

# DATA SHEET

## GLV92C50501 Series

Part of the simpleLED® Program

## SimpleLED® GLV92C50501 SERIES

The LED module consists of 35 5630 mid-power LEDs. It is engineered to provide customers with the flexibility to select the optimal light source for their applications. The module series complies with IEC62031 Class III and can be connected with a UL Class 2 driver (alternative configurations should be confirmed.).

## PRODUCT DESCRIPTION

Multiple CCTs available (2700K-5000K)

80& 90 minimum CRI options

Targeted 3.5 SDCM color binning

LM-80 compliant mid-power LEDs

3-Year Warranty

## TARGET APPLICATIONS

Down Lighting

Recessed Lighting

Flood Lighting

Low Bay

High Bay

Area Lighting

## APPLIED STANDARDS

IEC 62031, IEC 60068-2, UL8750

Note: All specifications are subject to change without notice.

## SimpleLED® GLV92C50501-JE35 WHITE SERIES

| PARAMETER                                 | CONDITIONS                        |
|---|-----------------------------------|
| PCB                                       | MCPCB with Ø50mm                  |
|   | UL component file number: E250937 |
| Emitter Type                              | 35 x 5630 mid-power LEDs          |
|   | UL component file number: E347623 |
| Circuit Layout                            | 5P x 7S                           |
| Connector Type                            | Wago connector: 2060-401/998-404  |
|   | UL component file number: E45171  |
| Thermal Resistance (p-n junction to Ts)   | Rth= 16 °C/W                      |
| Thermal Resistance (Ts to Tp)             | Approx. 0.08°C/W                  |
| Thermal Resistance (Ts to the back of Tp) | Approx. 0.11°C/W                  |

**Note:**  $T_j = T_p + (R_{j-s} + R_{s-p}) \times \text{Power of single LED}$

## PRODUCT SELECTION GUIDE

| PART NUMBER<br>(WITHOUT CONFORMAL COATING) | PART NUMBER<br>(WITH CONFORMAL COATING) | CCT   | CRI (min.) |
|--|---|-------|------------|
| GLV92C50501/CW-JE35I27A                    | GLV9FC50501/CW-JE35I27A                 | 2700K | 80         |
| GLV92C50501/CW-JE35I30A                    | GLV9FC50501/CW-JE35I30A                 | 3000K | 80         |
| GLV92C50501/CW-JE35K30A                    | GLV9FC50501/CW-JE35K30A                 |       | 90         |
| GLV92C50501/CW-JE35I35A                    | GLV9FC50501/CW-JE35I35A                 | 3500K | 80         |
| GLV92C50501/CW-JE35I40A                    | GLV9FC50501/CW-JE35I40A                 | 4000K | 80         |
| GLV92C50501/CW-JE35K40A                    | GLV9FC50501/CW-JE35K40A                 |       | 90         |
| GLV92C50501/CW-JE35I50A                    | GLV9FC50501/CW-JE35I50A                 | 5000K | 80         |

Note: All specifications are subject to change without notice.

## BOARD OPTICAL CHARACTERISTICS (@ 350mA, Ts=25 °C)

| BOARD                   | CCT   | CRI | FLUX (lm) |      | EFFICACY (lm/W) |      |
|-------------------------|-------|-----|-----------|------|-----------------|------|
|                         |       |     | MIN.      | TYP. | MIN.            | TYP. |
| GLV92C50501/C<br>W-JE35 | 2700K | 80  | 1058      | 1096 | 144             | 154  |
|                         | 3000K | 80  | 1077      | 1115 | 147             | 157  |
|                         |       | 90  | 851       | 926  | 116             | 130  |
|                         | 3500K | 80  | 1096      | 1134 | 149             | 160  |
|                         | 4000K | 80  | 1134      | 1171 | 154             | 165  |
|                         |       | 90  | 945       | 1021 | 129             | 144  |
|                         | 5000K | 80  | 1172      | 1210 | 159             | 170  |

## BOARD OPTICAL CHARACTERISTICS (@ 500mA, Ts=25 °C)

| BOARD                   | CCT   | CRI | FLUX (lm) |      | EFFICACY (lm/W) |      |
|-------------------------|-------|-----|-----------|------|-----------------|------|
|                         |       |     | MIN.      | TYP. | MIN.            | TYP. |
| GLV92C50501/C<br>W-JE35 | 2700K | 80  | 1421      | 1472 | 135             | 145  |
|                         | 3000K | 80  | 1446      | 1497 | 138             | 148  |
|                         |       | 90  | 1142      | 1243 | 109             | 123  |
|                         | 3500K | 80  | 1472      | 1523 | 140             | 150  |
|                         | 4000K | 80  | 1523      | 1573 | 145             | 155  |
|                         |       | 90  | 1269      | 1370 | 121             | 135  |
|                         | 5000K | 80  | 1573      | 1624 | 150             | 160  |

## BOARD ELECTRICAL CHARACTERISTICS\*

|                                 | Min. | Typ.  | Max.  |
|---------------------------------|------|-------|-------|
| Voltage (V)**                   | 19.6 | 20.3  | 21.0  |
| Total Board Power (W)<br>@350mA | 6.86 | 7.11  | 7.35  |
| Total Board Power (W)<br>@500mA | 9.80 | 10.15 | 10.50 |

## ENVIRONMENTAL CHARACTERISTICS

|                                   | Min.  | Max.  |
|-----------------------------------|-------|-------|
| Storage Temperature               | -40°C | 100°C |
|                                   | Min.  | Max.  |
| PCB Temperature (T <sub>p</sub> ) | -40°C | 80°C  |

### NOTES

\* Based on nominal LED datasheet values (65 mA, T<sub>s</sub> = 25°C). Use for reference only since application temperature and LED driver current have an influence on lumen output and forward voltage. Safe operation only possible by the use of an external constant-current source. The current source used for operation, must have the following protections:

- Short-circuit protection
- Overload protection
- Over-temperature protection

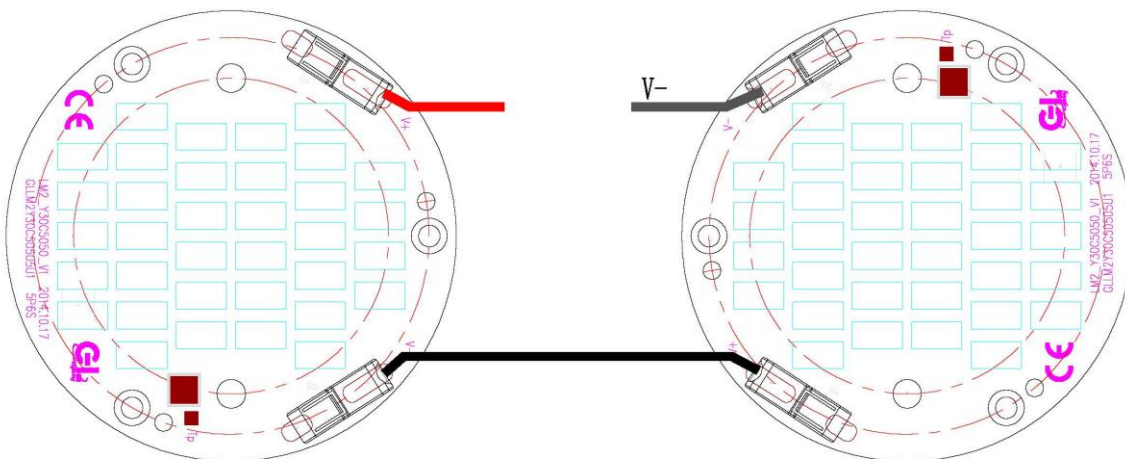
\*\*LED SUPPLIER maintains a tolerance of ±0.1V on forward voltage measurements.

Proper current de-rating must be observed to maintain junction temperature below the maximum.

Different CCTs available upon request. Contact your local sales representative.

## INTERCONNECTIVITY OPTIONS

Board-to-Board wiring options and drawings.



GLV92C84841/CW-J190

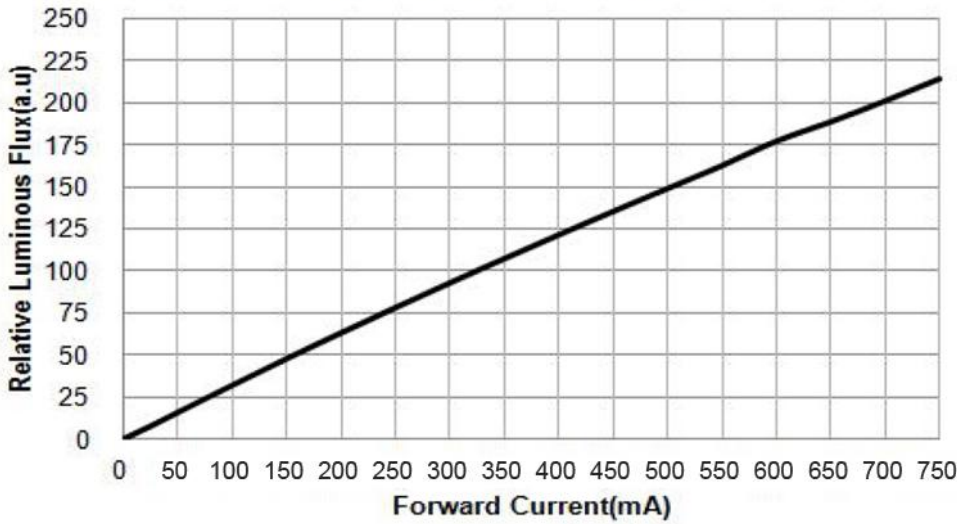
Maximum connection units

8PCS in series

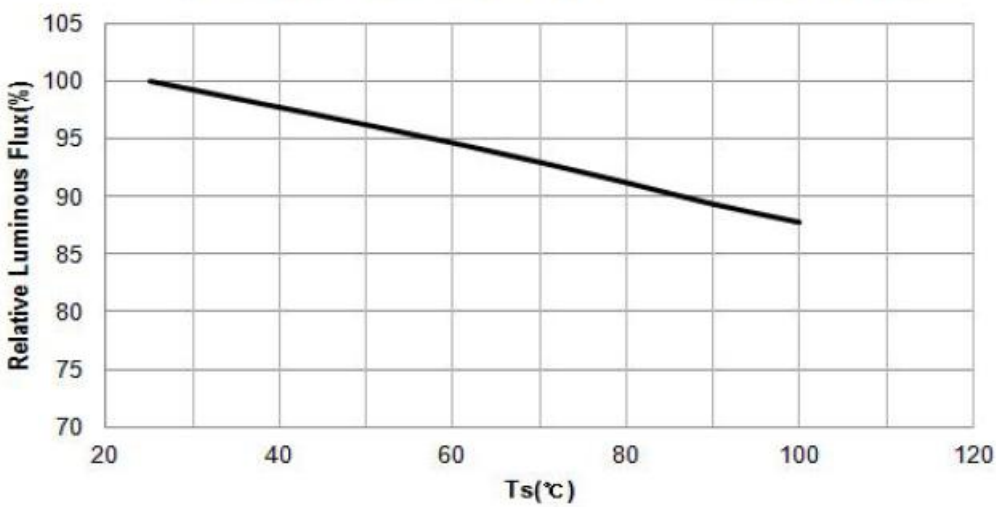
Note: All specifications are subject to change without notice.

## TYPICAL CHARACTERISTICS GRAPHS

**Relative Luminous Flux vs. Forward Current**

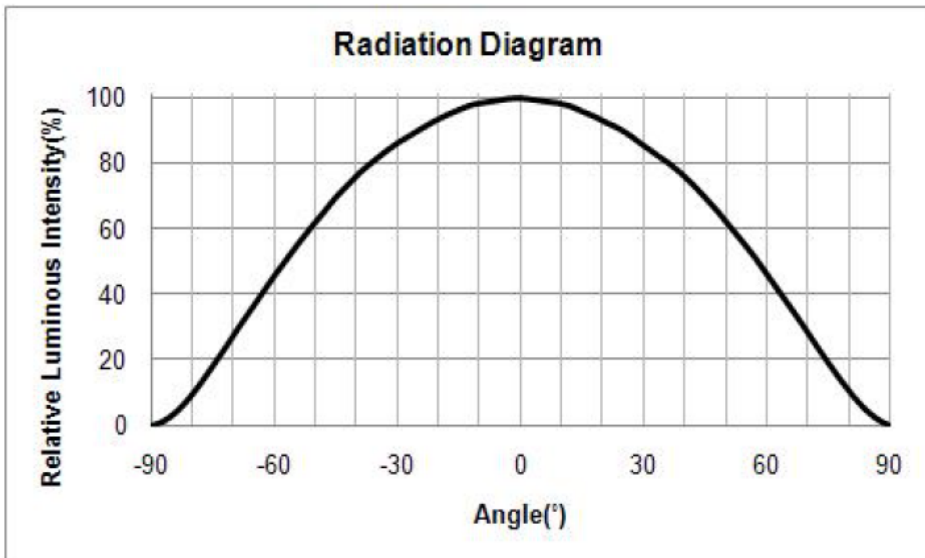
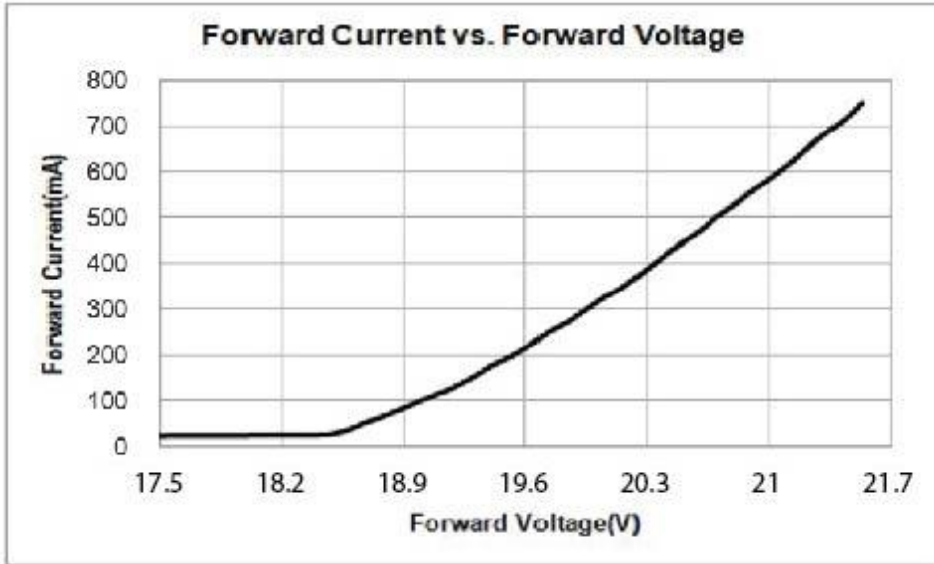


**Relative Luminous Flux vs. Temperature**



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## TYPICAL CHARACTERISTICS GRAPHS



Note: All specifications are subject to change without notice.

## LIFETIME/LUMEN MAINTENANCE INFORMATION

| Current(mA) | 350     | 500     |
|-------------|---------|---------|
| L70(hrs)    | >50,000 | >50,000 |
| Ts(°C)      | 84      | 84      |

## PART NUMBERING & ORDERING INFORMATION

1. PRODUCT SERIES

GLV92C50501

– Circular MCPCB with 35LEDs  
without conformal coating

GLV9FC50501

– Circular MCPCB with 35LEDs  
with conformal coating

2. CONNECTOR TYPE

CW – Wago connector 2060-401/998-404

3. LED TYPE

JE- 5630 mid-power LED 5P

4. NUMBER OF LED

35 – 35 LEDs

5. CCT

I27 – CRI80 2700K ANSI

I30 – CRI80 3000K ANSI

K30 – CRI90 3000K ANSI

I35 – CRI80 3500K ANSI

I40 – CRI80 4000K ANSI

K40 – CRI80 4000K ANSI

I50 – CRI80 5000K ANSI

6. FLUX BIN

A – S0 Bin

\*Comment:

1. For CRI80 version, flux bin is S3.
2. For CRI90 version, flux bin is S1.  
(S1/SZ is acceptable for 4000K version)

Part Number :

GLV92C50501 / CW – JE 35 I30 A

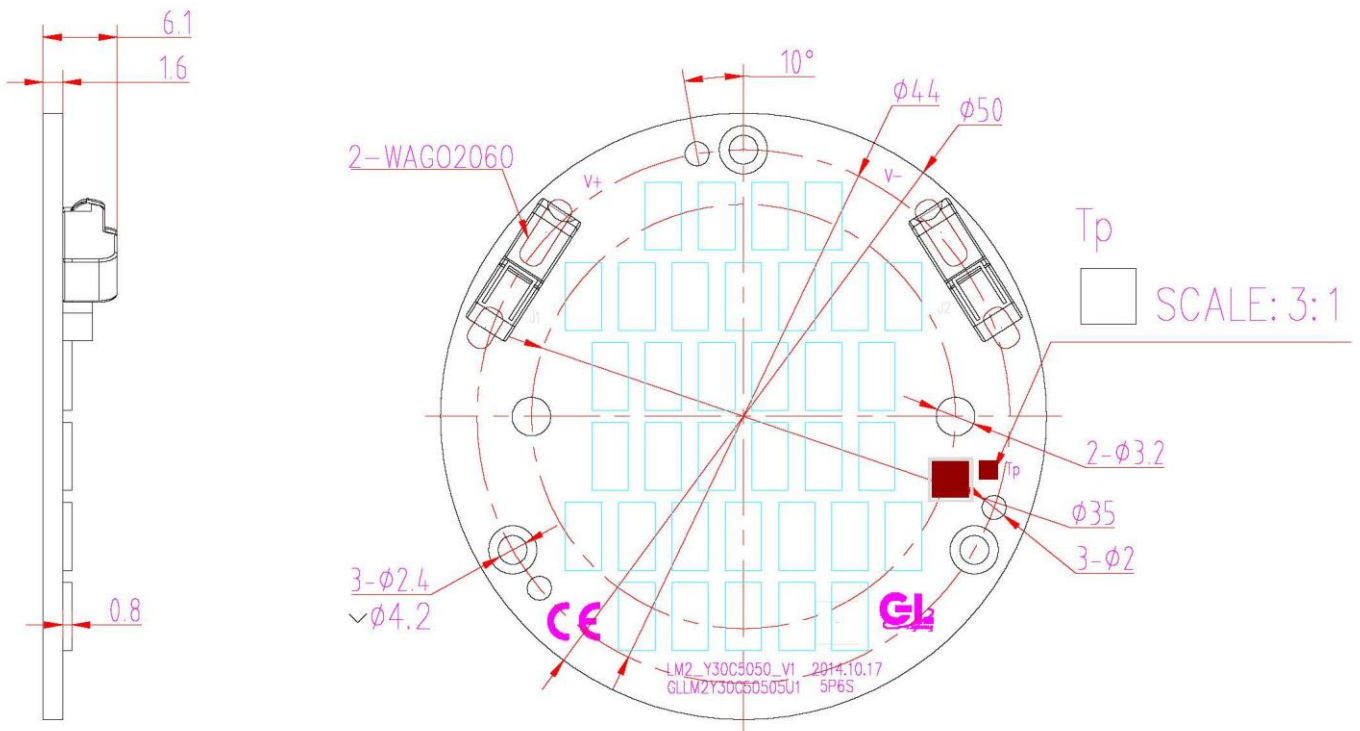
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1                    2                    3                    4                    5                    6



## MECHANICAL DIMENSIONS

All dimensions are in millimeters



Note: All specifications are subject to change without notice.

## THERMAL CONSIDERATIONS

The LED module must be operated in environmental conditions where the ambient air temperature does NOT exceed a value which would cause the LEDs to exceed their maximum junction temperature (per the LED Supplier datasheet ) or cause the maximum board temperature ( $T_p$ ) to be exceeded.

A heat sink can be used with the LED modules in order to maintain the LED junction temperature and the PCB temperature below their maximum ratings however, the following recommendations should be followed:

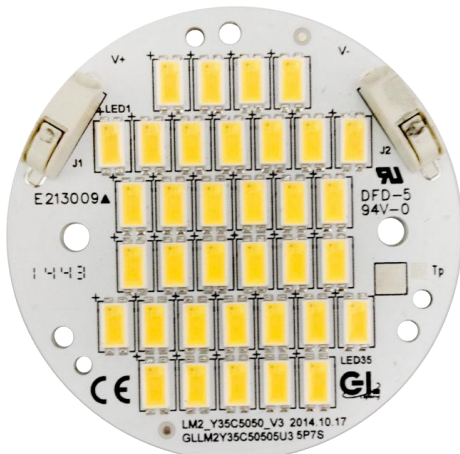
- The mounting surface for the LED module must be flat;
- Avoid bending of the PCB to avoid damaging the LEDs and the solder connections;
- Use a thermal interface material between the PCB and the heat sink.

For optimal lifetime performance, the LED module must be placed in an environment where air can flow freely around the luminaire, promoting heat transfer from conduction to the heat sink and from radiation to the air. It is not recommended to expose the module to direct sunlight or any other heat source.

### Thermal Measurement

In order to obtain an LED lifetime B50L70 of 50,000 hours , the maximum allowed solder pad temperature  $T_s$  is 84°C at a board current of 350mA,500mA.

The maximum allowed temperature at the  $T_p$  point of the board is 80°C. This temperature is not based on the LM-80 standard but is for warranty purposes only.

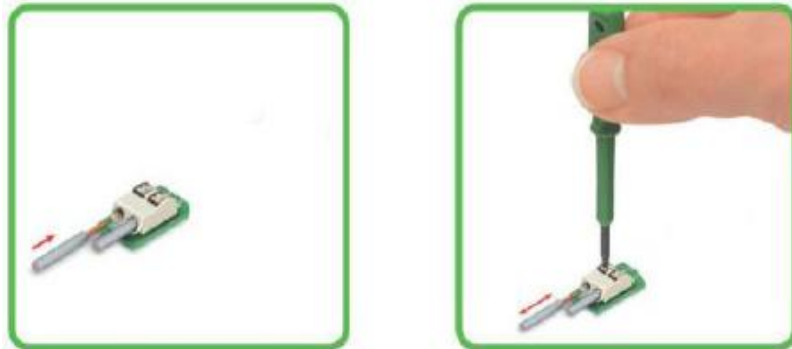


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## Assembly and Safety Information

Installation must be done according to relevant regulations and standards. The following guidelines should be respected:

- Installation must be carried out in a voltage-free state;
- The LED module contains components that are sensitive to electrostatic discharge and may only be installed in the factory and on site if appropriate EOS/ESD protection measures have been taken;
- A thermal interface material should be applied to the base of the PCB before fixing it onto a heat sink with screws. The fixing/cooling surface must be cleaned prior to installing the PCB to remove all dirt, dust and grease. The LED module must not be bent to avoid damaging the LEDs.
- Use wire size AWG 24-18 to connect the PCB to the constant-current power supply.
- Conductors must be inserted at a 0° angle to the PCB.
- Wires must be stripped to 6-7 mm (solid & stranded).



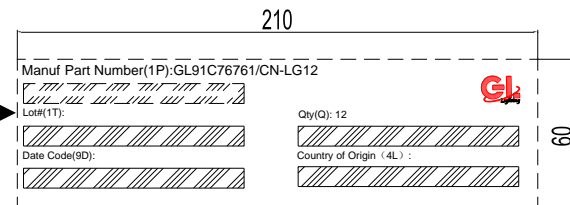
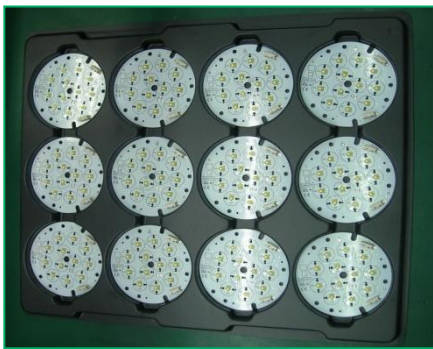
1. Insert solid conductors via push-in termination.
2. Insert/remove fine-stranded conductors by lightly pressing on the push-button

- The pressure on the LEDs will influence their reliability. Precautions should be taken to avoid such pressure.
- Do not stack PCBs on each other. LED materials are soft and this could lead to catastrophic failure of the LEDs.
- Chemicals can be harmful to the LEDs used on the module. It is recommended not to use chemicals anywhere in an LED system. The fumes from even small amounts of chemicals may damage the LEDs.
- Using corrugated boxes as packaging is only allowed if the sulfur used in the box is less than 850 ppm.
- Please ensure the correct polarity of the leads.
- For outdoor or damp locations, care must be taken to protect the LED PCB against moisture. There is the possibility of coating the board. Please contact your local sales representative for more information.

All of the above guidelines must be followed in order to qualify for the 3-year warranty. There is the possibility to extend to a 5-year warranty, please contact your local sales representative.

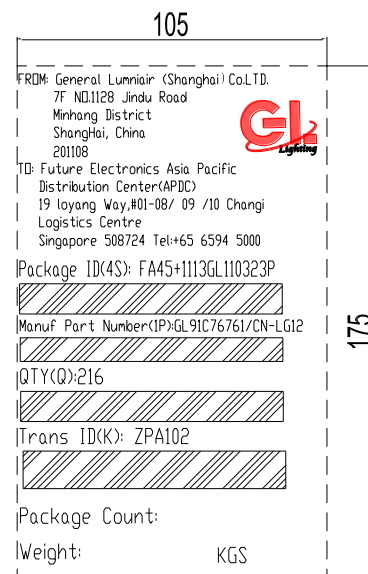
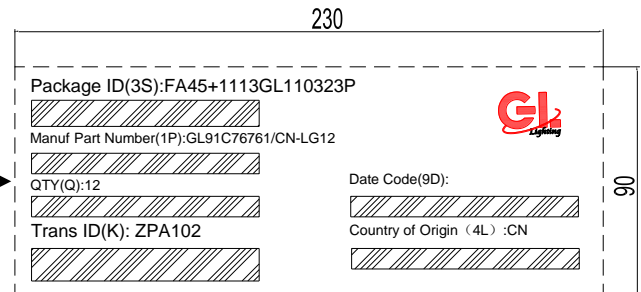
## PACKAGING INFORMATION

| INNER PACKING | SIZE         | TRAY | QTY |
|---------------|--------------|------|-----|
| TYPE          | 345*295*11mm | 1    | 20  |



| INNER PACKING | SIZE          | TRAY | QTY |
|---------------|---------------|------|-----|
| TYPE 1        | 350*300*250mm | 15   | 300 |

## PRODUCT LABELLING



Note: All specifications are subject to change without notice.