

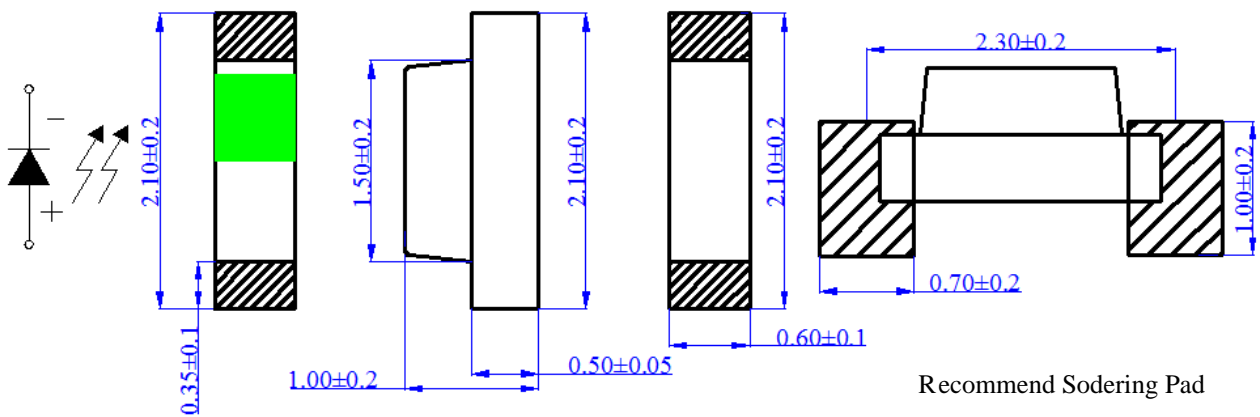
2106 Package Chip LED (1.0 mm Height)

**MODEL NO : KPA-2106VGC-A-SH**

**Features**

- Package in 8mm tape on 7" diameter reel.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Mono-color type.
- Pb-free.
- The product itself will remain within RoHS complaint version.

**Package Dimensions**



Suggested pad dimension is just for reference only.  
Please modify the pad dimension based on individual need .

Part No.	Chip		Lens Color
	Material	Emitted color	
KPA-2106VGC-A-SH	InGaN/SiC	Green	Water Clear

**Note:**

1. All dimensions are in millimeters.
2. Tolerance is ±0.1mm unless otherwise noted.

### Absolute maximum Ratings (Ta = 25°C)

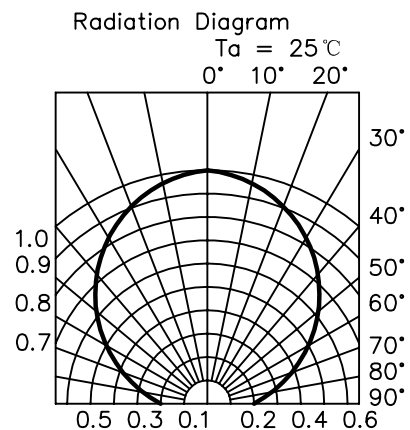
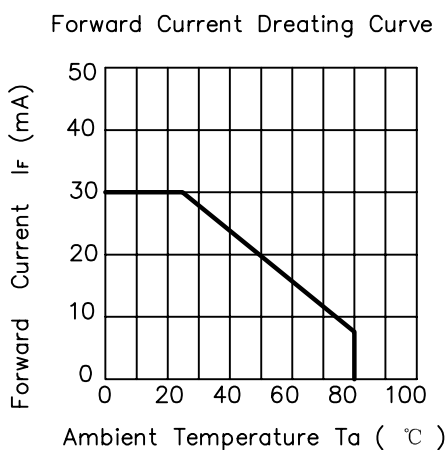
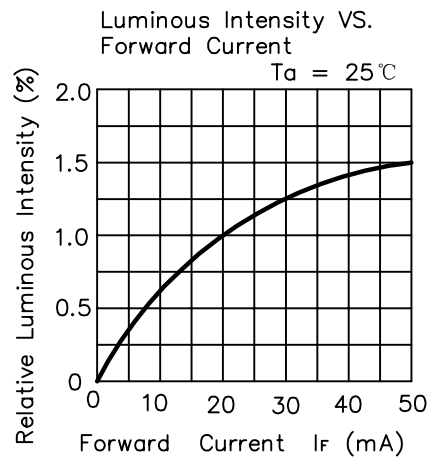
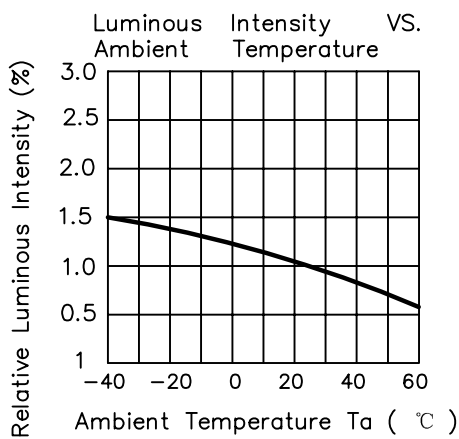
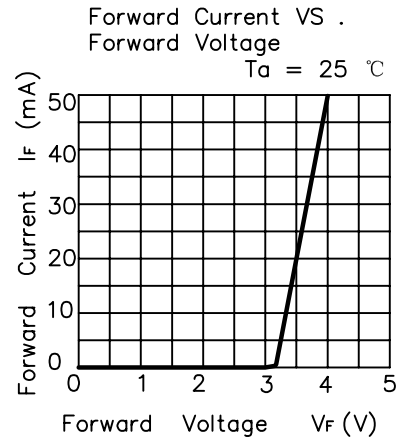
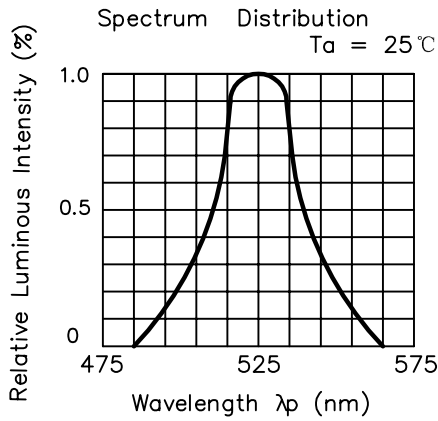
Parameter	Symbol	Max	Unit
Forward current	I <sub>F</sub>	30	mA
Reverse voltage	V <sub>R</sub>	5	V
Power dissipation	P <sub>d</sub>	150	mW
Peak forward current	I <sub>FP</sub>	100	mA
Operating temperature	T <sub>opr</sub>	-40°C to +85°C	
Storage temperature	T <sub>stg</sub>	-40°C to +90°C	
Soldering temperature	T <sub>sol</sub>	260°C for 5 Seconds	

★ 1. Condition for I<sub>fp</sub> is pulse of 1/10 duty 0.1msec width.

### Electro / Optical Characteristics (Ta = 25°C)

Parameter	Symbol	Condition	Min	Tpy	Max	Unit
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> = 20mA	----	250	----	mcd
Forward Voltage	V <sub>F</sub>		----	3.1	4.0	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> = 5V	----	----	10	μ A
View Angle	2θ 1/2	I <sub>F</sub> = 20mA	----	120	----	deg
Peak Wavelength	λ <sub>p</sub>		----	518	----	nm
Spectral Bandwidth	Δλ		----	36	----	nm
Dominant Wavelength	λ <sub>d</sub>		----	525	----	nm

### Typical Electro-Optical Characteristics Curves



### Reliability Test Items And Conditions

The reliability of products shall be satisfied with items listed below.

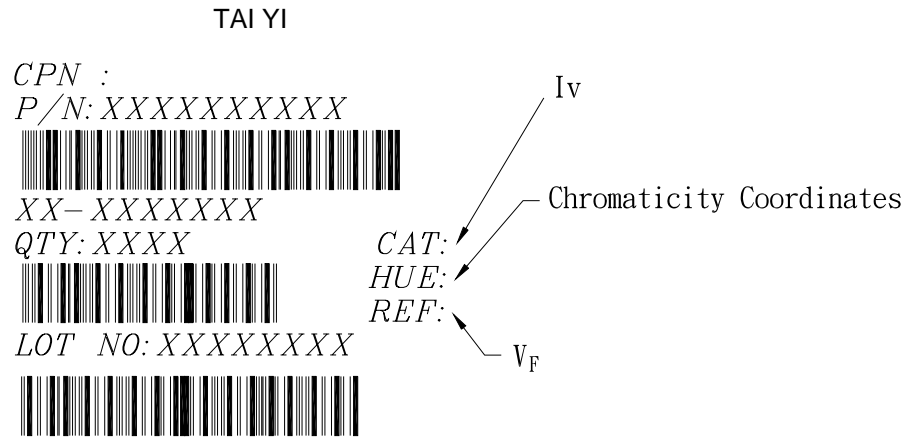
Confidence level 90%

LTPD 10%

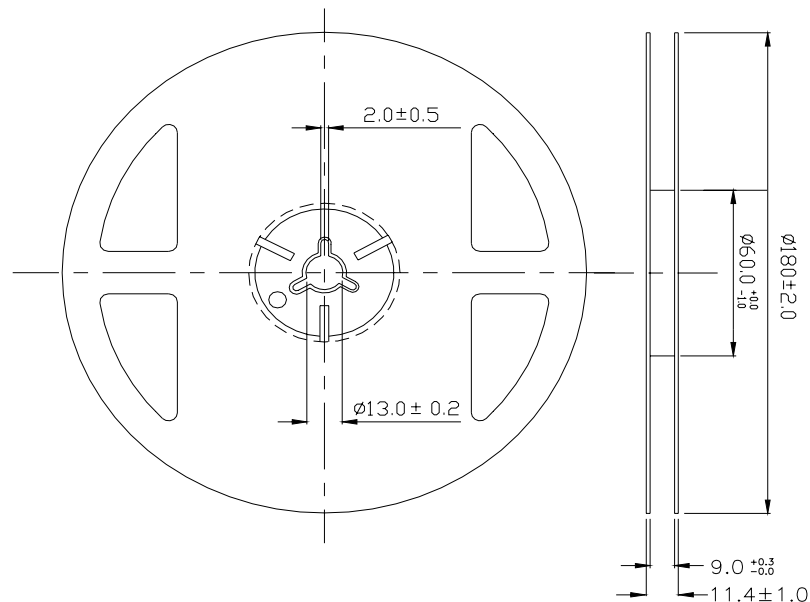
NO.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Re
1	Reflow Soldering	Temp.: $260^{\circ}\text{C}\pm 5^{\circ}\text{C}$ Min 5 sec	6 Min	20 PCS	0/1
2	Temperature Cycle	H: $+85^{\circ}\text{C}\sim +25^{\circ}\text{C}$ 60min 20min L : $-35^{\circ}\text{C}\sim +25^{\circ}\text{C}$ 60min 20min	5Cycles	20 PCS	0/1
3	Thermal Shock	H : $+85\pm 5^{\circ}\text{C}$ 20min L : $-35\pm 5^{\circ}\text{C}$ 20min	10Cycles	20 PCS	0/1
4	High Temperature Storage	Temp. : $+85^{\circ}\text{C}\pm 5^{\circ}\text{C}$	1000 Hrs	20 PCS	0/1
5	Low Temperature Storage	Temp. : $-35^{\circ}\text{C}\pm 5^{\circ}\text{C}$	1000 Hrs	20 PCS	0/1
6	DC Operating Life	IF = 20 mA	1000 Hrs	20 PCS	0/1
7	High Temperature / High Humidity	$+65^{\circ}\text{C}\pm 5^{\circ}\text{C}$ / 90%-95%RH	240 Hrs	20 PCS	0/1

### Label explanation

**CAT: Luminous Intensity Rank    HUE: Chromaticity Coordinates    REF: Forward Voltage Rank**

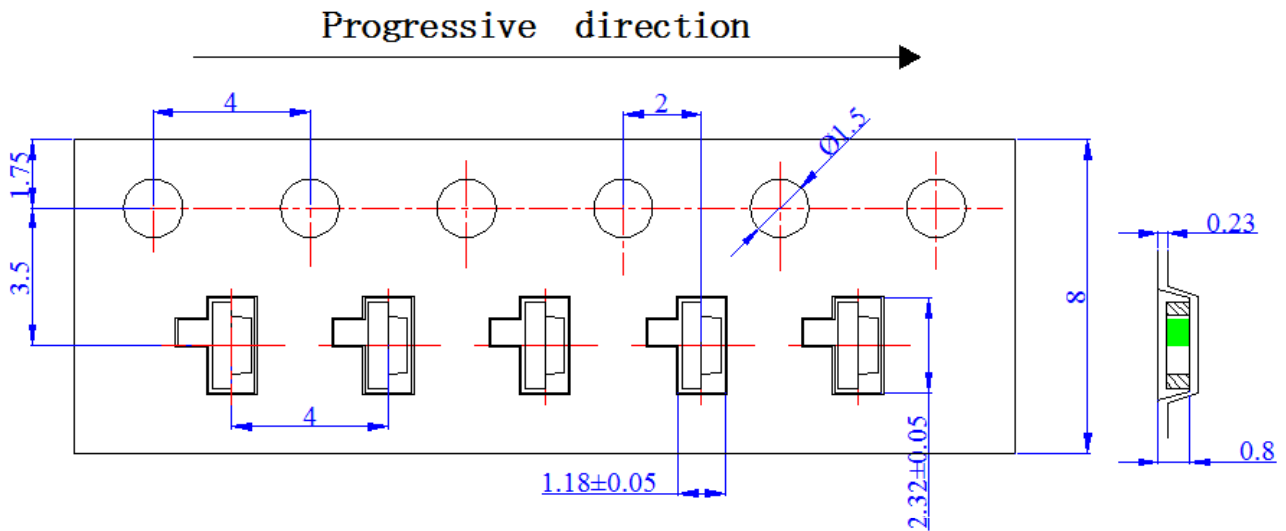


### Reel Dimensions



**Note:** The tolerances unless mentioned is  $\pm 0.1$ mm, Unit = mm

### Carrier Tape Dimensions : Loaded quantity 3000 PCS per reel



**Note:** The tolerances unless mentioned are  $\pm 0.1$ , Unit = mm.

### Explanation :

#### 1. Over-current-proof

Customer must apply resistors for protection , otherwise slight voltage shift will cause big current change .

#### 2. Storage:

2.1 Do not open moisture proof bag before the products are ready to use.

2.2 Before opening the package , the LEDs should be kept at 30°C or less and 90%RH or less.

2.3 After opening the package , the LEDs should be kept at 30°C or less and 60%RH or less.

2.4 The LEDs should be used within 168 hours after opening the package.

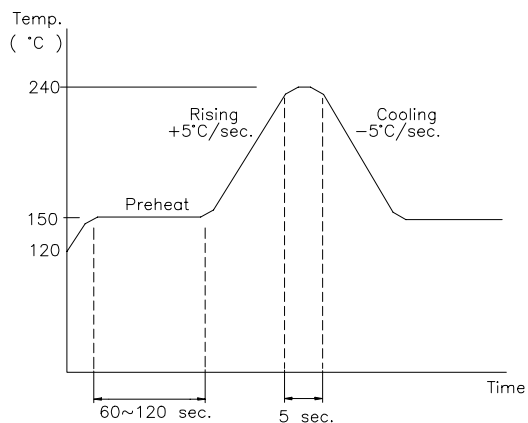
### 3. Soldering Condition

#### 3.1 Pb-free solder temperature profile.

Reflow soldering is recommended and the soldering profile is shown below.

Other soldering methods are not recommended as they might cause damage to the product.

#### Reflow Temp / Time



3.2 Reflow soldering should not be done more than two times.

3.3 When soldering, do not put stress on the LEDs during heating.

3.4 After soldering, do not warp the circuit board.

### 4. Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.