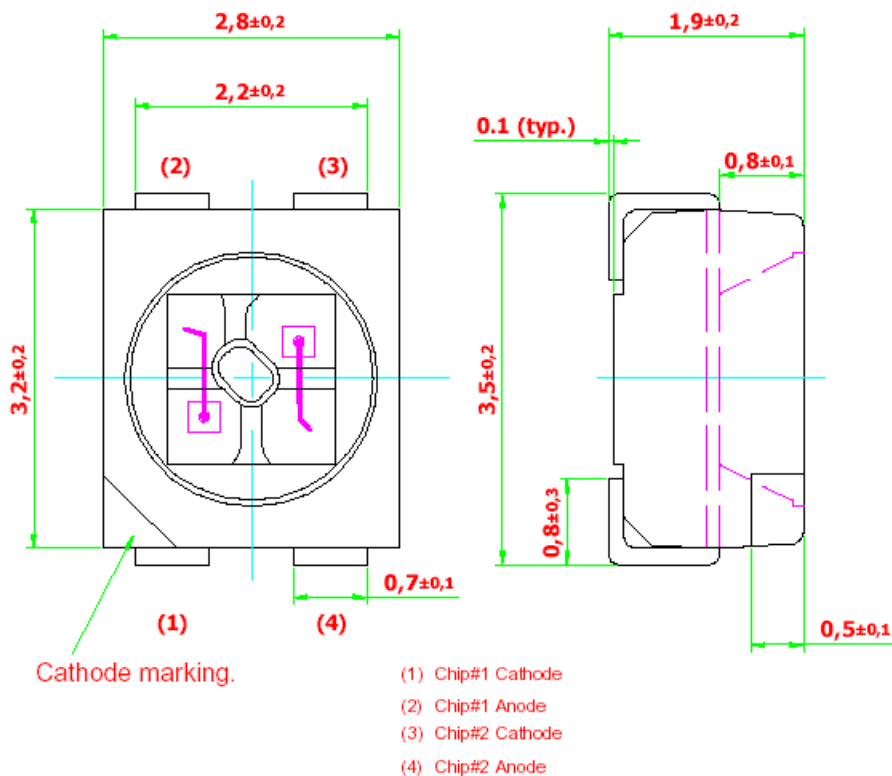




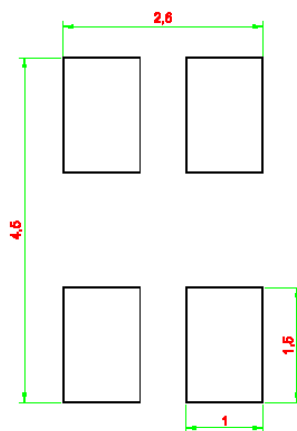
### ● Feature:

1. High brightness bi-color surface mount LED.
2. 120° viewing angle.
3. Small package outline (LxWxH) of 2.8 x 3.2 x 1.9 mm.
4. Qualified according to JEDEC moisture sensitivity Level 2.
5. Compatible to both IR reflow soldering and TTW soldering.

### ● Package Dimension:



### Recommended Solder Pad





● Optical Characteristics:

| Part Number        | Color<br>$\lambda_{\text{dom}}$ (nm) |                   | Luminous Intensity<br>@ If = 20mA . Iv ( mcd ) |                        |
|--------------------|--------------------------------------|-------------------|------------------------------------------------|------------------------|
|                    | Chip#1                               | Chip#2            | Chip#1                                         | Chip#2                 |
| <b>BL-PMRG-SJS</b> | Red<br>625                           | Green<br>570      | <b>112.5 ... 285.0</b>                         | <b>71.5 ... 180.0</b>  |
| • BIN R Q          |                                      |                   | 112.5 ... 180.0                                | 71.5 ... 112.5         |
| • BIN R R          |                                      |                   | 112.5 ... 180.0                                | 112.5 ... 180.0        |
| • BIN S Q          |                                      |                   | 180.0...285.0                                  | 71.5 ... 112.5         |
| • BIN S R          |                                      |                   | 180.0... 285.0                                 | 112.5 ... 180.0        |
| <b>BL-PMSG-CJS</b> | Super Red<br>632                     | Green<br>570      | <b>71.5 ... 180.0</b>                          | <b>45.0 ... 112.5</b>  |
| • BIN Q P          |                                      |                   | 71.5 ... 112.5                                 | 45.0 ... 71.5          |
| • BIN Q Q          |                                      |                   | 71.5 ... 112.5                                 | 71.5 ... 112.5         |
| • BIN R P          |                                      |                   | 112.5 180.0                                    | 45.0 ... 71.5          |
| • BIN R Q          |                                      |                   | 112.5 180.0                                    | 71.5 ... 112.5         |
| <b>BL-PMST-CJS</b> | Super Red<br>632                     | True Green<br>525 | <b>45.0 ... 112.5</b>                          | <b>112.5 ... 285.0</b> |
| • BIN P R          |                                      |                   | 45.0 ... 71.5                                  | 112.5 ... 180.0        |
| • BIN P S          |                                      |                   | 45.0 ... 71.5                                  | 180.0 ... 285.0        |
| • BIN Q R          |                                      |                   | 71.5 ... 112.5                                 | 112.5 ... 180.0        |
| • BIN Q S          |                                      |                   | 71.5 ... 112.5                                 | 180.0 ... 285.0        |
| <b>BL-PMSY-CJS</b> | Super Red<br>632                     | Yellow<br>587     | <b>45.0 ... 112.5</b>                          | <b>112.5 ... 285.0</b> |
| • BIN P R          |                                      |                   | 45.0 ... 71.5                                  | 112.5 ... 180.0        |
| • BIN P S          |                                      |                   | 45.0 ... 71.5                                  | 180.0 ... 285.0        |
| • BIN Q R          |                                      |                   | 71.5 ... 112.5                                 | 112.5 ... 180.0        |
| • BIN Q S          |                                      |                   | 71.5 ... 112.5                                 | 180.0 ... 285.0        |
| <b>BL-PMYB-CJS</b> | Yellow<br>587                        | Blue<br>470       | <b>112.5 ... 285.0</b>                         | <b>45.0 ... 112.5</b>  |
| • BIN R P          |                                      |                   | 112.5 ... 180.0                                | 45.0 ... 71.5          |
| • BIN R Q          |                                      |                   | 112.5 ... 180.0                                | 71.5 ... 112.5         |
| • BIN S P          |                                      |                   | 180.0 ... 285.0                                | 45.0 ... 71.5          |
| • BIN S Q          |                                      |                   | 180.0 ... 285.0                                | 71.5 ... 112.5         |
| <b>BL-PMYT-CJS</b> | Yellow<br>587                        | True Green<br>525 | <b>112.5 ... 285.0</b>                         | <b>112.5 ... 285.0</b> |
| • BIN R R          |                                      |                   | 112.5 ... 180.0                                | 112.5 ... 180.0        |
| • BIN R S          |                                      |                   | 180.0 ... 285.0                                | 180.0 ... 285.0        |
| • BIN S R          |                                      |                   | 112.5 ... 180.0                                | 112.5 ... 180.0        |
| • BIN S S          |                                      |                   | 180.0 ... 285.0                                | 180.0 ... 285.0        |

NOTE:

1. Luminous intensity is measured with an accuracy of  $\pm 11\%$ .

**● Absolute Maximum Ratings:**

| Parameter                                                          | Maximum Value      |              | Unit |
|--------------------------------------------------------------------|--------------------|--------------|------|
| DC forward current.                                                | AS AlInGaP<br>30   | InGaN<br>20  | mA   |
| Peak pulse current.<br>( $t_p \leq 10 \mu s$ , Duty cycle = 0.005) | AS AlInGaP<br>1000 | InGaN<br>200 | mA   |
| Reverse voltage.                                                   | 5                  |              | V    |
| LED junction temperature.                                          | 125                |              | °C   |
| Operating temperature.                                             | -40 ... +100       |              | °C   |
| Storage temperature.                                               | -40 ... +100       |              | °C   |

**● Optical Characteristics ( $T_A = 25^\circ C$ ):**

|            | $V_f$ at $I_f=20mA$ |      | View Angle |
|------------|---------------------|------|------------|
|            | Typ.                | Max  |            |
| Red        | 2.2                 | 2.45 | 120        |
| Super Red  | 2.2                 | 2.45 |            |
| Green      | 2.2                 | 2.45 |            |
| True Green | 3.7                 | 4.25 |            |
| Blue       | 3.7                 | 4.25 |            |

**● Vf Binning:**

| Vf Bin @ 20mA | Red, Yellow, Green;<br>AlInGaP (V) | True Green & Blue<br>InGaN (V) |
|---------------|------------------------------------|--------------------------------|
| 00            | 1.25 ... 1.55                      | 3.05 ... 3.35                  |
| 01            | 1.55 ... 1.85                      | 3.35 ... 3.65                  |
| 02            | 1.85 ... 2.15                      | 3.65 ... 3.95                  |
| 03            | 2.15 ... 2.45                      | 3.95 ... 4.25                  |

Forward voltage, Vf is measured with an accuracy of  $\pm 0.1$  V.

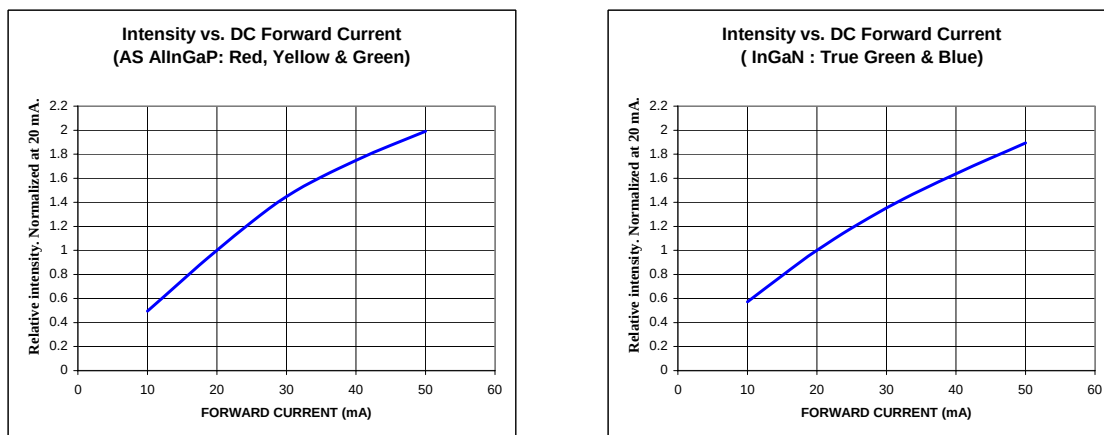
**● Wavelength Grouping:**

| <b>Color</b> | <b>Group</b> | <b>Wavelength distribution (nm)</b> |
|--------------|--------------|-------------------------------------|
| Super-red    | Full         | 625 – 640                           |
| Red          | Full         | 620 - 630                           |
| Yellow       | Full         | 582 – 594                           |
|              | W            | 582 – 585                           |
|              | X            | 585 – 588                           |
|              | Y            | 588 - 591                           |
|              | Z            | 591 - 594                           |
| Green        | Full         | 564.5 – 576.5                       |
|              | W            | 564.5 – 567.5                       |
|              | X            | 567.5 – 570.5                       |
|              | Y            | 570.5 – 573.5                       |
|              | Z            | 573.5 – 576.5                       |
| True Green   | Full         | 520 - 536                           |
|              | W            | 520 - 524                           |
|              | X            | 524 - 528                           |
|              | Y            | 528 - 532                           |
|              | Z            | 532 - 536                           |
| Blue         | Full         | 464 - 476                           |
|              | W            | 464 - 468                           |
|              | X            | 468 - 472                           |
|              | Y            | 472 - 476                           |

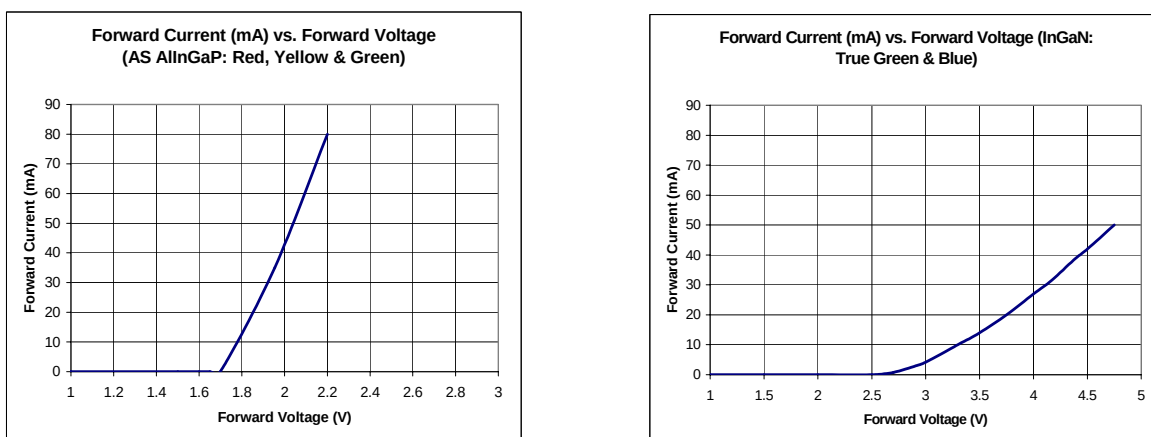


### ● Typical electro-optical characteristics curves:

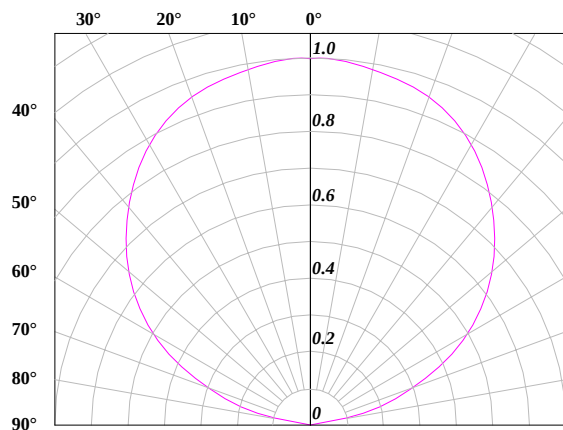
**Fig. 1 Relative luminous intensity vs. forward current.**



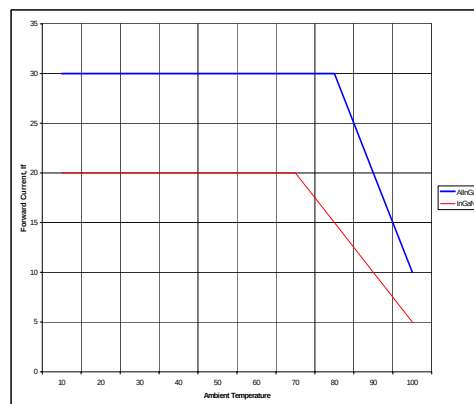
**Fig. 2 Forward current vs. forward voltage**



**Fig. 3 Radiation pattern.**

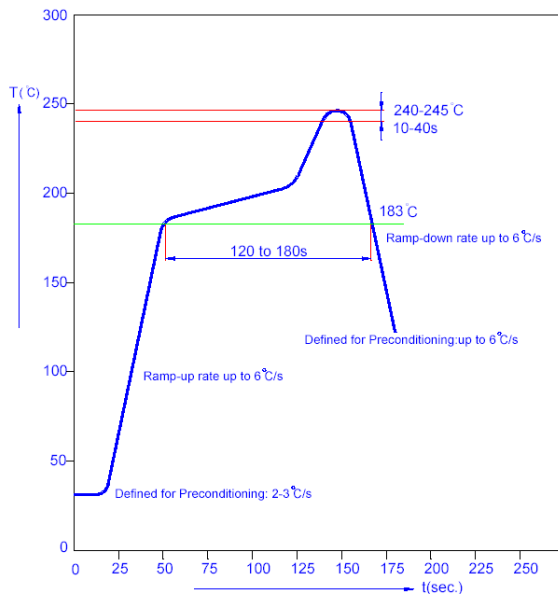


**Fig. 4 Maximum forward current vs. temperature**

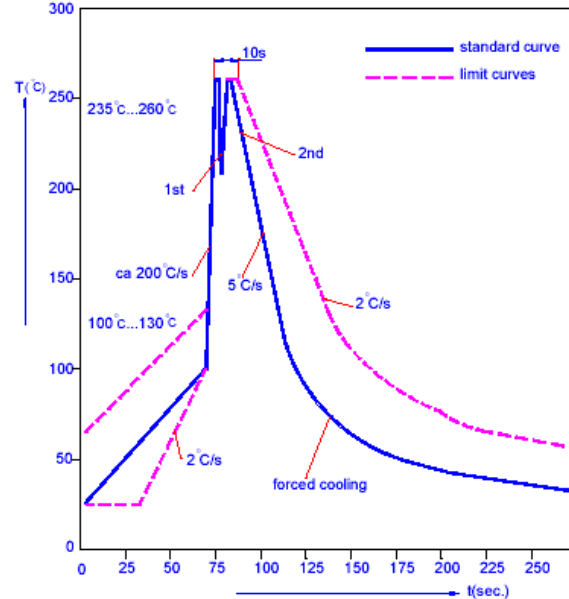




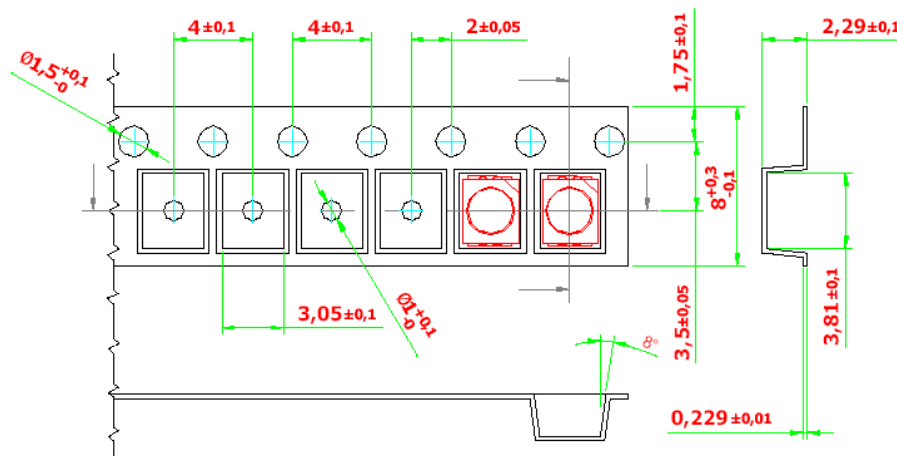
**Fig. 5 Recommended IR-reflow Soldering Profile**



**Fig. 6 Recommended TTW Soldering Profile**



- **Taping And Orientation:** Reels come in quantity of 2000 units. Reel diameters is 180 mm.



200 mm min. for Ø180 reel.

200 mm min. for Ø330 reel.

480 mm min. for Ø180 reel.

960 mm min. for Ø330 reel.

