# СВЕТОДИОДЫ BEELED - ТЕХНИЧЕСКОЕ ОПИСАНИЕ

Product Type： BLD-HP001IR830-E42

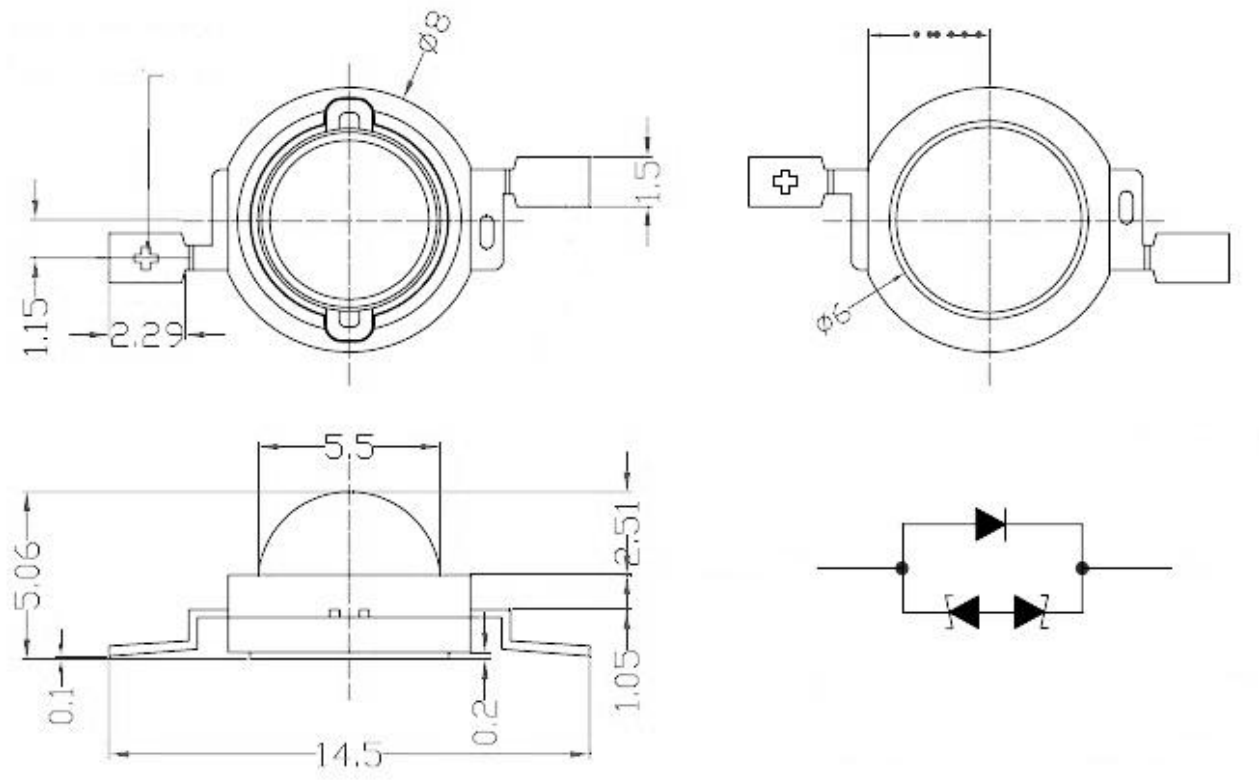
Version No.： 01

**Product Description:**

- 1 watt High Power LED
- Colloid Color：Transparent
- Emission Color: IR
- Viewing Angle:140 º

Dice Material：InGaN


## Outline Drawing




Notes：

1. All dimensions area in mm tolerance is ±0.25mm unless otherwise noted.
2. An epoxy meniscus may extend about 1.2mm down the leads.
3. Burr around bottom of epoxy may be 0.5mm max.

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**Absolute Maximum Ratings**（Ta = 25℃）

| **Items** | **Symbol** | **Maximum** | **Units** |
|---|---|---|---|
| **DC Forward Current** | $I_F$ | 500 | mA |
| **Peak forward current** | $I_{FP}$ | 1000 | mA |
| **Reverse Voltage** | $V_R$ | 4 | V |
| **Power consumption** | $P_D$ | 1.0 | W |
| **Operation Temperature** | $T_{opr}$ | -20～+80 | ℃ |
| **Storage Temperature** | $T_{stg}$ | -30～+120 | ℃ |
| **Lead Soldering Temperature** | $T_{sol}$ | Max 260℃ for 5 sec Max.<br>(3mm from the base of the body ) | |

＊Pulse width≤0.1msec　duty≤1/10

**Product Optical Properties**（Ta = 25℃）

| **Item** | **Symbol** | **Conditions** | **Min** | **Averag e** | **Max** | **Units** |
|---|---|---|---|---|---|---|
| **Forward Voltage** | $V_F$ | $I_F$=350mA | 1.6 | ---- | 1.7 | V |
| | $V_F$ | $I_F$=500mA | 1.7 | ---- | 1.8 | V |
| **Reverse current** | $I_R$ | $V_R$=4V | --- | ----- | 10 | μA |
| **Wavelength** | WL | $I_F$=350mA | 830 | ----- | 835 | nm |
| **Chromaticity Coordinates** | X | $I_F$=350mA | ----- | ----- | --- | ---- |
| | Y | $I_F$=350mA | ----- | ------ | ---- | ---- |
| **Luminous Flux** | $I_V$ | $I_F$=350mA | 0.1 | ---- | 0.3 | lm |
| **50% power Angle** | $2\theta^{1/2}$H-H | $I_F$=350mA | --- | 140 | --- | deg |
| | $2\theta^{1/2}$V-V | $I_F$=350mA | ---- | --- | --- | deg |

**Important Notes:**

1) All ranks will be included per delivery; rank ratio will be determined by BEELED

2) Tolerance of measurement of luminous intensity is ±15%.

3) Tolerance of measurement of VF is ±0.05 V.

4) Color Coordinates Measurement allowance is ±0.015.

5) For reliability test conditions and data, Please refer to “Reliability Test” section on page 5.

6) As we are making continuous efforts to improve the performance of LED, Specifications are subject to change without notice.

# Reliability Test Standards

| Type | Test item | Applicable standard | Test condition | Duration | Sampling number | Accept criteria |
|---|---|---|---|---|---|---|
| environment test | Temperature cycles | JEITA ED-4701 100 105 | -40℃～25℃～100℃～25℃ 30min 5min 30min 5min | 100cycles | 100 | 0 |
| | Thermal shock | MIL-STD-202G | -40℃～100℃ 15min 15min | 300cycles | 100 | 0 |
| | High humidity heat cycles | JEITA ED-4701 200 203 | 30℃～65℃ RH=90% 24hrs/1 cycle | 50cycles | 100 | 0 |
| | High temperature storage | JEITA ED-4701 200 201 | $T_a$=100℃ | 1000hrs | 100 | 0 |
| | Low temperature storage | JEITA ED-4701 200 202 | $T_a$=-40℃ | 1000hrs | 100 | 0 |
| | High temperature & high humidity storage | JEITA ED-4701 100 103 | $T_a$=60℃ RH=90% | 1000hrs | 100 | 0 |
| life test | Life test | | $T_a$=25℃ If=500mA(R,G,Y)/350mA(W,B) | 1000hrs | 100 | 0 |
| | High temperature & high humidity life test | | $T_a$=60℃ RH=90% If=500mA(R,G,Y)/350mA(W,B) | 1000hrs | 100 | 0 |
| | Low temperature life test | | $T_a$=-30℃ If=500mA(R,G,Y)/350mA(W,B) | 1000hrs | 100 | 0 |
| destructive experiment | Resistance to soldering heat | JEITA ED-4701 300 302 | $T_{sol}$=260℃±5℃,10sec 3mm from the base of the epoxy bulb | one time | 20 | 0 |
| | Solderability | JEITA ED-4701 300 303 | $T_{sol}$=235℃±5℃,5sec using flux | one time | 20 | 0 |
| ESD | Electrostatic discharge test | AEC Q101-001 | Human body model 1000V forward and reverse | each 3 times | 10 | 0 |
| physical experiment | Vibration | JEITA ED-4701 400 403 | 20G 20-2000HZ 4mins X,Y,Z 3directions | each 4cycles | 10 | 0 |
| | Drop | JEITA ED-4701 300 304 | 75CM | 3 times | 10 | 0 |