1. Descriptions

The KP3020BSKA2C-LM2 is a Skyblue LED consisting of small and thin plastic leaded chip carrier (PLCC) 2-pin package, InGaN blue chip and phoshpr.

2. Features

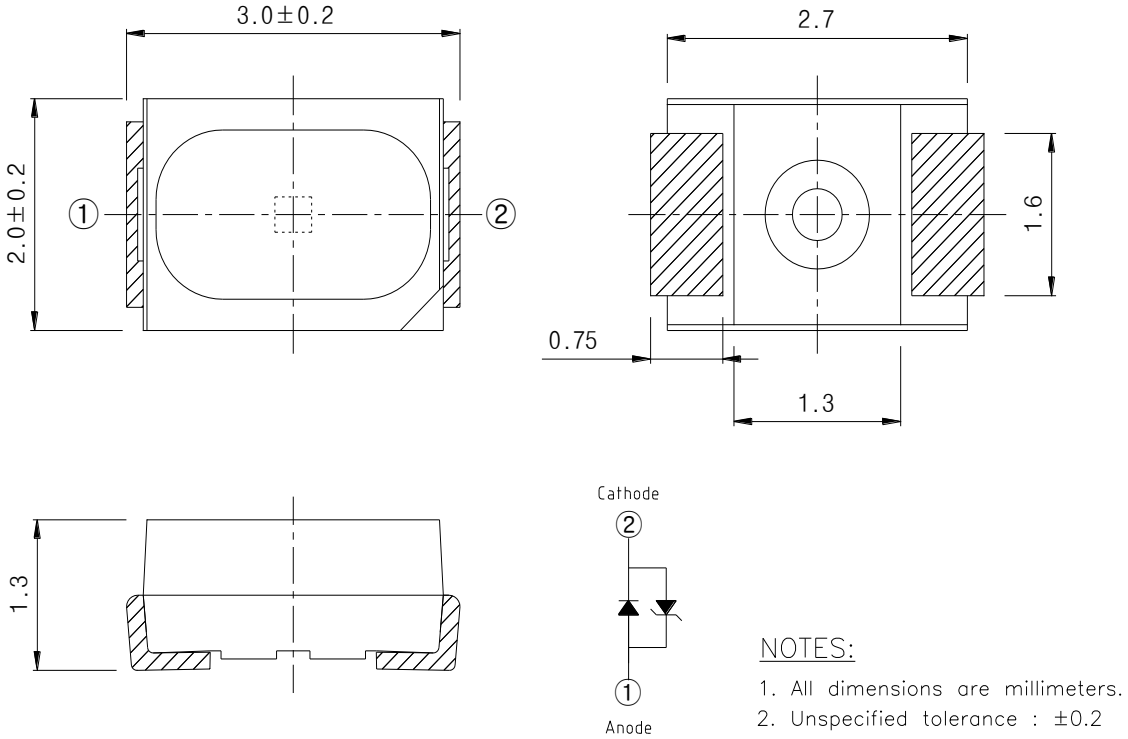
- Small Footprint Surface Mount Package (3.0 L × 2.0 W × 1.3 H [mm^3])
- Typical Forward Voltage(V_F) : 3.2 V @ Forward Current(I_F)=20mA
- Operation Temperature from -40℃ to +85℃
- Soldering methods : IR reflow soldering
- Taping : 8㎜ conductive black carrier tape & antistatic clear cover tape

3. Applications

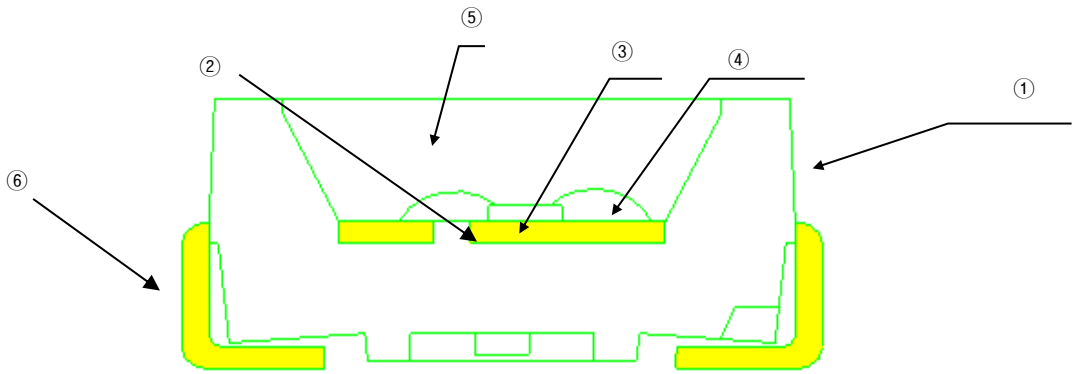
- Interior lighting
- General lighting
- Indoor and out door displays
- Architectural / Decorative lighting

4. Outline Dimensions and Material Descriptions

◆ Outline Dimensions



◆ Material Descriptions



No.	Item	Material
①	Package	PA
②	Die Adhesive	Clear Sillicone
③	LED Chip	InGaN
④	Wire	Au
⑤	Encapsulant	Clear Sillicone + Phsphor
⑥	Lead	Cu Alloy

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	85	℃	
Storage Temperature	Ts	-40	100	℃	
Soldering Temperature* 2	T_{sol}	-	260	℃	

*1. IFP was measured at Tw ≤ 1 msec of pulse width and D ≤ 1/10 of duty ratio.

*2. Soldering time : 5 Sec

6. Electro-Optical Characteristics (T_A = 25℃)

Item	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage*3	V_F	2.5	2.8	3.4	V	I_F=10mA
Reverse voltage	V_R	0.6	-	1.6	V	I_R=5mA
Luminous intensity 1,3	I_V	140	220	310	mcd	I_F=10mA
Chromaticity coordiante*3	x	0.1500	-	0.1650	-	I_F=10mA
	y	0.0650	-	0.0850	-	I_F=10mA
Half angle*2	$2\Theta_{1/2}$	-	120	-	deg	I_F=10mA

*1. The luminous intensity IV 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 : ± 0.1 V, I_V : ± 10%, Ra : ± 3, X,Y : ± 0.01

7. Ranks

◆ I_V, V_F, Color Rank Table*1

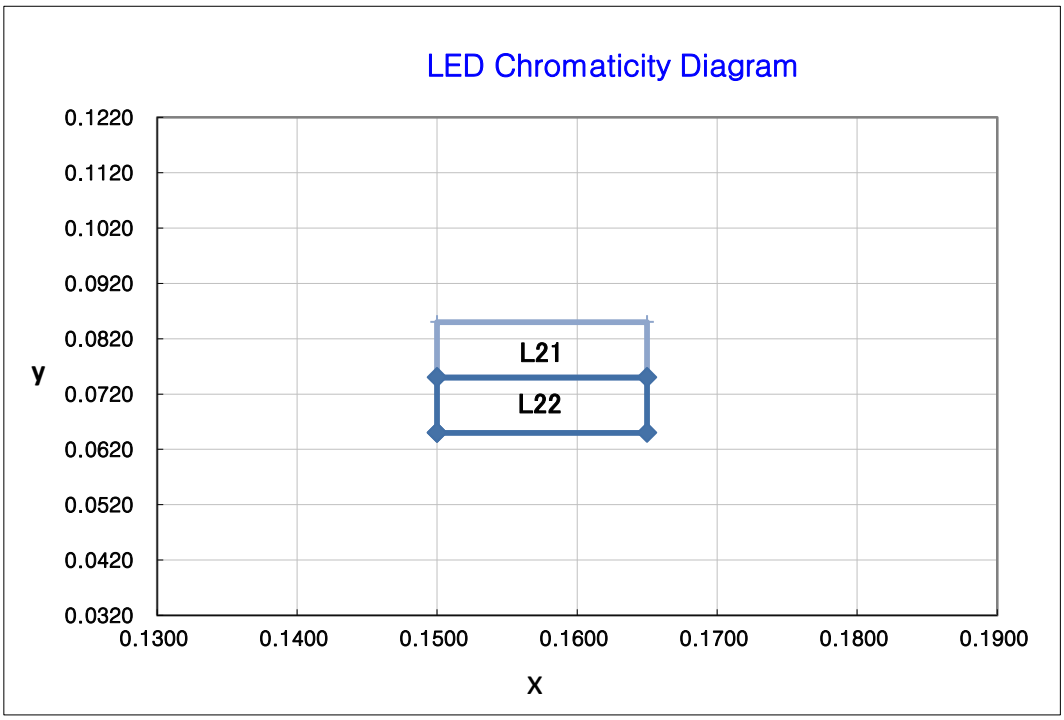
V_F, I_V, Color Rank @ IF = 10 mA		
Forward Voltage [V]	**Luminuous Intensity [mcd]**	**Chromaticity**
1 : 2.5 ~ 2.8	**P** : 140 ~ 200	**L21**
2 : 2.8 ~ 3.1	**Q** : 200 ~ 250	**L22**
3 : 3.1 ~ 3.4	**R** : 250 ~ 310	**-**

*1. KP3020BSKA2C-LM marked as 2QL21(V_F, I_V, Color Rank) has the I_V range 200~250mcd, VF rank 3.1~3.8V and Color range L21 area.

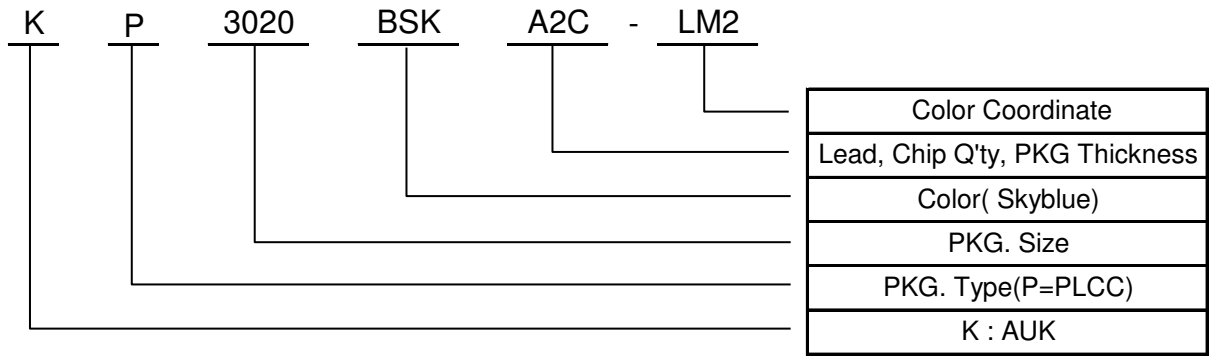
◆ Color Coordinate Rank

L21		L22	
x	y	x	y
0.1500	0.0750	0.1500	0.0650
0.1650	0.0750	0.1650	0.0650
0.1650	0.0850	0.1650	0.0750
0.1500	0.0850	0.1500	0.0750

◆ The CIE(x, y) Chromaticity Diagram

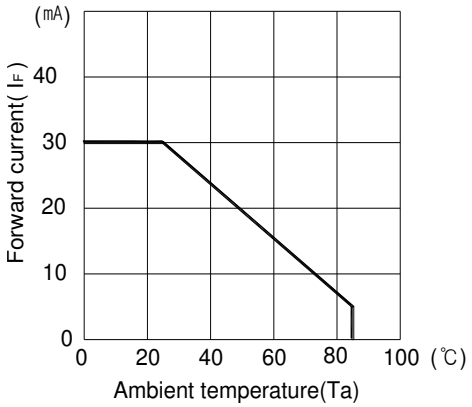


8. Part Numbering

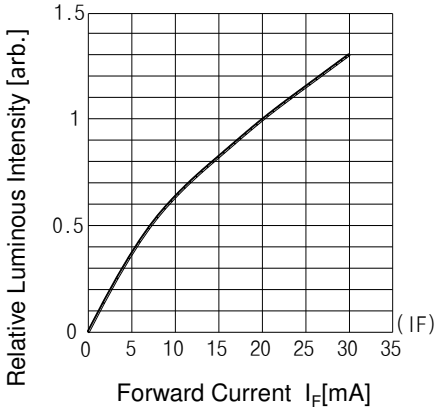


9. Characteristic Graphs

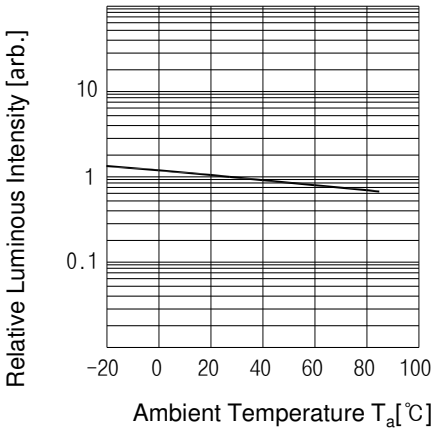
Forward Current vs. Ambient Temperature



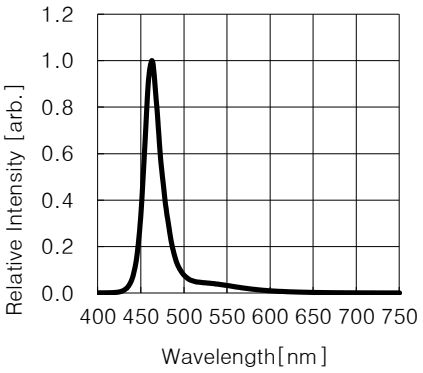
Relative Luminous Intensity vs. Forward Current



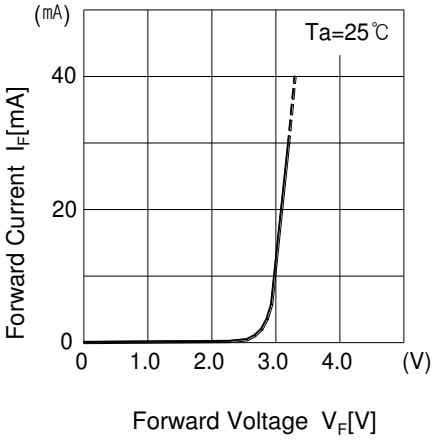
Relative Luminous Intensity vs. Ambient Temperature



Relative Intensity vs. Wavelength



Forward Current vs. Forward Voltage



Radiant Pattern