

## 1. Descriptions

The KP3528W00A2I is a White Color 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 [mm<sup>3</sup>])
- ◆ Typical Forward Voltage(V<sub>F</sub>) : 3.2 V @ Forward Current(I<sub>F</sub>)=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

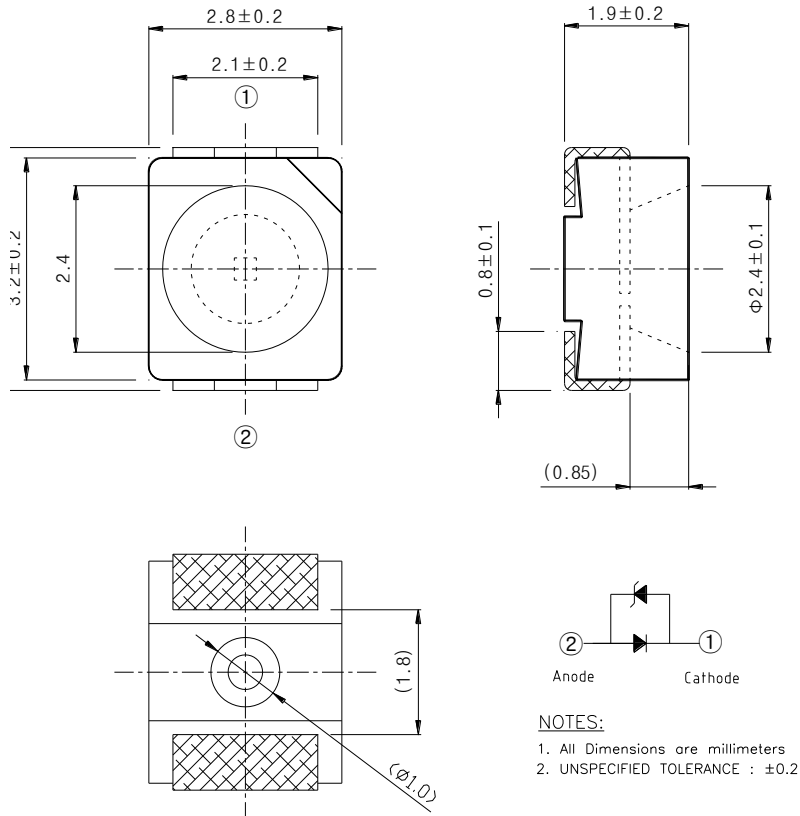
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When using this product, would you please refer to the latest specifications.

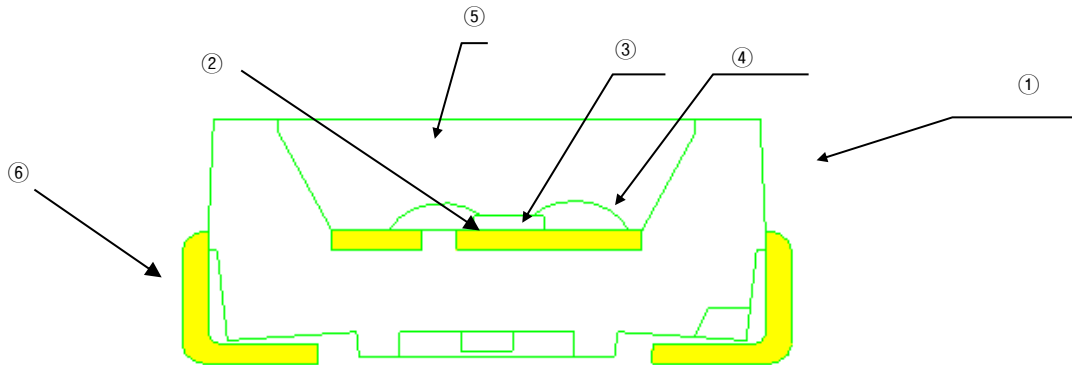
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**4. Outline Dimensions and Material Descriptions**

◆ 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* <sup>1</sup>	$I_{FP}$	-	100	mA	
Power Dissipation	$P_D$	-	111	mW	
Reverse Voltage	$V_R$	-	5	V	
Operating Temperature	$T_{OP}$	-40	100	°C	
Storage Temperature	$T_S$	-40	100	°C	
Soldering Temperature* <sup>2</sup>	$T_{sol}$	-	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* <sup>3</sup>	$V_F$	2.9	3.2	3.5	V	$I_F=20\text{mA}$
Reverse voltage	$V_R$	0.5	-	1.5	V	$I_R=5\text{mA}$
Luminous intensity* <sub>1,3</sub>	$I_V$	800	1000	1200	mcd	$I_F=20\text{mA}$
Chromaticity coordiante* <sup>3</sup>	x	0.245	0.26	0.280	-	$I_F=20\text{mA}$
	y	0.225	0.24	0.255	-	$I_F=20\text{mA}$
Half angle* <sup>2</sup>	$2\theta_{1/2}$	-	120	-	deg	$I_F=20\text{mA}$

\*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

-  $V_F : \pm 0.1$  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<sup>\*1</sup>

V <sub>F</sub> , I <sub>V</sub> , Color Rank @ IF = 20 mA		
Forward Voltage [V]	Luminuous Intensity [mcd]	Chromaticity
1 : 2.9 ~ 3.2	P : 800 ~ 1000	A1
2 : 3.2 ~ 3.5	Q : 1000 ~ 1200	X

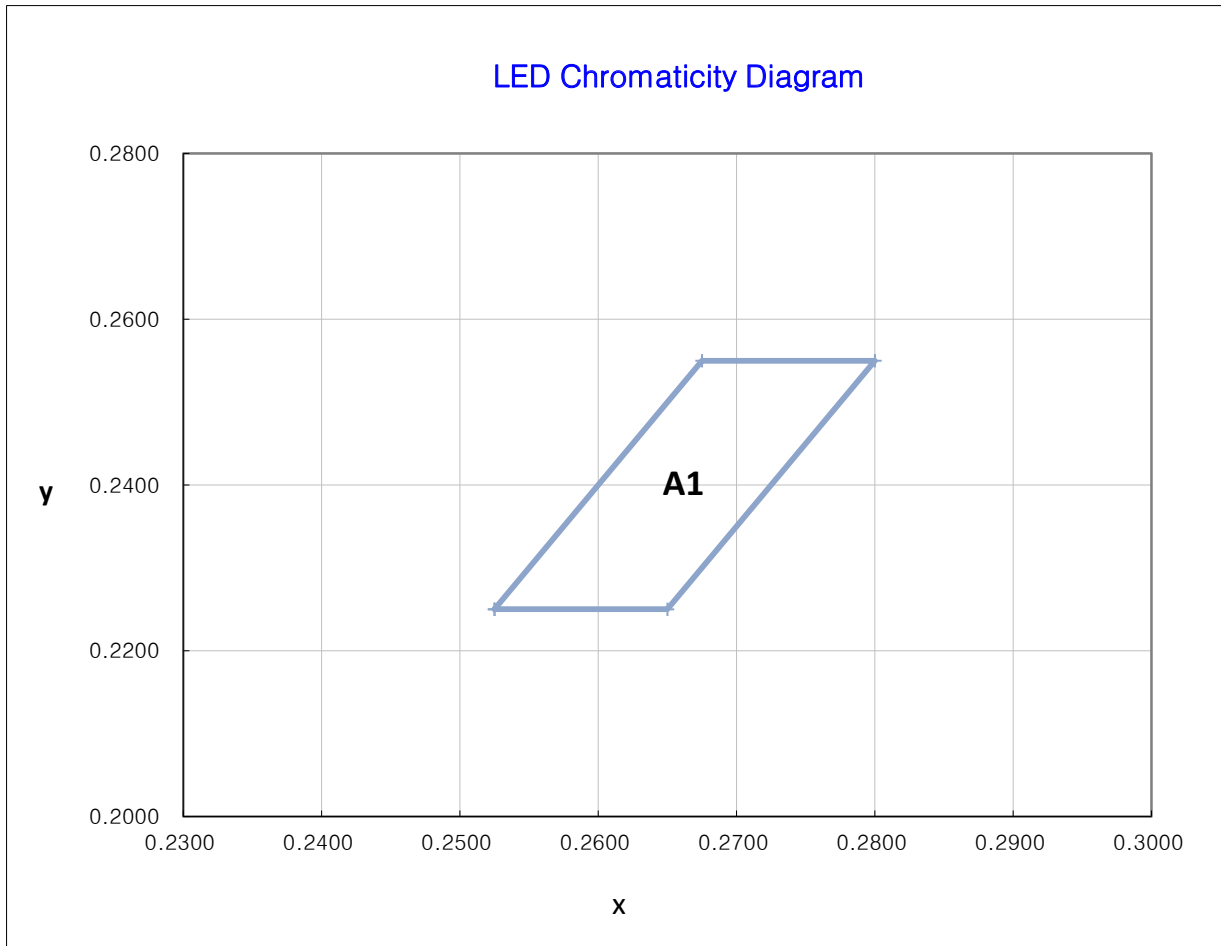
\*1. KP3528W00A2I marked as 2QA1(V<sub>F</sub>, I<sub>V</sub>, Color Rank) has the I<sub>V</sub> range 1.0~1.2cd, VF rank 3.2~3.4V and Color range b area.

◆ Color Coordinate Rank

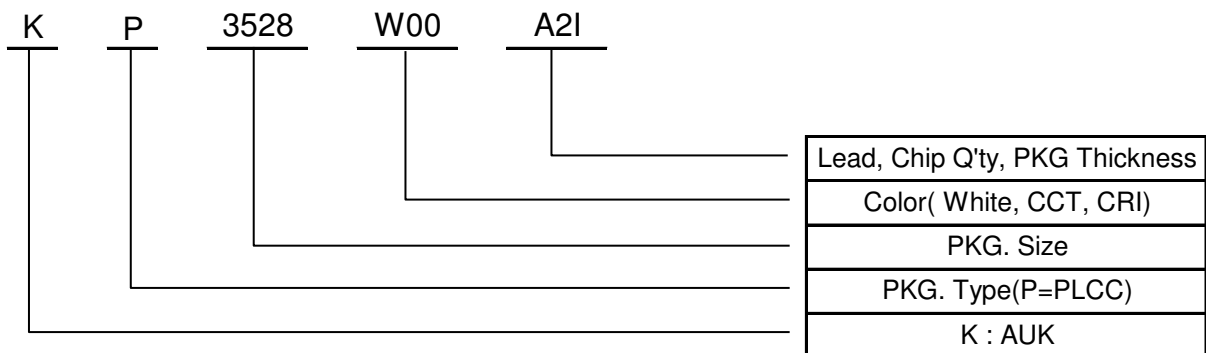
A1							
x	y						
0.2525	0.2250						
0.2650	0.2250						
0.2800	0.2550						
0.2675	0.2550						

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◆ The CIE(x, y) Chromaticity Diagram



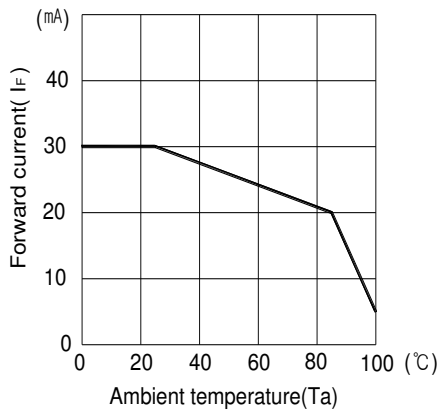
**8. Part Numbering**



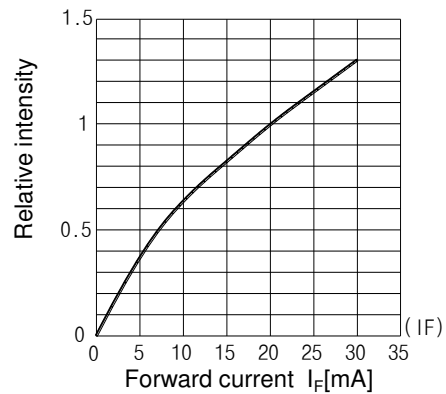
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**9. Characteristic Graphs**

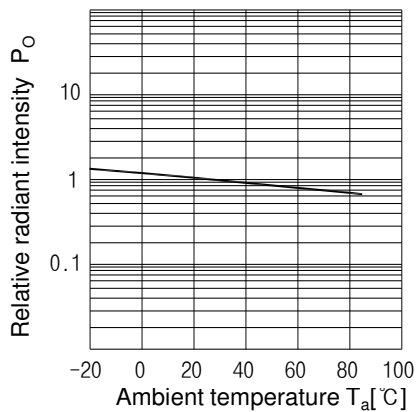
**Forward current vs. Ambient temperature**



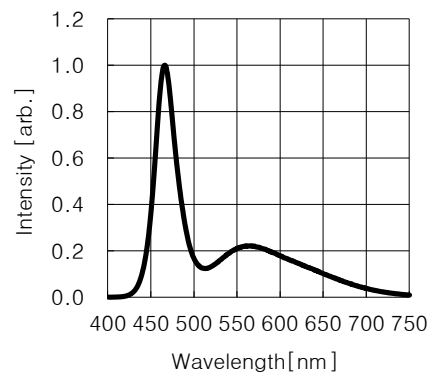
**Luminous Intensity vs. Forward current**



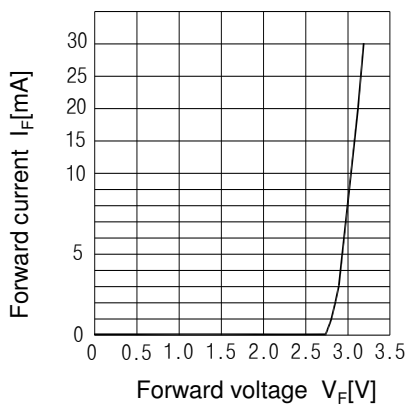
**Relative luminous intensity vs. Ambient temperature**



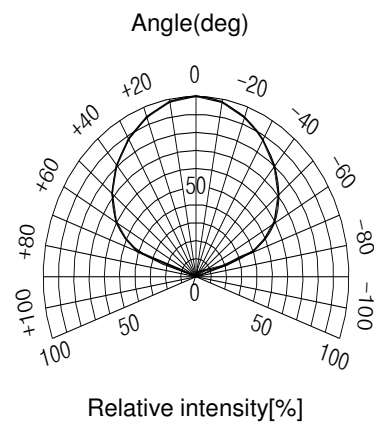
**Relative intensity vs. Wavelength**



**Forward current vs. Forward voltage**



**Radiant Pattern**



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