PRODUCT DATA SHEET for ChipLED 1206 white





#### **Product Description**

• The 1206 SMD LED is much smaller, thus enable smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained.

• These LEDs have high reliability performance and are designed to work under a wide range of environmental conditions.

• Besides, lightweight makes them ideal for miniature applications. etc.

#### **Features**

- · Size(mm): 3.2\*1.6\*1.76mm
- Compatible with automatic placement equipment
- · Moisture Sensitivity Level: 3
- · Color type: White
- Viewing Angle:30°
- Pb-free
- · RoHS and REACH compliant

### **Applications**

- Backlighting in dashboard and switch.
- Digital display for household appliace
- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD
- · General use

@2018 Beking Optoelectronics. The information in this document is subject to change without notice. Beking<sup>®</sup> and the Beking logo are registered trademarks.

BT-1206L-White-E3

REV1



## **MECHANICAL DIMENSIONS**

All dimensions are in mm.

**Top View** 





Side View

**Back View** 







#### Remark

The tolerance of all dimensions above is 0.1mm.

@2018 Beking Optoelectronics. The information in this document is subject to change without notice. Beking $^{\circ}$  and the Beking logo are registered trademarks.

BT-1206L-White-E3 REV1



# ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^{\circ}C$ )

Items	Symbol	Absolute Maxium Rating	Unit
Forward current	I <sub>F</sub>	25	mA
Peak Forward Crurrent	I <sub>FP</sub>	100	mA
Reverse voltage	V <sub>R</sub>	5	V
Power dissipation	P <sub>D</sub>	80	mW
Operating temperature	Т <sub>орг</sub>	-40 ~+85	°C
Storage temperature	T <sub>stg</sub>	-40~+85	°C

**Remark:**1/10 Duty cycle, 0.1ms pulse width.

# TYPICAL ELECTRICAL & OPTICAL CHARACTERISTICS ( $T_A = 25^{\circ}C$ )

Charateristics	Symbol	Condition	Unit	Minimum	Typical
Forward Volatge	V <sub>F</sub>	I <sub>F</sub> =5mA	V		2.9
Reverse Current	V <sub>R</sub>	V <sub>R</sub> =5V	uA		<1
Viewing Angle	20 <sub>1/2</sub>	I <sub>F</sub> =5mA			30
Luminous intensity	Ι <sub>V</sub>	I <sub>F</sub> =5mA	mcd	250	
ССТ	λd	I <sub>F</sub> =5mA	К	7000	

\* Continuous reverse voltage can cause LED damage.



## **INTENSITY BIN LIMIT**

White (5mA)		
Bin code	Min.(mcd)	Max.(mcd)
M1	250	275
M2	275	350
M3	350	435
M4	435	520

\*Tolerance of measurement of luminous intensity is ±10%.

## **VOLTAGE BIN LIMIT**

White (5mA)			
Bin code	Min.(V)	Max.(V)	
V1	2.6	2.7	
V2	2.7	2.8	
V3	2.8	2.9	
V4	2.9	3.0	
V5	3	3.1	

\*Tolerance of measurement of voltage is  $\pm 0.05$ V.

## **Color BIN LIMIT**

White (5mA)			
Bin code	Min.(nm)	Max.(nm)	
CW1	7000	9000	
CW2	9000	11000	
CW3	11000	13000	
CW4	13000	15000	
CW5	15000	17000	

BT-1206L-White-E3



### TYPICAL ELECTRO-OPTICAL CHARATERISTICS CURES(Ta=25°C)

The data below are collected from statistical figures that do not necessarily correspond to the actual parameters of each single LED. Hence, these data will be changed without further notice.



**Spectrum Distribution** 

Wavelength(nm)



Luminous Intensity vs. Ambient Temperature



Luminous Intensity vs. Forward Current



Foward Current Derating



Radiation Diagram



@2018 Beking Optoelectronics. The information in this document is subject to change without notice. Beking<sup>®</sup> and the Beking logo are registered trademarks.

BT-1206L-White-E3 REV1



## **REFLOW SOLDERING**

- The CHIP LED is rated as a MSL3 as general request product. •
- The recommended floor life out of bag is 24hrs.
- The temperature profile is as below.



	IPC/JEDEC J-STD-020C
Profile Feature	Pb-Free Assembly
Average ramp-up rate(Tsmax to Tp)	3°C/second max.
Preheat	
- Temperature Min(Ts <sub>min</sub> )	150°C
- Temperature Max(Ts <sub>max</sub> )	200°C
- Time(Tsmin to Ts <sub>max</sub> )	60-180 seconds
Time mainted above	
- Temperature(T <sub>L</sub> )	<b>217℃</b>
- Time(T <sub>L</sub> )	60-150 seconds
Peak Temperature(Tp)	<b>260</b> ℃
Time within 5°C of actual peak Temperature(tp) <sup>2</sup>	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to peak Temperature	8 minutes max.

BT-1206L-White-E3



#### **Moisture Sensitivity**

• Beking recommends keeping CHIP LEDs in the provided, resealable moisture-barrier packaging (MBP) until immediately prior to soldering. Unopened MBPs that contain CHIP LEDs do not need special storage for moisture sensitivity.

· Once the MBP is opened, CHIP LEDs may be stored as MSL 3 per IPC/JEDEC J-STD-020C, meaning they have one year of floor life in conditions of ≤ 30 °C/60% relative humidity (RH). Regardless of the storage condition, Beking LED recommends sealing any unsoldered CHIP LEDs in the original MBP.

#### Handling

•The packaging sizes of these SMD products are very small. Users are required to handle with care.

·To avoid damaging the product's surface and interior device, it is recommended to choose a

#### Repairing

Repair should not be recommended after SMT production. When repairing is needed, a doublehead soldering iron should be used (as below figure). It should be assured before handing whether the electrical and optical characteristics of the LEDs will or will not be damaged by



Fig.1 Pickig up a LED using an tweezer with care



Fig2. Repairing using a doublehead soldering iron

@2018 Beking Optoelectronics. The information in this document is subject to change without notice. Beking<sup>®</sup> and the Beking logo are registered trademarks.

BT-1206L-White-E3 REV1



## PACKING

Carrier Tape Dimensions: Loaded quantity 2000pcs per reel.



#### All dimensions are in millimeters.

Tolerance of measurement of all dimensions is ±0.1mm



Polyethylene Bag

@2018 Beking Optoelectronics. The information in this document is subject to change without notice. Beking<sup>®</sup> and the Beking logo are registered trademarks.

BT-1206L-White-E3