

## SPECIFICATION FOR APPROVAL

|                     |                         |
|---------------------|-------------------------|
| Customer Code:      | B347                    |
| Customer P/N:       | BW23-01-644-00          |
| Products Name:      | Constant Current Driver |
| Certification Model | BQ-250K2-260-AD         |
| Samples No.:        | BQ-250K2-AD-27          |
| Becky P/N:          | S250K2260AD27           |

| Input & Output characteristics |          |                                     |  |
|--------------------------------|----------|-------------------------------------|--|
| Rated Input Voltage            | 277-480  | Vac                                 | <b>Attention:</b><br>Output voltageX output current should be no more than max output wattage in adjustable current mode |
| Output power                   | 250      | Max.                                |  |
| Output Voltage                 | 180-260  | Vdc                                 |  |
| Output Current/Range           | 800-1200 | mA                                  |  |
| Fixed Current                  | 860      | mA                                  |  |
| flicker                        | Title24  | Bipolar flicker-free                | Unipolar flicker-free  |
|                                | <30%     | <5%                                 | <5%  |
|                                |          | <input checked="" type="checkbox"/> |  |

| Approval Of Customer Signature |     |     |                  |
|--------------------------------|-----|-----|------------------|
| Quality Dept                   | R&D | ENG | Recognition seal |
|                                |     |     |                  |

## Wire specifications

| Item    | location | Color  | Guage  | AWG   | Length   | Method connecting wire                      | Remark                      |
|---------|----------|--------|--------|-------|----------|---|-----------------------------|
| AC I/P  | L        | Black  | UL1015 | AWG18 | 350±10mm | Peel off the tin 10±1mm                     |                             |
|         | N        | White  |        |       |          |   |                             |
|         | GND      | Green  |        |       | 250±10mm | The tail is connected with the OUT-4 gasket |                             |
| Dc O/P  | V+       | Red    | UL1015 | AWG18 | 200±10mm | Peel off the tin 8±1mm                      |                             |
|         | V-       | Black  |        |       |          |   |                             |
| Dimming | Dim+     | Purple | UL1569 | AWG22 | 200±10mm | Peel off the tin 4±1mm                      | Add black protective casing |
|         | Dim-     | Pink   |        |       |          |   |                             |
| Aux12V  | 12V+     | White  | UL1569 | AWG22 | 200±10mm | Peel off the tin 4±1mm                      |                             |
| Preg    | Preg+    | Yellow | UL1569 | AWG22 | 200±10mm | Peel off the tin 4±1mm                      |                             |
|         | Preg-    | Gray   |        |       |          |   |                             |
| PS      | PS+      | Gray   | NA     | NA    | NA       | NA  |                             |
|         | PS-      | Black  |        |       |          |   |                             |

## Nameplate Information :

**Model: BQ-250K2-260-AD**  
Constant Current LED Driver

|               |                    |
|---------------|--------------------|
| Input Voltage | 277-480VAC 50/60Hz |
| Input Current | 1.0A Max           |
| Input power   | 275Watts Max       |
| Power Factor  | ≥0.90              |

|                |               |
|----------------|---------------|
| Output Voltage | 180-260VDC    |
| Output Current | 800-1200mA    |
| Output Power   | 250Watts Max  |
| 12V Output     | 12V 200mA Max |

Suitable for damp Locations Integrated spd  
For LED modules only

TC: 90°C  
Made in China  
www.becky-dg.com  
Control Mode:0-10V

**OUTPUT**  
V+ ... RED  
V- ... BLACK

**DIMMING**  
Class 2  
DIM+ ... PURPLE  
DIM- ... PINK  
12V+ ... WHITE  
Preg- ... GRAY  
Preg+ ... YELLOW

**860mA**  
**YYWW**

| Nameplate Description | Material         | Surface treatment: | Thickness: | Unit: | Remark                         |
|-----------------------|------------------|--------------------|------------|-------|--------------------------------|
|                       | Silver polyester | Polishing          | 0.13/+0.02 | mm    | The bottom of the silver black |
| Decal                 | Silver polyester | Polishing          | 0.1±0.02   | mm    | The bottom of the silver black |

## Product Characteristics

Efficiency up to 96%

Isolated dimming:0/1-10V, Dim-to-Off

Functional: Dim/Non-Dim/Aux 12V / The output current is adjustable ( External Adj power And Photocell sensor Choose between ) . meet different customer requirement is optional.

Bring afterglow optional function

- IP Rating: IP54
- Surge: CM(L/N):6KV,DM (L/N-PE) :6KV
- Warranty: 5Years



## Product Description

K2 Series is a long bipolar stroboscopic No strobe non-isolated constant current drive power supply, this series is specially designed and developed for shoebox lights, wall lights, flood lights, industrial and mining lights, beautiful appearance design, The overall appearance design is aesthetically pleasing, and the multifunctional configuration of the product meets the different functional design needs of customers. With ultra-high efficiency and good heat dissipation, it greatly improves the reliability of the product and ensures its lifespan. At the same time, comprehensive protection functions ensure that the product operates without obstacles.

it greatly improves the reliability of the product and ensures its lifespan. At the same time, comprehensive protection

## Model List

| Model List          | Pout     | Vin      | Vout     | Vout     | Iout      | Eff.     | 0-10V<br>Aux12V |          |
|---------------------|----------|----------|----------|----------|-----------|----------|-----------------|----------|
|                     |          |          |          |          |           | 277Vac   | AP              | Y        |
| BQ-250K2-260-Z      | 250W     | 277-480V | 180-260  | 200-250  | 800-1200  | 96%      | Class 2         |          |
| <b>Function "Z"</b> | <b>N</b> | <b>V</b> | <b>A</b> | <b>D</b> | <b>AD</b> | <b>P</b> | <b>AP</b>       | <b>Y</b> |
|                     |          |          |          |          | ☑         |          |                 |          |

N : No Dimming , V : 0-10V Dimming;  
 A : 0-10V Dimming and Aux12V D : 0-10V+External Adj power  
 AD : 0-10V Dimming + Aux12V+External Adj power  
 P : 0-10V dimming+Photocell sensor  
 AP : 0-10V dimming+ Aux12V+ Photocell sensor  
 Y : Indicates that the afterglow function is removed

**\* The output voltage \* output current must not exceed the maximum output power when using the current adjustable function;**

**Input Characteristics**

| Parameters                | Min. | Typical | Max. | Unit | Testing Conditions/Remark           |
|---------------------------|------|---------|------|------|-------------------------------------|
| Rated Input Voltage Range | 277  | /       | 480  | Vac  | /                                   |
| Input voltage range       | 249  | /       | 528  | Vac  | /                                   |
| Input frequency           | 47   | 50/60   | 63   | Hz   | /                                   |
| Input current             | /    | /       | 1000 | mA   | @277Vac                             |
| Inrush Current            | /    | /       | 120  | A    | 100%load at 480Vac input cold start |
| PF                        | 0.9  | /       | /    | N/A  | @277-480Vac 80%full load            |
| THD                       | /    | /       | 20   | %    | @277-480Vac 80%full load            |
| Flicker                   | /    | /       | 5    | %    | @277-480Vac                         |
| Turn-on Delay Time        | /    | /       | 750  | mS   | @277Vac                             |
| No Load Power             | /    | /       | 5    | W    | @277-480Vac                         |
| Short circuit power       | /    | /       | 10   | W    | @277-480Vac(Enter hiccup mode)      |

**Output Characteristics**

| Parameters                       | Min. | Typical | Max. | Unit | Testing Conditions/Remark           |
|----------------------------------|------|---------|------|------|-------------------------------------|
| Rated Output Voltage             | 180  | /       | 260  | Vdc  | /                                   |
| Rated output current(adjustable) | 800  | /       | 1200 | mA   | ±5% Rated Vout*Rate Iout≤Rated Pout |
| Rated output wattage             | /    | /       | 250  | W    | @100% Load at277-480Vac             |
| No-Load Voltage                  | /    | /       | 315  | Vdc  | @277-480Vac                         |
| Efficiency@277V ac               | 93.5 | 95      | /    | %    | @Full Load Output: 250v/1.0A        |
| Efficiency@347V ac               | 94   | 96      | /    | %    | @Full Load Output: 250v/1.0A        |
| Efficiency@480V ac               | 94   | 96      | /    | %    | @Full Load Output: 250v/1.0A        |
| Line Regulation                  | -5%  | /       | +5%  | %    | @Full Load                          |
| Load Regulation                  | -5%  | /       | +5%  | %    |                                     |
| Ripple Current                   | /    | 5%      | 10%  | %    |                                     |

## Dimming Characteristics

| Function                 | Parameters  |                  | Min. | Typical | Max. | Unit | Remark                    |
|--------------------------|---|------------------|------|---------|------|------|---------------------------|
| 0-10V<br>Class 2         | Applied maximum voltage   |                  | 0    | /       | 12   | V    |                           |
|                          | Dimming output current range  |                  | 0    | /       | 100  | %    | High compatibility        |
|                          | Dimming Voltage   |                  | 0    | /       | 10   | V    |                           |
|                          | Dimming Current   |                  | 90   | 100     | 110  | uA   |                           |
| Dim to Off<br>(Optional) | 0-10V   | Turn-off voltage | 0.6  | 0.8     | 1.0  | V    | Dim short circuit- Off    |
|                          |   | cut-in voltage   | 0.7  | 0.95    | 1.2  | V    |                           |
|                          | 1-10V   |                  | /    | /       | /    |      | Dim short circuit-Not Off |
| Noted                    | Please take good insulation measures if the dimming cable is not in use |                  |      |         |      |      |                           |

## Auxiliary Characteristics

| Function                   | Parameters     |  | Min.   | Typical | Max. | Unit | Remark   |
|----------------------------|----------------|--|--|---------|------|------|--|
| ■<br>(Optional)<br>Class 2 | Output Voltage |  | 11   | 12      | 13   | V    |  |
|                            | Output Current |  | 0  | /       | 200  | mA   |  |
|                            | Ripple Voltage |  | /  | /       | 500  | mV   |  |
|                            | Dynamic Load   |  | ◆<br>Please pay attention to the compatibility verification with the LED Driver when using the Aux12V or other sensor. |         |      |      |  |
| (Optional)                 | Adj.Power      |  | /  | /       | /    | %    | L/M/H Third gear output percentage                           |
|                            | 3CCT           |  | /  | /       | /    | K    | CW:Cool whiteMC:Colour mixture(CW and WW mixed)WW:Warm white |

| Test enviroment   | Start-up delay   |      |      | Power-on delay |      |      |
|-------------------|--|------|------|----------------|------|------|
|                   | Min  | Type | Max. | Min            | Type | Max. |
| Incandescent lamp | /  | /    | /    | /              | /    | /    |
| Photocell sensor  | Notes<br>1. The position of photocell should be designed to avoid the reflection interference of body light source;<br>2. Should be avoid interference from light source reflection when installing lamps<br>3. This data is for reference only. The actual value varies due to the selection of light control head and the structural design of lamps<br>4. Infrared light sensitive head |      |      |                |      |      |

Protection Function

| Function   | Parameters   | Min. | Typical | Max. | Unit | Remark  |
|------------|--|------|---------|------|------|---|
| OTP ( TC ) | Current drop mode                                      | 90   | 95      | 105  | °C   | .Current is automatically restored when overtemperature is lifted |
| SCP        | Not damaged with long time short circuit, hiccup mode  |      |         |      |      | Automatic recovery after short circuit release                    |
| OVP        | Output voltage will be limited to the specified range. |      |         |      |      | Auto recovery   |
| Others     |  |      |         |      |      |   |

Environmental Characteristics

| Parameters                                | Min. | Typical | Max. | Unit | Remark                    |
|---|------|---------|------|------|---------------------------|
| Operating Temp.                           | -40  | /       | 90   | °C   | Tc                        |
| Storage Temp.                             | -40  | /       | 90   | °C   | RH:5%~95%                 |
| Tc Temp.                                  | /    | /       | 90   | °C   |                           |
| Life Time<br>50000H/ @Tc90°C at full load | /    | 90      | /    | °C   | Refer to the life curves. |
| MTBF200000 H/@ 25°C                       | /    | 25      | /    | °C   | 80%load MIL-HDBK-217F     |

Safety and EMI Standards

| Status                              | Certification  | Country             | Safety Standard                             | 备注 Remark |
|-------------------------------------|----------------|---------------------|---|-----------|
| <input checked="" type="checkbox"/> | UL/Cul         | USA/Canada          | UL 8750                                     |           |
|                                     | CCC            | China               | GB19510.1;GB19510.14<br>GB17625.1;GB/T17743 |           |
|                                     | CE-LVD<br>ENEC | European            | EN61347-2-13; EN61347-1<br>EN62384          |           |
|                                     | CB             | CB<br>Member states | IEC61347-2-13<br>IEC61347-1                 |           |
|                                     | SAA            | Australia           | AS/NZS61347.1+AS/NZS61347.2.13              |           |

| EMI/EMS | Area     | Standard   | Requirement      |
|---------|----------|--|------------------|
| FCC     | USA      | Part 15,ANSI C63.4                                     | Class B          |
| EMC     | European | EN/IEC55015; EN61547<br>EN/IEC61000-3-2<br>EN61000-3-3 | Class C          |
| Surge   | European | IEC/EN61000-4-5  | DM:6KV<br>CM:6KV |



# PLT-13230

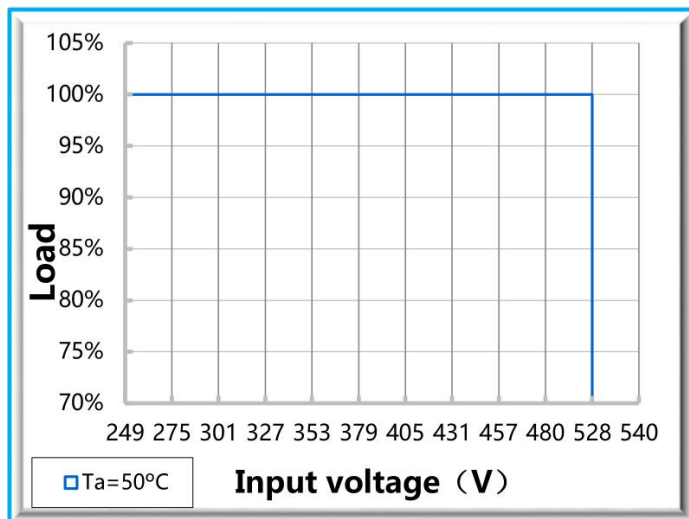
|           |          |                                 |  |
|-----------|----------|---------------------------------|--|
| Ring wave | USA      | IEC/EN 61000-4-12;ANSI/C82.77-5 | 2.5KV  |
| ESD       | European | EN 61000-4-2                    | 8 KV air discharge ;<br>4 KV contact discharge |

Remark: The LED Driver itself complies with EMC standard. However, the LED Driver's EMC should be re-checked with lamp when integrated into lighting systems.

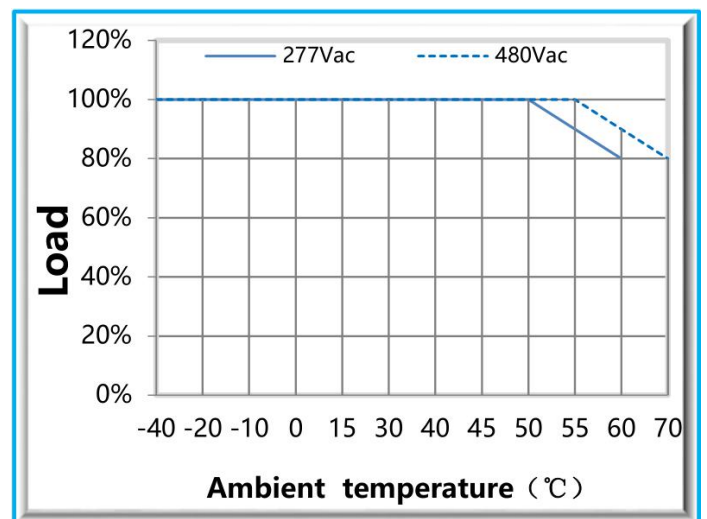
| Insulation Requirements | UL      | TUV | CCC | Unit | Remark                         |
|-------------------------|---------|-----|-----|------|--------------------------------|
| Input-Case              | 2U+1000 | /   | /   | Vac  |                                |
| Input-Dim               | 2U+1000 | /   | /   | Vac  | Reinforced insulation 2U+1000V |
| Dim-Case                | 500     | /   | /   | Vac  | Basic insulation               |
| Insulation Resistance   | > 10    | /   | /   | MΩ   | Input-Dim@500Vdc/25°C          |
| Ground Resistance       | < 0.1   | /   | /   | Ω    | PE-Case,25A/1min               |
| Leakage Current         | ≤0.75   | /   | /   | mA   | @480Vac                        |

## Performance Curves

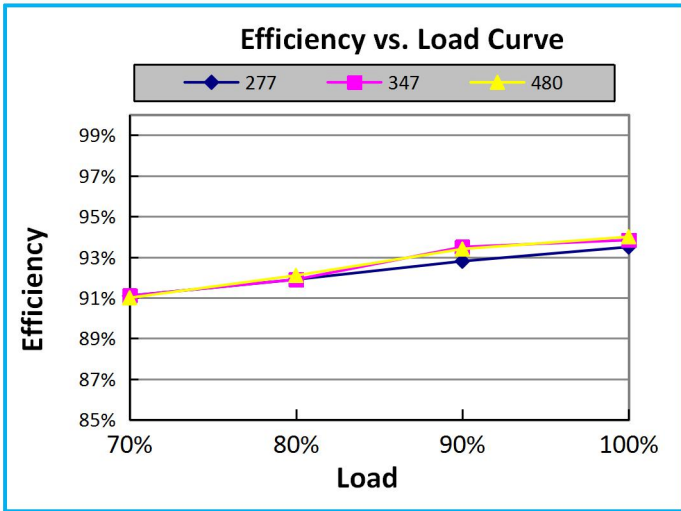
◇ Derating curve



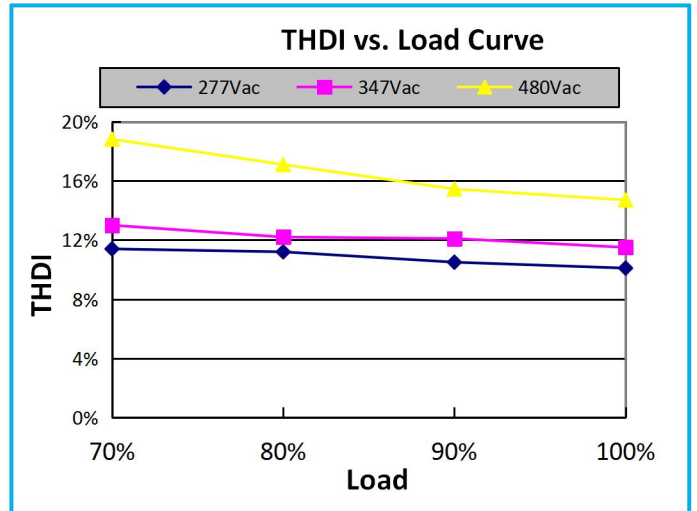
◇ Ta Vs. Load



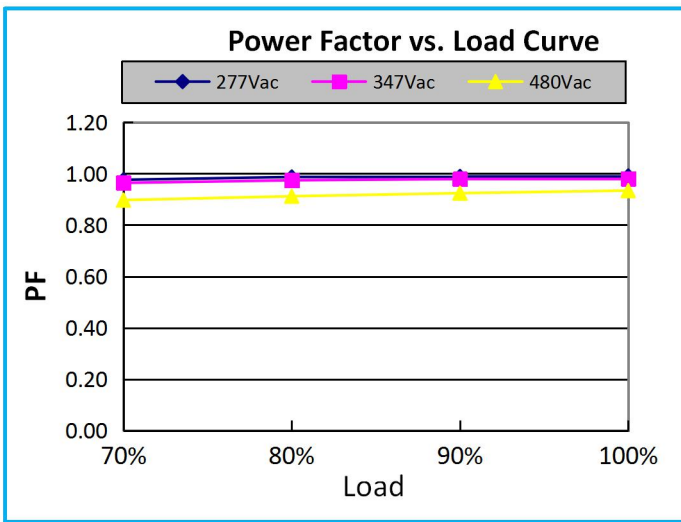
### Efficiency vs. Load Curve



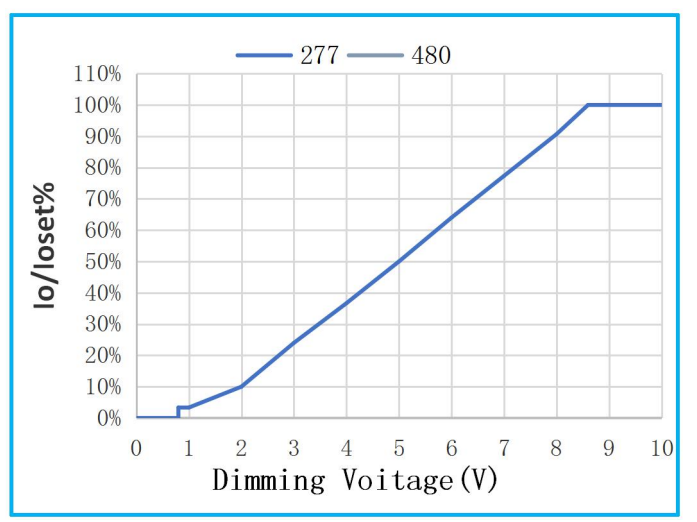
### THD vs. Load Curve



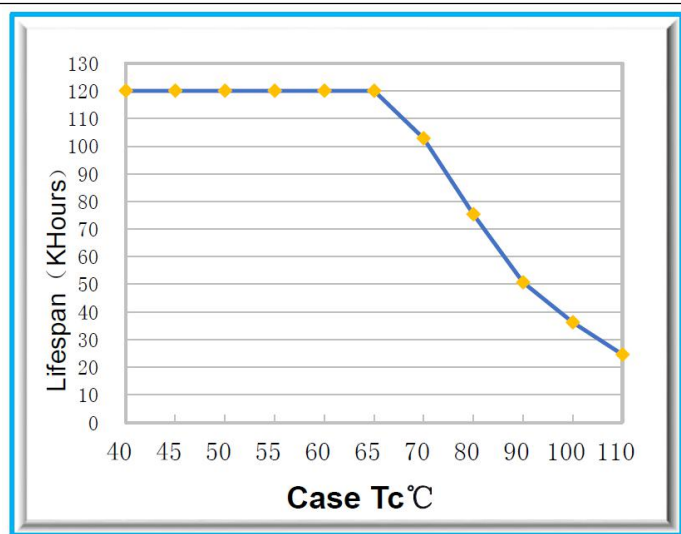
### PF Vs.Pout



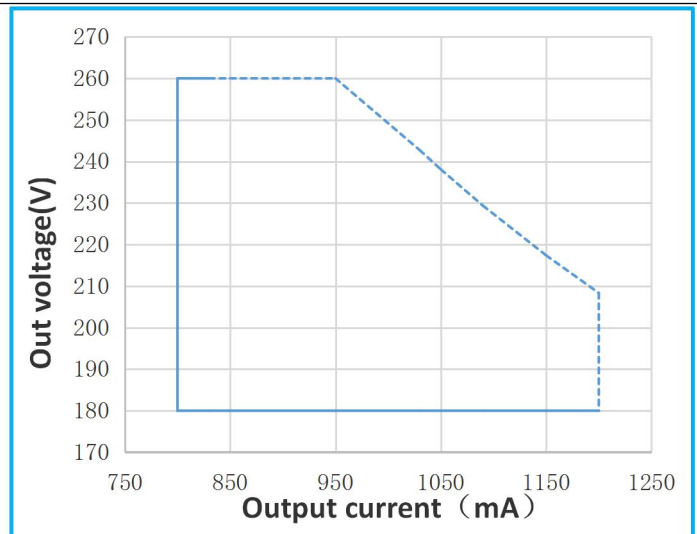
### Dimming Curve



### Life-time VS Case Tc°C

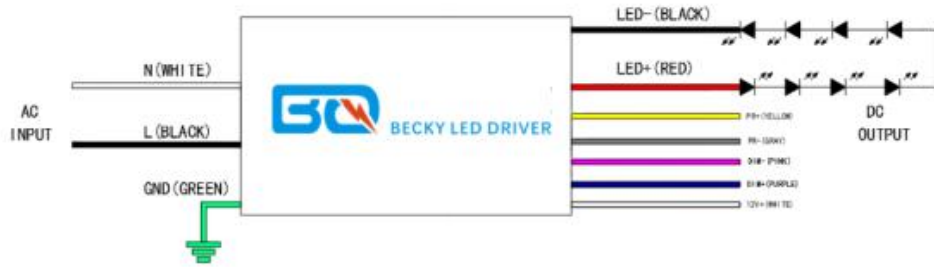


### Output voltage vs. output current



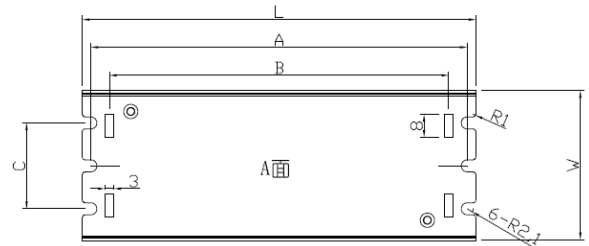
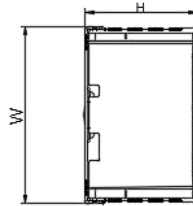
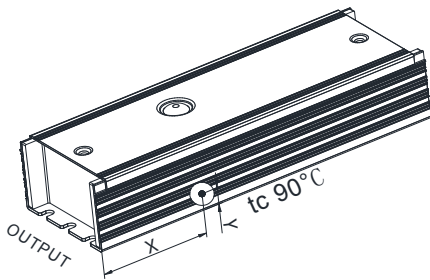


## Typical Applications



## Mechanical Characteristics

| Material of case | Dimension for case |     |    |     |      |    | Tc position |   | Tolerance | Weight | Tolerance | Tolerance |
|------------------|--------------------|-----|----|-----|------|----|-------------|---|-----------|--------|-----------|-----------|
|                  | A                  | B   | C  | L   | W    | H  | X           | Y |           |        |           |           |
| Aluminum         | 192                | 179 | 30 | 198 | 52.5 | 34 | 56          | 9 | ±2mm      | 0.64kg | ±50g      | ( Glue )  |



| Item                                | Color | AWG    | AWG    | Outlet mode            | Remark   |  |
|-------------------------------------|-------|--------|--------|------------------------|--|--|
| Input line                          | ACL   | Black  | UL1015 | AWG18<br>600V<br>105°C | Only for customers to select the reference, the detailed wire specifications and wire length and the color of the wire to acknowledge the sample after the specification page 2 shall be subject to; |  |
|                                     | ACN   | White  |        |                        |  |  |
|                                     | GND   | Green  |        |                        |  |  |
| Output line                         | LED+  | Red    | UL1569 | AWG22<br>300V<br>105°C |  | Peel off the tin 10mm                                |
|                                     | LED-  | Black  |        |                        |  |  |
| Adjust the lightAux 12v             | Dim+  | Purple | UL1569 | AWG22<br>300V<br>105°C |  | Z=D&AD(Peel off the tin10mm)<br>Z=P&AP (PH2. 0-2PIN) |
|                                     | Dim-  | Pink   |        |                        |  |  |
| Power modulation line&Light control | 12v   | White  | UL1569 | AWG22<br>300V<br>105°C | Z=D&AD(Peel off the tin10mm)<br>Z=P&AP (PH2. 0-2PIN)   |  |
|                                     | PR+   | Yellow |        |                        |  |  |
|                                     | PR-   | Gray   |        |                        |  |  |

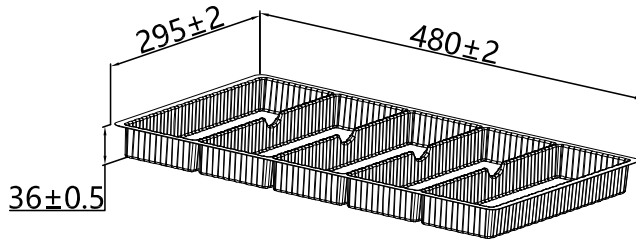
The Products comply with RoHS Directive (2011/65/EU) and REACH(No.1907/2006).

### 1) Notes for design of non-isolated driver light board:

- 2.1 The arrangement of lamp beads is recommended to design parallel first then series;
- 2.2 Withstand voltage of dielectric layers between aluminum PCB and LED>3KV.
- 2.3 Safety space between aluminum base and LED coppers coil than 4.7mm
- 2.4The creepage distance than 2.5mm between LED+ and LED- on the aluminum substrate
- 2.5 Aluminum substrate is not covered with excess heat dissipation copper foil

## Packaging information

### PACKING DRAWING



|               |       |     |
|---------------|-------|-----|
| Qty :         | _____ | PCS |
| G.W :         | _____ | Kgs |
| N.W :         | _____ | Kgs |
| SIZE :        | X X   | cm  |
| Made In china |       |     |

Side marking

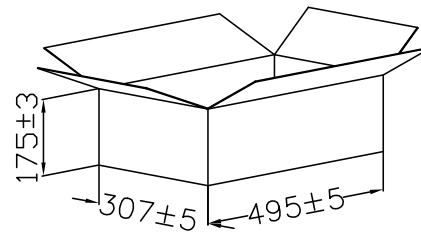
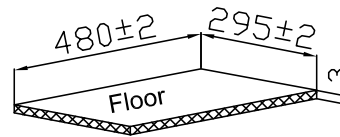
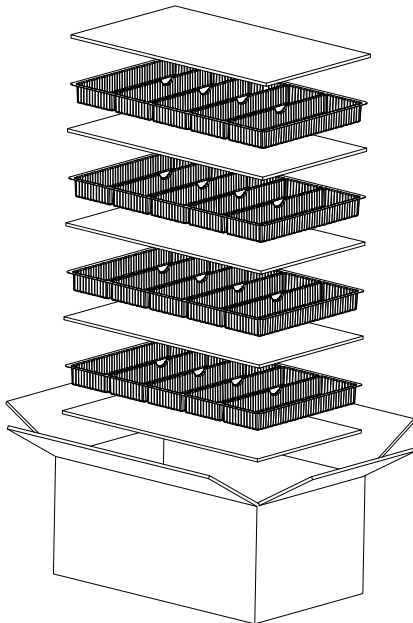


The Leader of Non-Isolated LED Driver

Professional Manufacturer of Outdoor LED Driver

Web: <http://www.becky-dg.com> <http://www.becky-usa.com>

Address: Yinyong Industrial zone Jinma Road  
Hengli Town Dongguan City



### Packing Box

Not in Scale  
For reference only  
Unit: mm

| Material    | Material part list | Size                    | Dosage<br>PCS | Total amount |
|-------------|--------------------|-------------------------|---------------|--------------|
| Floor       | JD480295A6320000   | 480 x 295mm(A636A)      | 5/Box         | 20Pcs        |
| Blister Box | UT4829536W020000   | 480 x 295 x36 x 0.35mm  | 4/Box         |              |
| Packing Box | JC503118A6320000   | 495 x 307x 175mm(A636A) | 1/Box         |              |