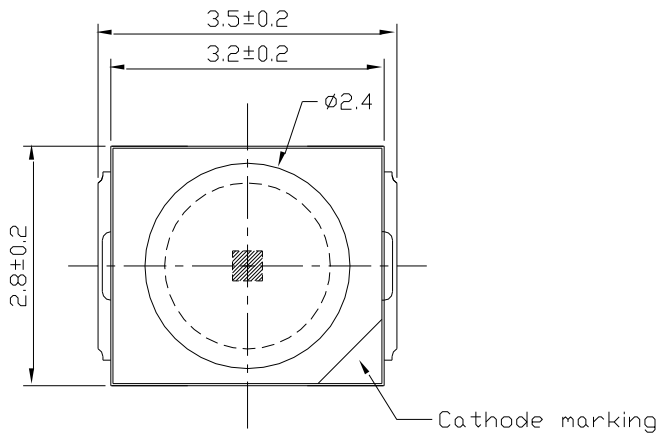
| Group | Bin Code | Min.  | Max.  | Unit | Condition            |
|-------|----------|-------|-------|------|----------------------|
| A     | B10      | 517.5 | 519.5 | nm   | I <sub>F</sub> =20mA |
|       | B11      | 519.5 | 521.5 |      |                      |
|       | B12      | 521.5 | 523.5 |      |                      |
|       | B13      | 523.5 | 525.5 |      |                      |
|       | B14      | 525.5 | 527.5 |      |                      |
|       | B15      | 527.5 | 529.5 |      |                      |
|       | B16      | 529.5 | 531.5 |      |                      |
|       | B17      | 531.5 | 533.5 |      |                      |
|       | B18      | 533.5 | 535.5 |      |                      |

Note: Tolerance of Dominant Wavelength ±1nm

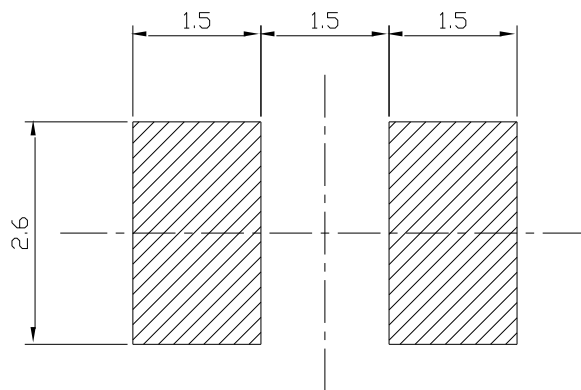
### Typical Electro-Optical Characteristics Curves



### Package Dimension



### Recommended Solder Pad



Note: Tolerances unless mentioned  $\pm 0.1$  mm. Unit = mm

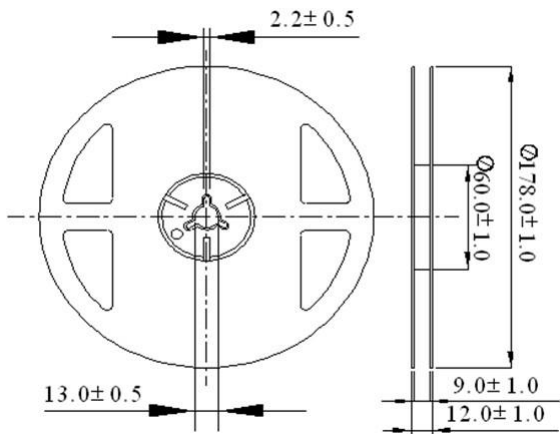
## Moisture Resistant Packing Materials

### Label Explanation

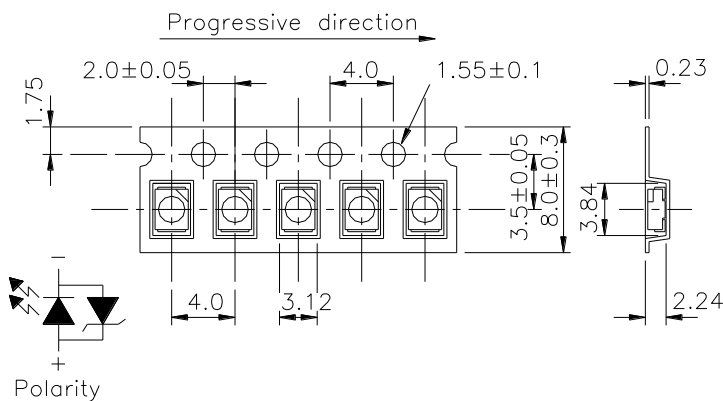


- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

### Reel Dimensions

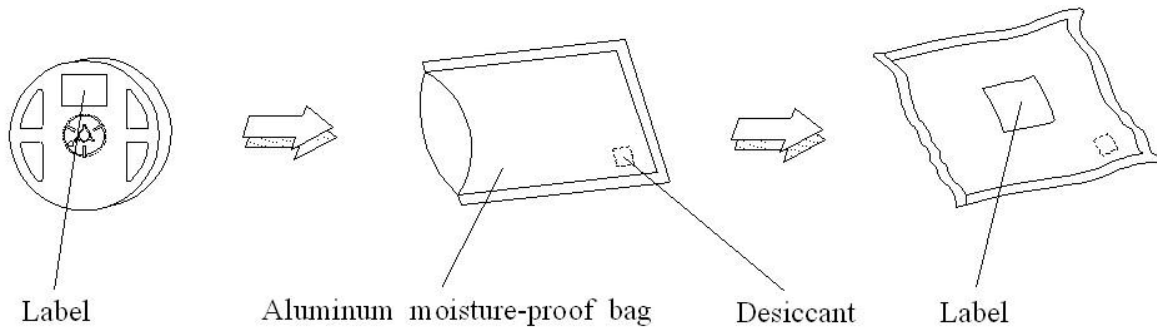


### Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel



Note: Tolerances unless mentioned  $\pm 0.1$ mm. Unit = mm

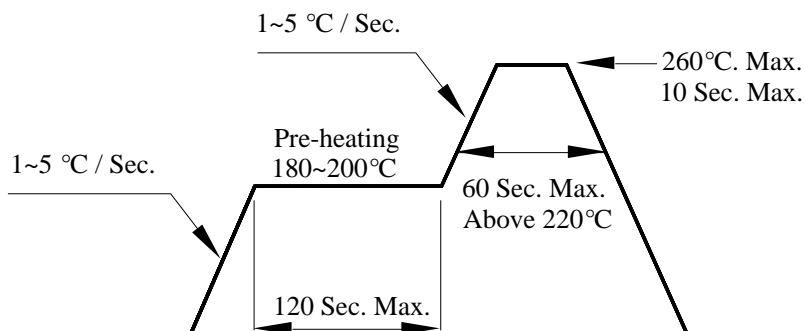
### Moisture Resistant Packing Process



Note: Tolerances unless mentioned  $\pm 0.1\text{mm}$ . Unit = mm

### Precautions for Use

- Over-current-proof  
Customer must apply resistors for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).
- Storage
  - Do not open moisture proof bag before the products are ready to use.
  - Before opening the package, the LEDs should be kept at  $30^{\circ}\text{C}$  or less and 90%RH or less.
  - After opening the package: The LED's floor life are 168 hours under  $30^{\circ}\text{C}$  or less and 60% RH or less.  
If unused LEDs remain, it should be stored in moisture proof packages.
  - If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.  
Baking treatment :  $60\pm 5^{\circ}\text{C}$  for 24 hours.
- Soldering Condition
  - Pb-free solder temperature profile
  - Reflow soldering should not be done more than two times.
  - When soldering, do not put stress on the LEDs during heating.
  - After soldering, do not warp the circuit board.

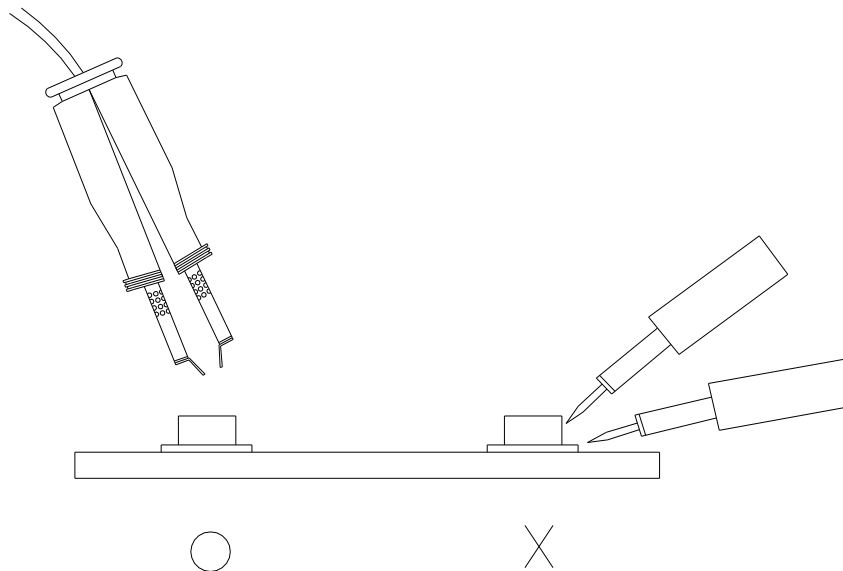


#### 4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 280°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

#### 5. Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



## Looking for pricing, stock, or lifecycle information?

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