

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 [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

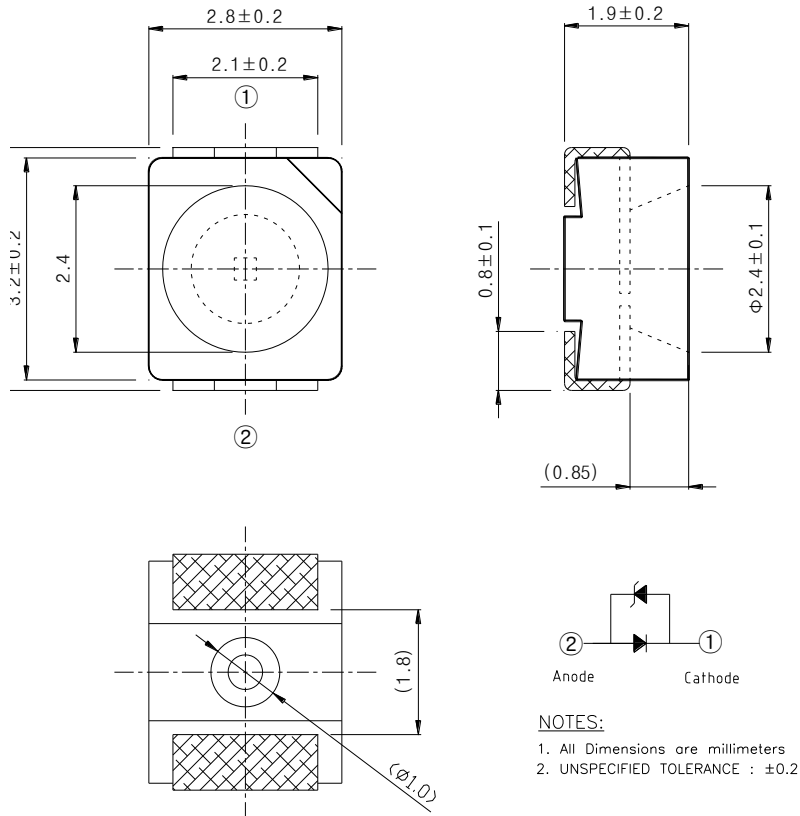
3. Applications

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

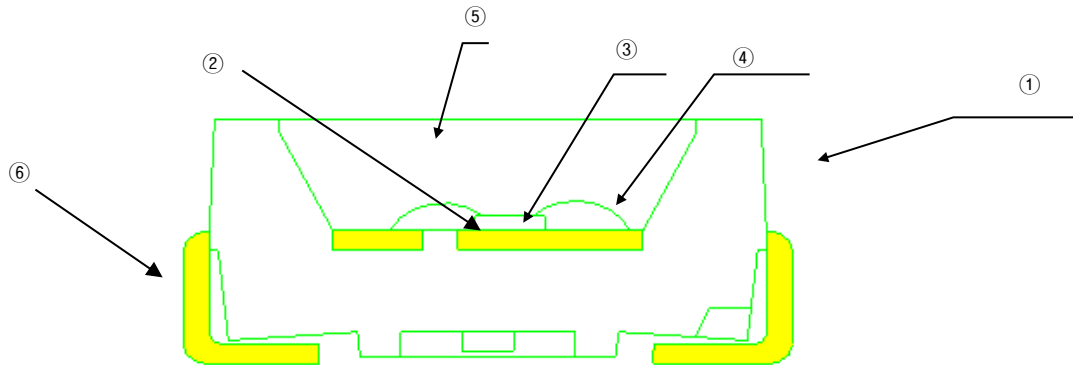
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4. Outline Dimensions and Material Descriptions

◆ 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}	-	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 ^{*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	2.9	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 [*] 1,3	I_V	800	1000	1200	mcd	$I_F=20\text{mA}$
Chromaticity coördiante ^{*3}	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 ^{*2}	$2\theta_{1/2}$	-	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 : ± 0.01

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7. Ranks

◆ I_V , V_F , Color Rank Table^{*1}

V _F , I _V , 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

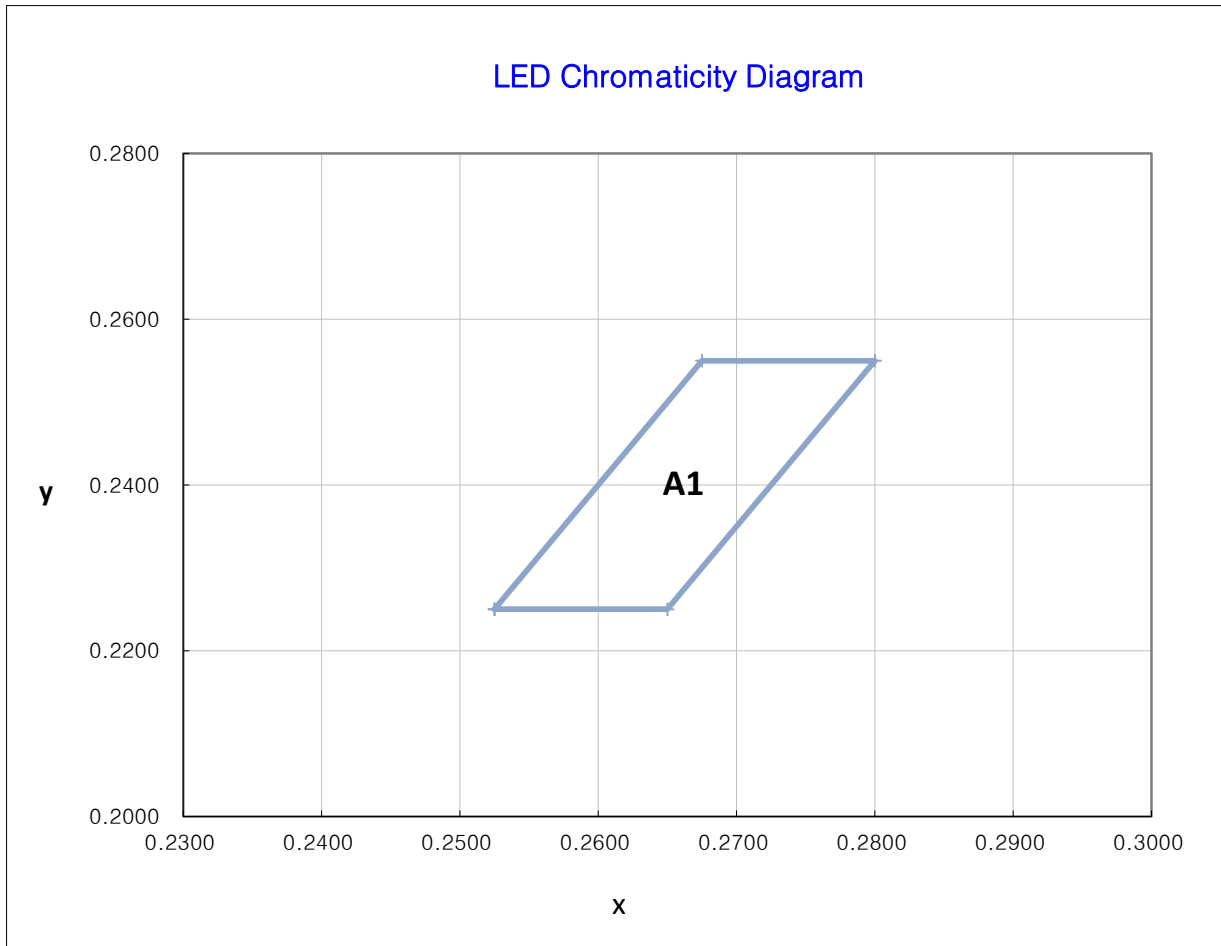
*1. KP3528W00A2I marked as 2QA1(V_F, I_V, Color Rank) has the I_V range 1.0~1.2cd, V_F rank 3.2~3.4V and Color range b area.

◆ Color Coordinate Rank

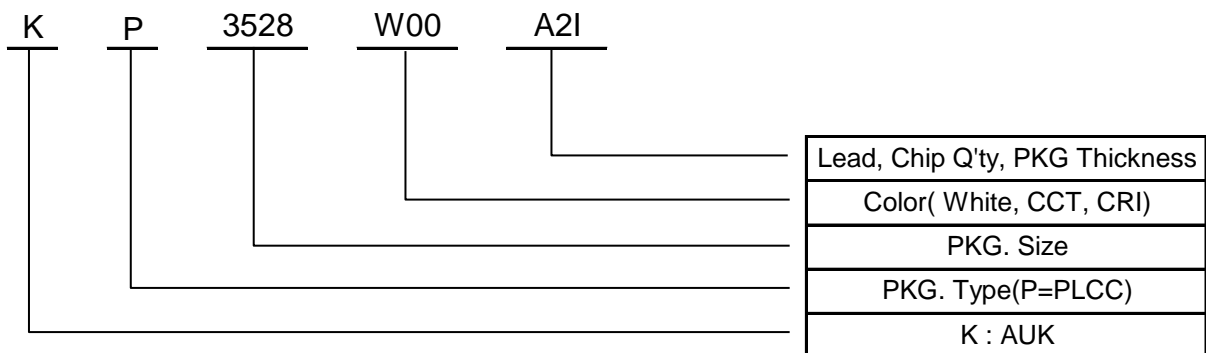
A1							
x	y						
0.2525	0.2250						
0.2650	0.2250						
0.2800	0.2550						
0.2675	0.2550						

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◆ The CIE(x, y) Chromaticity Diagram



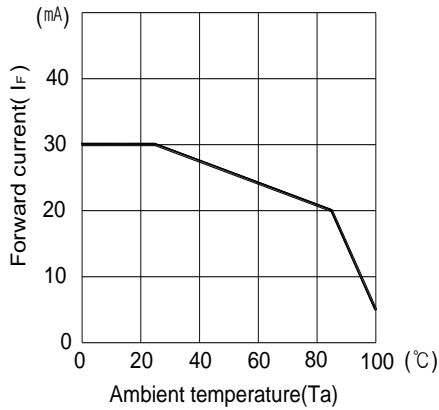
8. Part Numbering



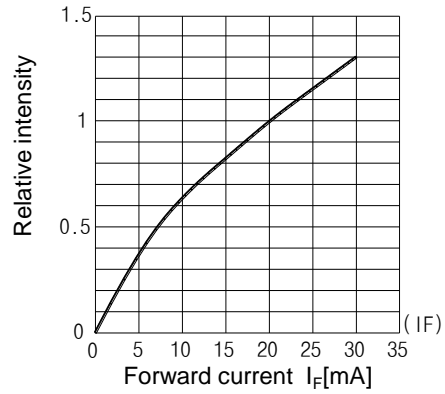
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9. Characteristic Graphs

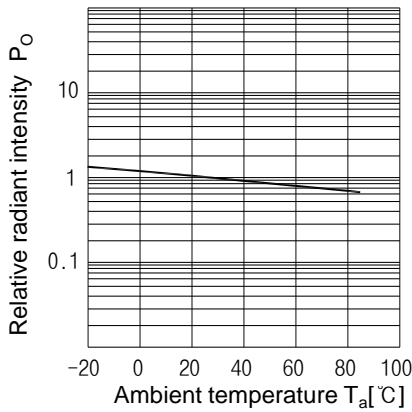
Forward current vs. Ambient temperature



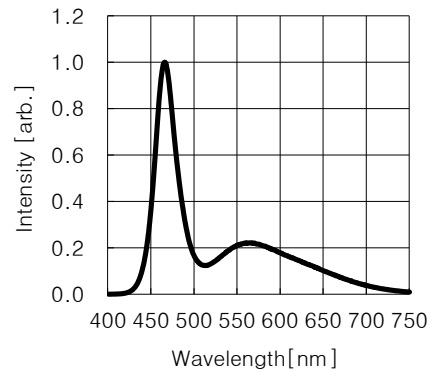
Luminous Intensity vs. Forward current



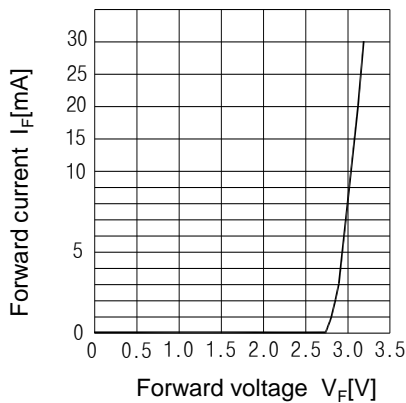
Relative luminous intensity vs. Ambient temperature



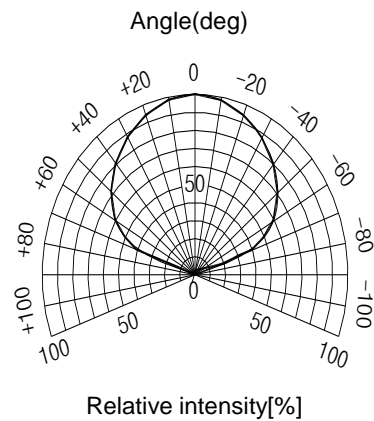
Relative intensity vs. Wavelength



Forward current vs. Forward voltage



Radiant Pattern



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