SPECIFICATION FOR YOLDAL CHIP LED

UBSM0603LG161

YOLDAL

UBSM0603LG161

■ Features:

- ➢ Compatible with automatic placement equipment.
- ➢ Compatible with infrared and vapor phase re-flow solder process.
- ➢ Mono-color type.

■ Descriptions:

- ➢ Much smaller than lead frame type components, enable smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained.
- ➢ Lightweight for miniature applications.

■ Applications:

- ➢ Model Railroad and Auto Headlights
- ➢ Backlighting
- ➢ Indicators
- ➢ Switch and symbol
- ➢ General use

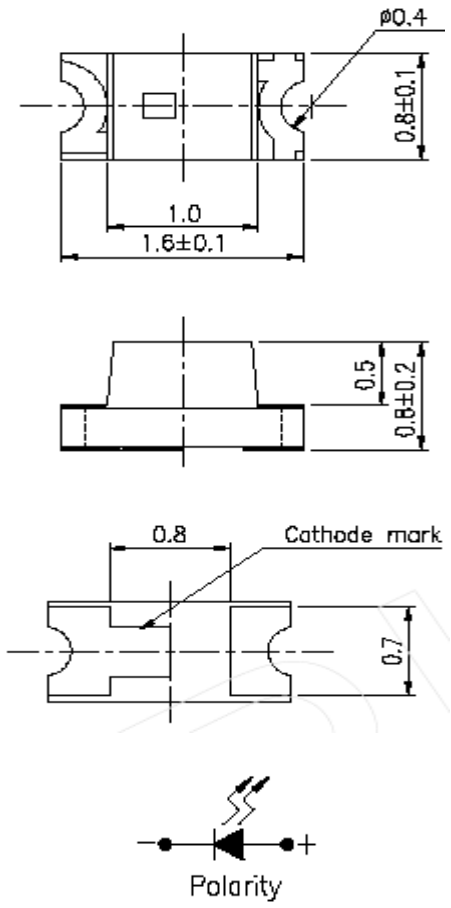
■ Benefits:

- ➢ Low Energy Consumptions
- ➢ Low Maintenance Costs
- ➢ High Application Design Flexibility
- ➢ High Reliability
- ➢ Very Competitive prices

■ Device material descriptions:

Part ID	Chip		Lens Color
UBSM0603LG161	Material	Emitted Color	Water Clear
	InGaN	Pure Green	

■ Package Outline Dimensions:



Notes: Tolerances Unless Dimensions, 0.1mm,Angles ± 0.5°, Unit: mm

■ Absolute maximum ratings:

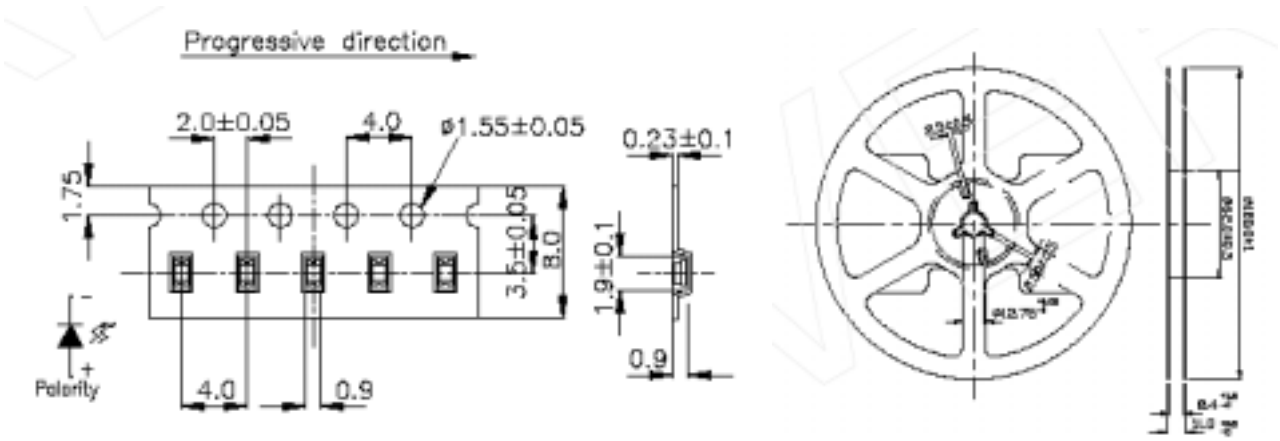
Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	5	V
Forward Current	I_F	30	mA
Operating temperature	Topr	-20 ~ +80	°C
Storage Temperature	Tstg	-25 ~ +85	°C
Soldering temperature	Tsol	260 (for 5 Second)	°C
Power Dissipation	Pd	100	mW
Peak Forward Current (Duty 1/10 @1KHz)	I_{PF}	100	mA

***Static Electricity Sensitive, care must be fully taken when handling this product.**

■ Electro-Optical characteristics:

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I_V	-----	500	-----	mcd	I_F=20 mA
Viewing angle	2 θ 1/2	-----	120	-----	Deg.	I_F=20 mA
Forward Voltage	V_F	-----	3.5	4.0	V	I_F=20 mA
Reverse Current	I_R	-----	-----	50	μA	V_R=5V
Wavelength	λ p	-----	525	-----	nm	I_F=20 mA
	λ d	-----	520~530	-----	nm	

Taping Dimensions: 4000 pieces per reel.



■ **Reliability Test and Condition:**

Item	Test Condition	Test Hour/Cycle	Sampling pcs.	Failure Judgment	Ac/Rc
Reflow	Temp.: 240 °C±5°C Min. 5 Second	6 min.	30	$I_R \geqq U \times 1.0$ $I_V \geqq L \times 0.5$ $V_F \geqq U \times 1.2$ U: Upper specification limited L: Lower specification limited	0/1
Temperature Cycle	H: +85 °C, 30 min. ∫ 5 min. L: -55 °C, 30 Min.	50 cycles	30		0/1
Thermal Shock	H: +100 °C, 5 min. ∫ 10 Sec. L: -10 °C, 5 Min.	50 cycles	30		0/1
High Temperature Storage	+100 °C	1000 hrs.	30		0/1
Low Temperature Storage	-55 °C	1000 hrs.	30		0/1
DC Operating Life	I_F=20mA	1000 hrs.	30		0/1
High Temperature/Humidity	+85 °C / R.H. 85%	1000 hrs.	30		0/1

■ Precautions For Use

1. Over Current Proof

   Resistors must properly applied for protection, slightly voltage shift will cause big current change, BURN OUT will happen.

2. Storage Time

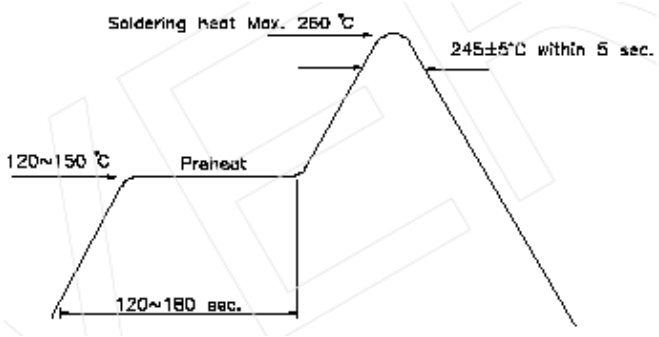
2.1. The operating temperature and RH: 5 °C ~ 35 °C, RH60%.

2.2. Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a damp proof box with desiccating agent. Taping life considering, strongly suggest using this products within one year from date of production.

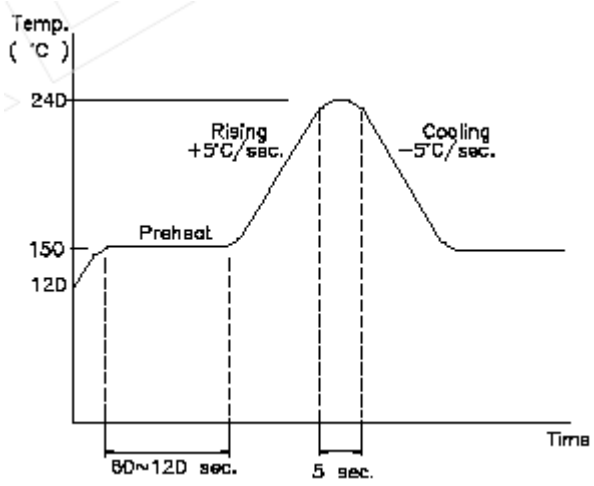
2.3. Package opened more than one week in an normal atmosphere environment, before soldering, they should be treated at 60 °C ± 5 °C for 15 hrs.

2.4. When the desiccant agent changed to pink, the device should be treated as condition 2.3.

■ Soldering Heat Reliability

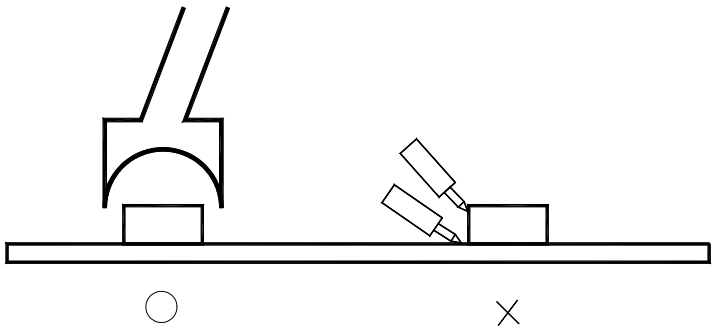


■ Reflow Temp. / Time



■ Rework

1. Rework must be finished within 5 sec. under 245 °C.
2. The head of Iron must not touch the copper foil.
3. Twin-head type is preferred.



■ Soldering Iron

Basic spec is ≦5 sec. / 260 °C. If temperature is higher, time should be shorted (+10 °C→-1 sec.). Power dissipation of Iron should be smaller than 15 W, and temperature should be controllable. Surface temperature of the device should be under than 230 °C.