

# Specification

CUSTOMER NAME: \_\_\_\_\_

DIRECTOR: \_\_\_\_\_ TITLE: \_\_\_\_\_

CUSTOMER PART NO.: \_\_\_\_\_

PART NUMBER: IE-3215R-SB-C-09 REVISION: 2.0

ISSUE DATE: 2014-11-4 RETURN DATE:  / /



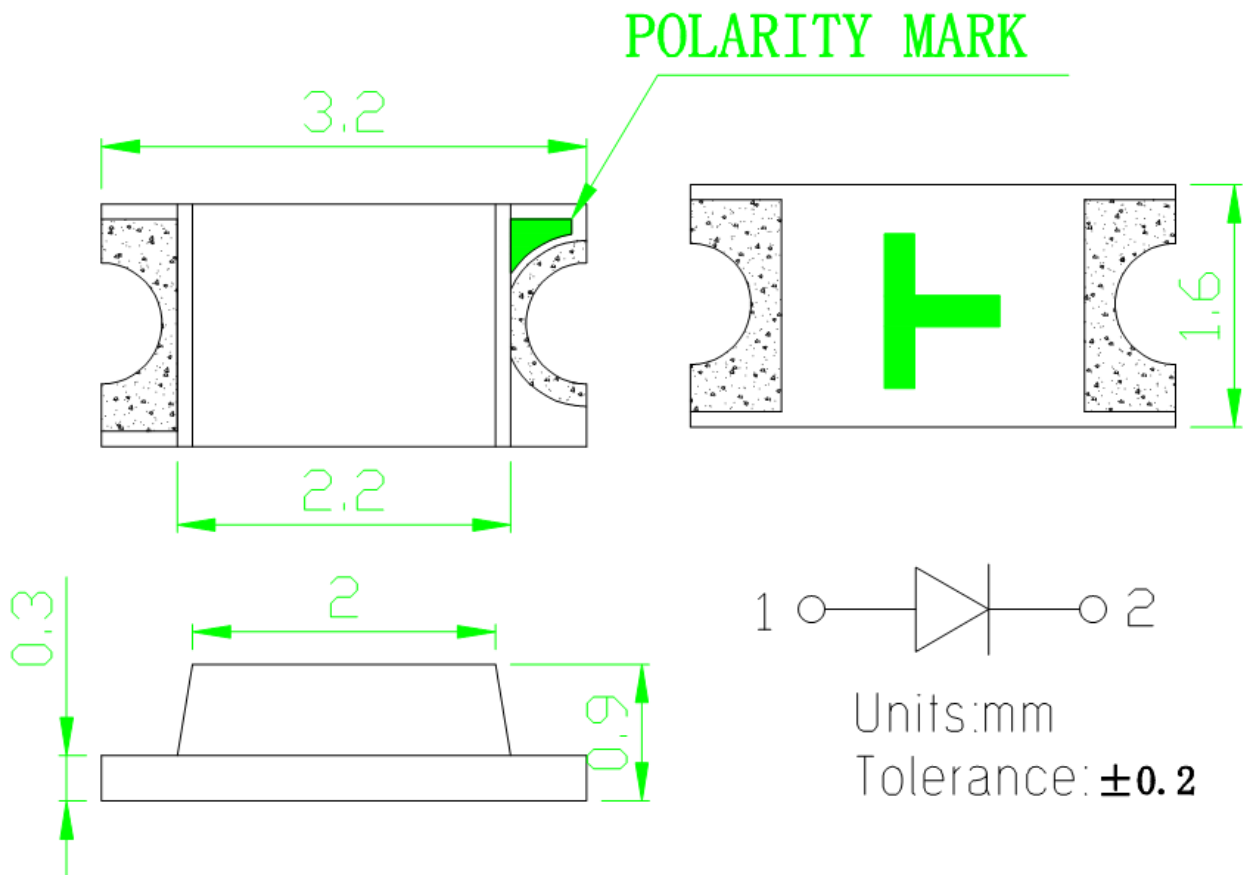
**Features**

- \_3.2mmX1.6mm SMT LED, 0.90mm THICKNESS.
- \_LOW POWER CONSUMPTION.
- \_WIDE VIEWING ANGLE.
- \_IDEAL FOR BACKLIGHT AND INDICATOR.
- \_VARIOUS COLORS AND LENS TYPES AVAILABLE.
- \_PACKAGE: 3000PCS / REEL.
- \_RoHS COMPLIANT.

**Description**

The Hyper Red source color devices are made with DH InGaAlP on GaAs substrate Light Emitting Diode

**Package Dimensions**



**Notes:**

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.1(0.004")$  unless otherwise noted.
3. Specifications are subject to change without notice.

**Selection Guide**

| Part No.                | Dice       | Lens Type          | Iv (mcd)<br>@ 20mA |            | Viewing<br>Angle |
|-------------------------|------------|--------------------|--------------------|------------|------------------|
|                         |            |                    | Min.               | Typ.       | 2 θ 1/2          |
| <b>IE-3215R-SB-C-09</b> | <b>RED</b> | <b>WATER CLEAR</b> | <b>70</b>          | <b>150</b> | <b>120</b>       |

**Note:**

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

**Electrical / Optical Characteristics at TA=25°C**

| Symbol            | Parameter                | Device     | Typ. | Max. | Units | Test Conditions |
|-------------------|--------------------------|------------|------|------|-------|-----------------|
| λ <sub>peak</sub> | Peak Wavelength          | <b>RED</b> | 617  | 625  | nm    | IF=20mA         |
| λ <sub>D</sub>    | Dominant Wavelength      | <b>RED</b> |      |      | nm    | IF=20mA         |
| Δλ <sub>1/2</sub> | Spectral Line Half-width | <b>RED</b> | 25   |      | nm    | IF=20mA         |
| C                 | Capacitance              | <b>RED</b> | 105  |      | pF    | VF=0V;f=1MHz    |
| VF                | Forward Voltage          | <b>RED</b> | 1.9  | 2.2  | V     | IF=20mA         |
| IR                | Reverse Current          | <b>RED</b> |      | 2    | uA    | VR = 7V         |

**Remarks:**

If special sorting is required (e.g. binning based on forward voltage, luminous intensity, or wavelength), the typical accuracy of the sorting process is as follows:

1. Wavelength: +/-1nm
2. Luminous Intensity: +/-15%
3. Forward Voltage: +/-0.1V

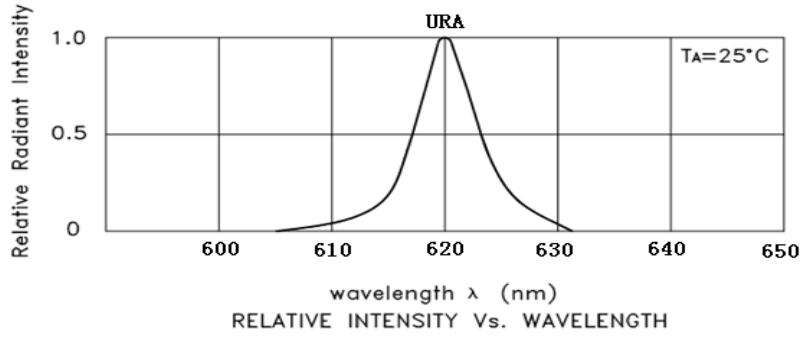
Note: Accuracy may depend on the sorting parameters

**Absolute Maximum Ratings at TA=25°C**

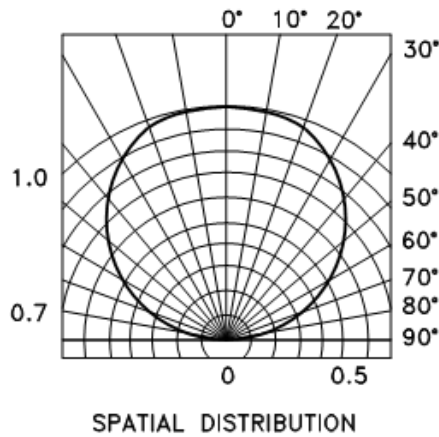
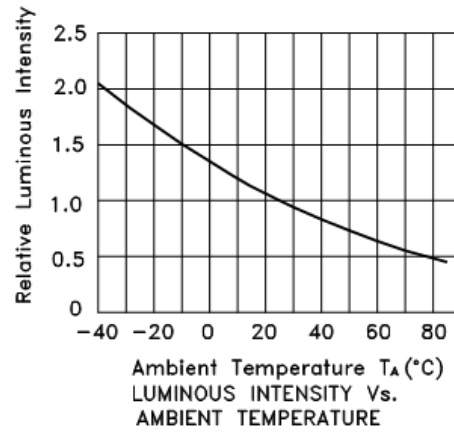
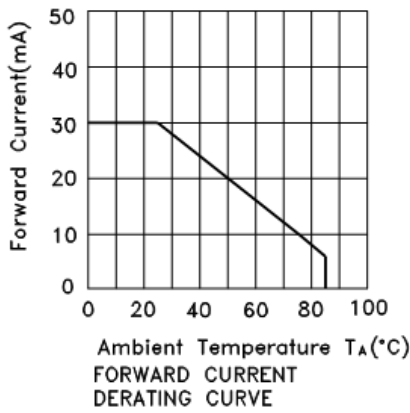
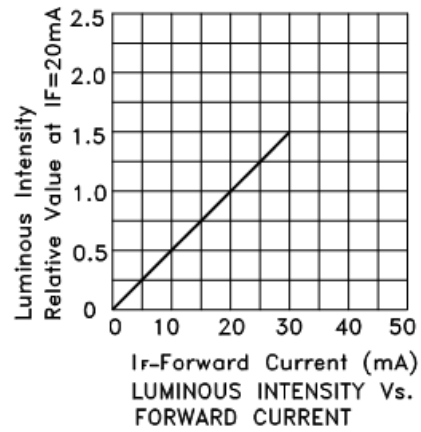
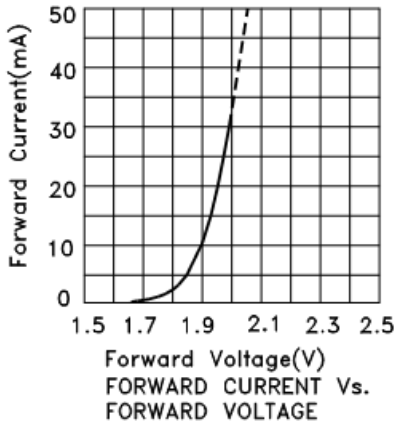
| Parameter                            | RED                   | Units     |
|--------------------------------------|-----------------------|-----------|
| <b>Power dissipation</b>             | <b>75</b>             | <b>mW</b> |
| <b>DC Forward Current</b>            | <b>30</b>             | <b>mA</b> |
| <b>Peak Forward Current [1]</b>      | <b>80</b>             | <b>mA</b> |
| <b>Reverse Voltage</b>               | <b>5</b>              | <b>V</b>  |
| <b>Operating/Storage Temperature</b> | <b>-40°C To +85°C</b> |           |

**Note:**

1. 1/10 Duty Cycle, 0.1ms Pulse Width.



**E6C1206URAC1UDA**



## RELIABILITY

### Test Items and Results

| 序号 | 试验项目  | 参考标准                     | 试验条件   | 持续时间                 | 取样数 | 接收水准(不合格 |
|----|---|--------------------------|--|----------------------|-----|----------|
|    |   |                          |  |                      |     | 数量/抽样总数) |
| 1  | 温度循环  | JEITA ED-4701            | -40℃~25℃~100℃~<br>25℃<br>30 分钟 5 分钟 30 分<br>钟 5 分钟     | 循环<br>100 回<br>合     | 50  | 0/50     |
| 2  | 冷热冲击  | MIL-STD-202G             | -40℃~100℃<br>15 分钟 15 分钟                               | 循环<br>500 回<br>合     | 50  | 0/50     |
| 3  | 高温储存  | JEITA ED-4701<br>200 201 | T <sub>a</sub> =100℃                                   | 1000 小<br>时          | 50  | 0/50     |
| 4  | 低温储存  | JEITA ED-4701<br>200 201 | T <sub>a</sub> =-40℃                                   | 1000 小<br>时          | 50  | 0/50     |
| 5  | 常温寿命<br>试验                                  |                          | T <sub>a</sub> =25±5℃<br>I <sub>F</sub> =20mA          | 1000 小<br>时          | 50  | 0/50     |
| 6  | 高温高湿<br>寿命试验                                |                          | T <sub>a</sub> =60℃ RH=85%<br>I <sub>F</sub> =20mA     | 1000 小<br>时          | 50  | 0/50     |
| 7  | 可焊性<br>(回流焊)                                | JEITA ED-4701<br>300 303 | T <sub>sol</sub> =235℃±5℃,5 秒<br>使用助焊剂                 | 焊接一<br>次, 5 秒        | 10  | 0/10     |
| 8  | 耐焊性<br>(回流焊)                                | JEITA ED-4701<br>300 301 | T <sub>sol</sub> =260℃,10 秒<br>预处理: 35℃ 95%RH<br>96 小时 | 焊接二<br>次, 每次<br>10 秒 | 10  | 0/10     |
| 备注 | 以上试验项目如与客户试验要求存在差异的或者特殊客户特殊要求的可根据实际情况按照客    |                          |  |                      |     |          |
|    | 户的要<br>求进行试作,客户未要求的按我司试验标准试作.不同产品使用不同电流进行测试 |                          |  |                      |     |          |

5.Cautions

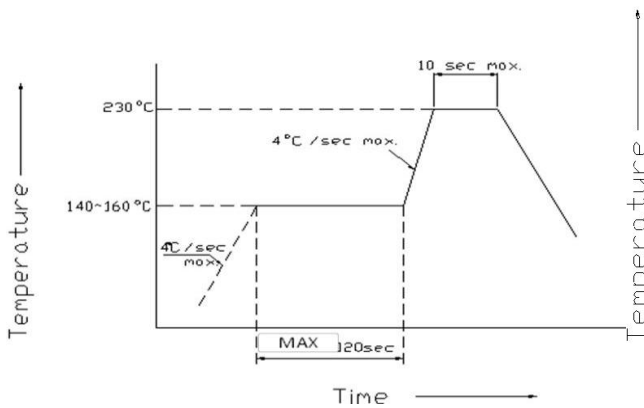
(1) Soldering Conditions

Number of reflow process shall be less than 2 times and cooling process to normal temperature is required between first and Second soldering process.

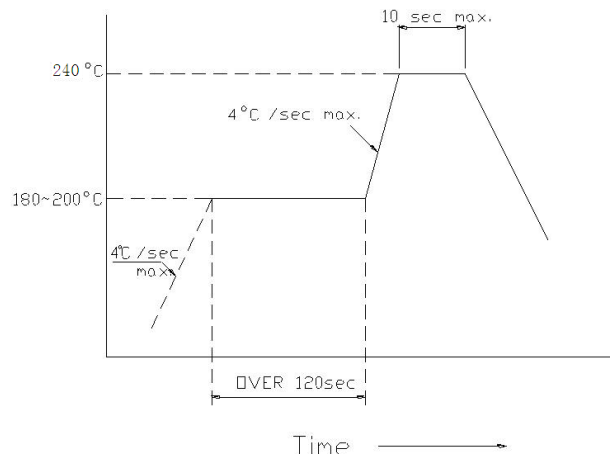
(Recommended soldering conditions)

| 回流焊接 Reflow Soldering |                               | 手工焊接                          |   |
|-----------------------|-------------------------------|-------------------------------|---|
| 预热温度 Pre-heat         | 有铅 Lead Solder                | 无铅 Lead-free Solder           | 温度 Temperature                                |
| 预热时间 Pre-heat time    | 140 ~ 160° C<br>120 sec. Max. | 180 ~ 200° C<br>120 sec. Max. | 焊接时间 Soldering time                           |
| 峰值温度 Peak temperature | 230° C Max.<br>10 sec. Max.   | 240° C Max.<br>10 sec. Max.   | 350° C Max.<br>3 sec. Max.<br>(one time only) |
| 焊接时间 Soldering time   | 参考下图                          | 参考下图                          |   |
| 条件 Condition          |                               |                               |   |

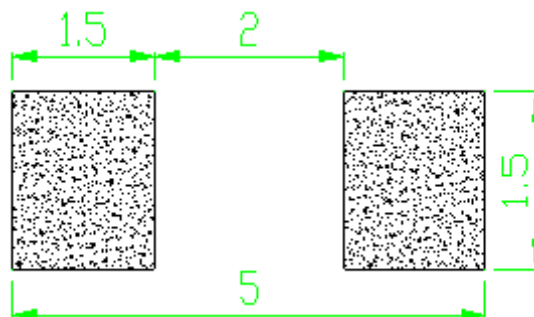
(Lead Solder)



(Lead-Free Solder)



Recommended Solderii  
(Units : mm)



(2) Static Electricity

It is recommended that a wrist band or an anti-electrostatic glove be used when handling the LEDs.

All devices, equipment and machinery must be properly grounded.

$V_F > 2.0V$  Damaged LEDs will show some unusual characteristics such as the forward voltage becomes lower, or the LEDs do not light at the low current. Criteria : ( $V_F > 2.0V$  at  $I_F=0.5mA$ )

(3) Moisture Proof Package

It is recommended that moisture proof package be used .

(4) Cautions:

4.1. Please check if there is air leak before opening the package, if so, please return the goods back to take drying process for later using.

4.2 Products can be used within 15days after packaging, after that, they must be:

4.2.1 Soldered within 24 hrs

4.2.2 Used in the condition:  $\leq 30$  within and 60%RH below

4.2.3 Stored in 30%RH for moisture below.

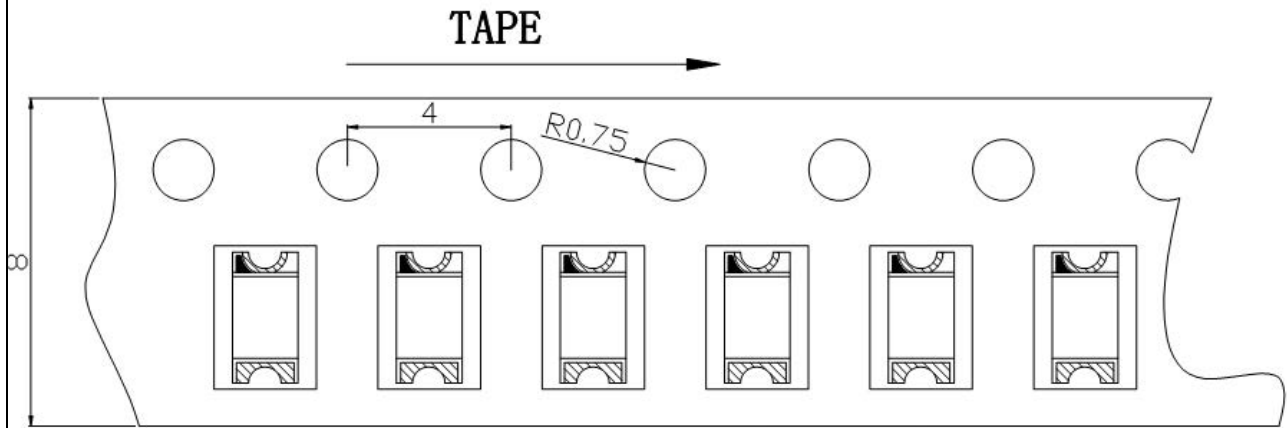
4.3. Products cannot be used for and over 15days after being packaged unless opening the package and take drying our process in  $85^{\circ}C/6H$ .

4.4. Products not be used for or over 60days after being packaged please return back to take drying out and packaging process for forward using.

4.5. Products not be used after opening the package need to be dried out for  $85^{\circ}C/6H$

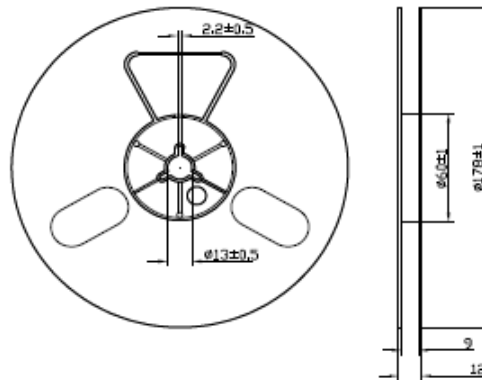
**PACKAGING**

The LEDs are packed in cardboard boxes after taping.

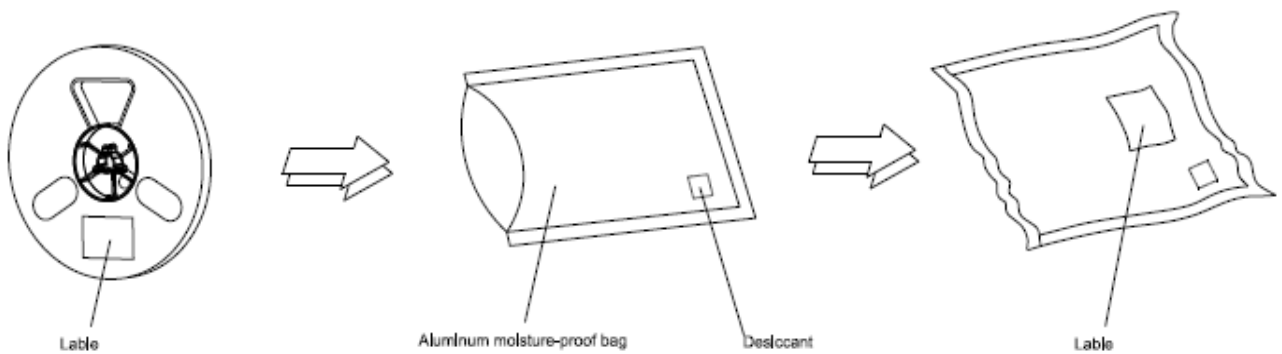


**Package: 3000 pcs/reel**

**Reel Dimensions**



**Moisture Resistant Packaging**



Note: The tolerances unless mentioned is  $\pm 0.1\text{mm}$ , Unit: mm