

1. Descriptions

The KP3528BSKA2I-JX is a Skyblue LED consisting of small and thin plastic leaded chip carrier (PLCC) 2-pin package, InGaN blue chip and phosphor.

2. Features

- ◆ Small Footprint Surface Mount Package (3.5 L × 2.8 W × 1.9 H [mm³])
- ◆ Typical Forward Voltage(V_F) : 3.2 V @ Forward Current(I_F)=20mA
- ◆ Operation Temperature from -40°C to +100°C
- ◆ Soldering methods : IR reflow soldering
- ◆ Taping : 8mm conductive black carrier tape & antistatic clear cover tape

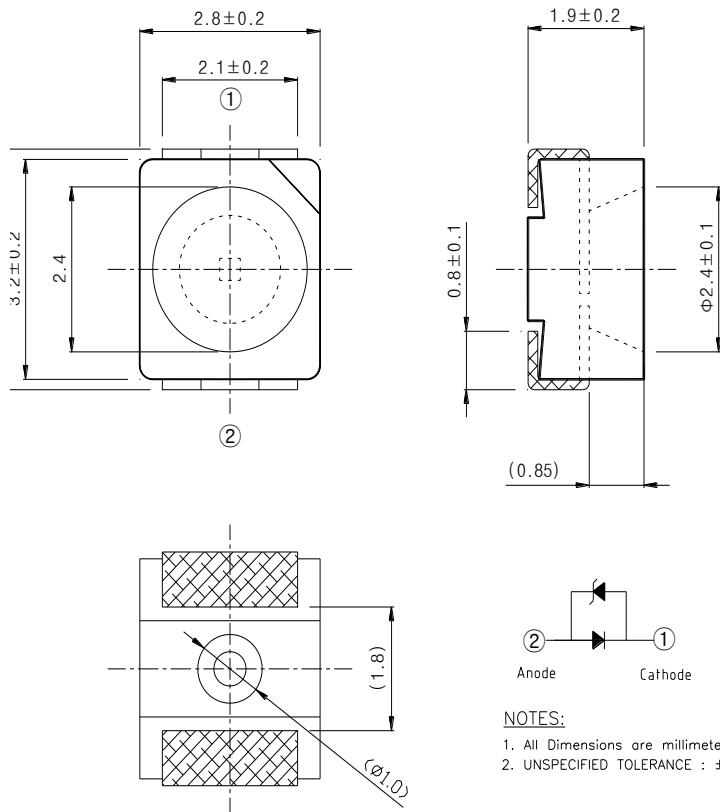
3. Applications

- ◆ Interior lighting
- ◆ General lighting
- ◆ Indoor and out door displays
- ◆ Architectural / Decorative lighting

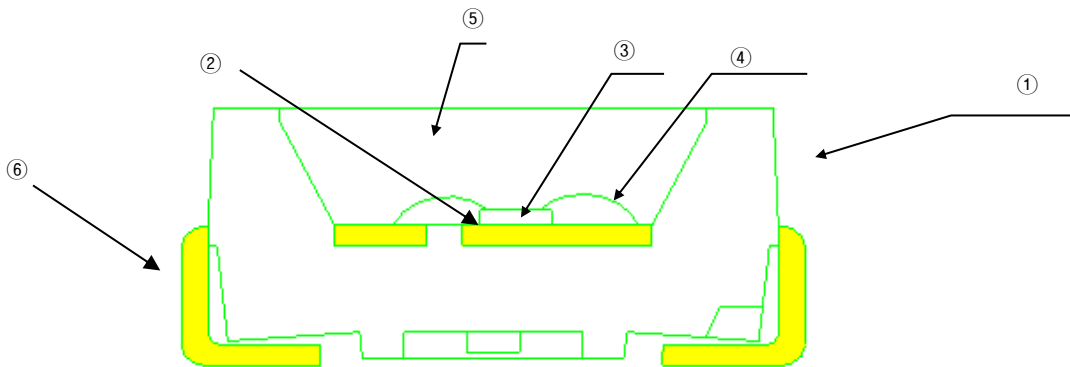
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When using this product, would you please refer to the latest specifications.

4. Outline Dimensions and Material Descriptions

◆ Outline Dimensions



◆ Material Descriptions



| No. | Item | Material |
|-----|--------------|---------------------------|
| ① | Package | PPA |
| ② | Die Adhesive | Clear Silicone |
| ③ | LED Chip | InGaN |
| ④ | Wire | Au |
| ⑤ | Encapsulant | Clear Silicone + Phosphor |
| ⑥ | Lead | Fe Alloy |

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5. Absolute Maximums

| Item | Symbol | Min. | Max. | Unit | Conditions |
|-------------------------------------|-----------|------|------|------|------------|
| Forward Current | I_F | - | 30 | mA | |
| Peak Forward Current ^{*1} | I_{FP} | - | 90 | mA | |
| Power Dissipation | P_D | - | 114 | mW | |
| Reverse Voltage | V_R | - | 5 | V | |
| Operating Temperature | T_{OP} | -40 | 100 | °C | |
| Storage Temperature | T_S | -40 | 100 | °C | |
| Soldering Temperature ^{*2} | T_{sol} | - | 260 | °C | |

*1. IFP was measured at $T_w \leq 1$ msec of pulse width and $D \leq 1/10$ of duty ratio.

*2. Soldering time : 5 Sec

6. Electro-Optical Characteristics ($T_A = 25^\circ\text{C}$)

| Item | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|------------------------------------------|-----------------|-------|------|-------|------|-------------------|
| Forward voltage ^{*3} | V_F | 2.7 | 3.2 | 3.8 | V | $I_F=10\text{mA}$ |
| Reverse voltage | V_R | 0.5 | - | 1.5 | V | $I_R=5\text{mA}$ |
| Luminous intensity [*] 1,3 | I_V | 80 | 140 | 200 | mcd | $I_F=10\text{mA}$ |
| Chromaticity coördiante ^{*3} | x | 0.151 | - | 0.158 | - | $I_F=10\text{mA}$ |
| | y | 0.065 | - | 0.085 | - | $I_F=10\text{mA}$ |
| Half angle ^{*2} | $2\theta_{1/2}$ | - | 120 | - | deg | $I_F=10\text{mA}$ |

*1. The luminous intensity I_V was measured at the peak of the spatial pattern which may not be aligned with the mechanical axis of the LED package.

*2. $2\theta_{1/2}$ is the off-axis where the luminous intensity is 1/2 of the peak intensity.

*3. Measuring Tolerance

- $V_F : \pm 0.1 \text{ V}$, $I_V : \pm 10\%$, $R_a : \pm 3$, $X, Y : \pm 0.01$

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7. Ranks

◆ I_V , V_F , Color Rank Table*1

| V_F , I_V , Color Rank @ IF = 10 mA | | |
|-----------------------------------------|---------------------------|--------------|
| Forward Voltage [V] | Luminuous Intensity [mcd] | Chromaticity |
| 1 : 2.7 ~ 3.1 | P : 80 ~ 110 | J1 |
| 2 : 3.1 ~ 3.8 | Q : 110 ~ 150 | J2 |
| - | R : 140 ~ 180 | J3 |
| - | S : 170 ~ 200 | J4 |

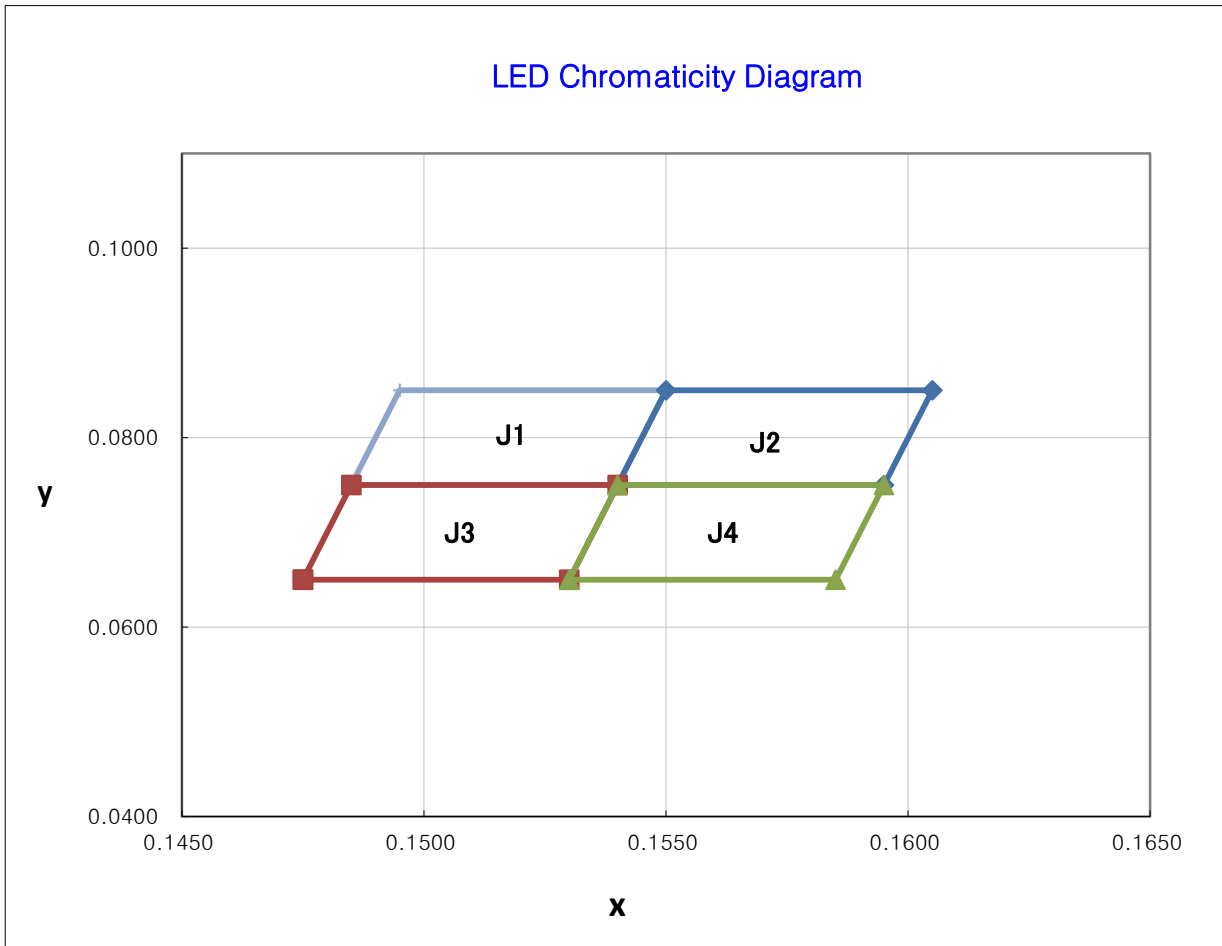
*1. KP3528BSKA2I-JX marked as 2QJ1(V_F , I_V , Color Rank) has the I_V range 110~140mcd, VF rank 3.1~3.8V and Color range J1 area.

◆ Color Coordinate Rank

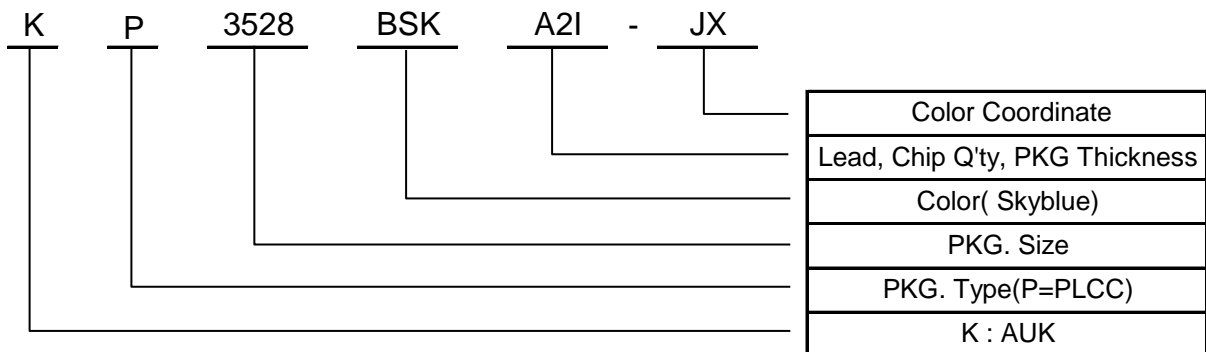
| J1 | | J2 | | J3 | | J4 | |
|--------|--------|--------|--------|--------|--------|--------|--------|
| x | y | x | y | x | y | x | y |
| 0.1485 | 0.0750 | 0.1540 | 0.0750 | 0.1475 | 0.0650 | 0.1530 | 0.0650 |
| 0.1540 | 0.0750 | 0.1595 | 0.0750 | 0.1530 | 0.0650 | 0.1585 | 0.0650 |
| 0.1550 | 0.0850 | 0.1605 | 0.0850 | 0.1540 | 0.0750 | 0.1595 | 0.0750 |
| 0.1495 | 0.0850 | 0.1550 | 0.0850 | 0.1485 | 0.0750 | 0.1540 | 0.0750 |

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◆ The CIE(x, y) Chromaticity Diagram



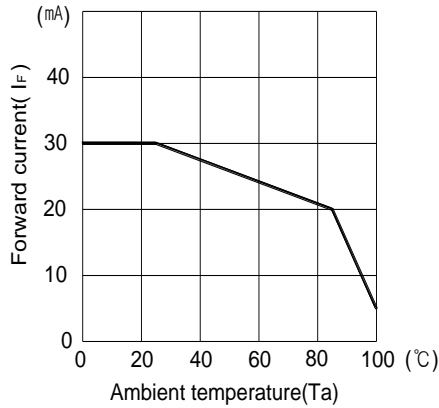
8. Part Numbering



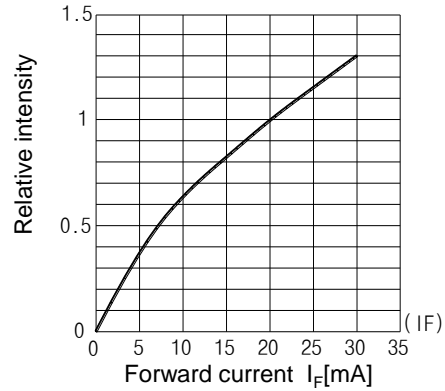
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9. Characteristic Graphs

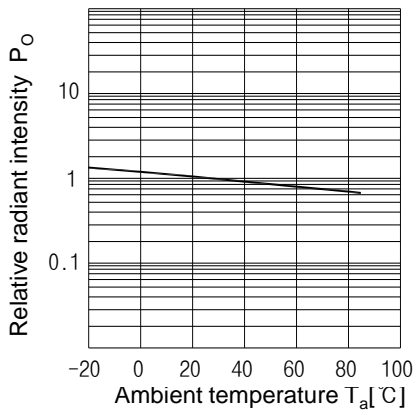
Forward current vs. Ambient temperature



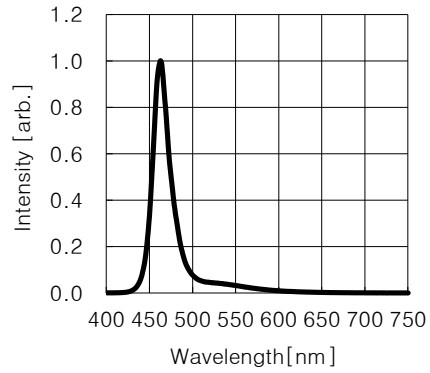
Luminous Intensity vs. Forward current



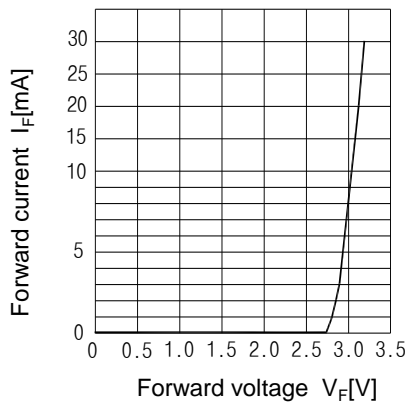
Relative luminous intensity vs. Ambient temperature



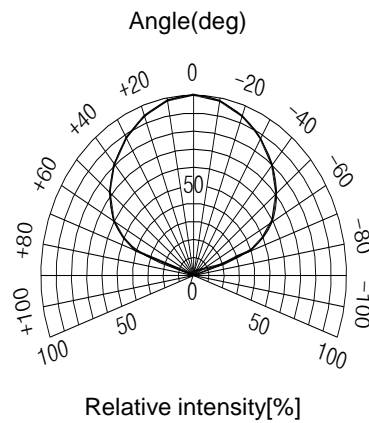
Relative intensity vs. Wavelength



Forward current vs. Forward voltage



Radiant Pattern



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