LEDTRONICS, INC.®

23105 Kashiwa Court, Torrance, CA 90505
Phone: (800) 579-4875 or (310) 534-1505 Fax: (310) 534-1424
E-mail: webmaster@ledtronics.com
Website: http://www.ledtronics.com

SML0606-UY/UG-TR

Yellow/Green
Surface Mount LED
1.6 ×1.5 ×0.8 mm Chip LED
140° viewing angle

DWG BY: SL / GP 08-13-07
CHK BY: PL 08-15-07
QA: __ __-__-__
MFG: __ __-__-__
REVISION LTR: - 08-13-07

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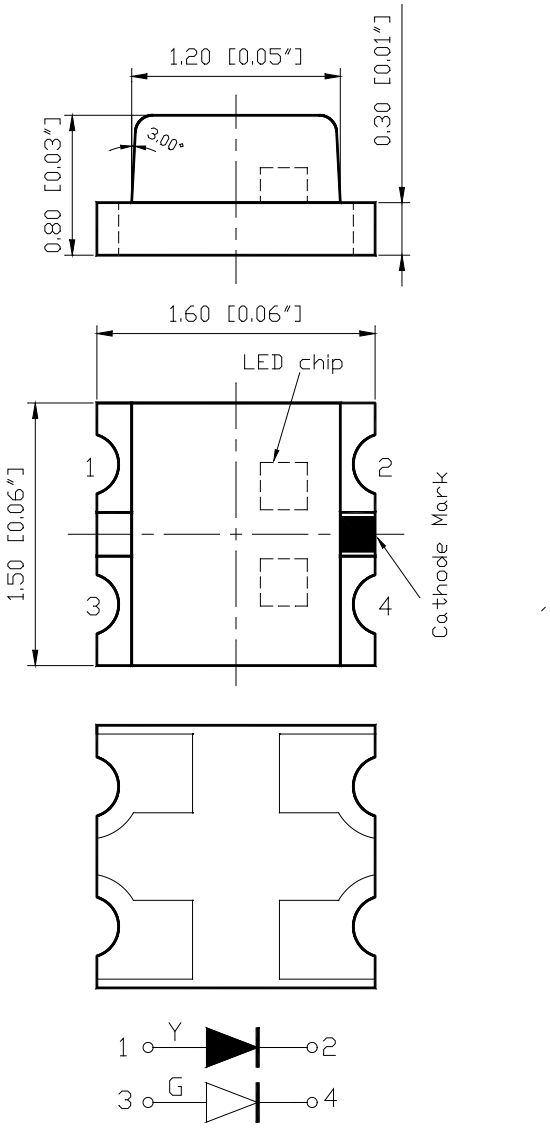
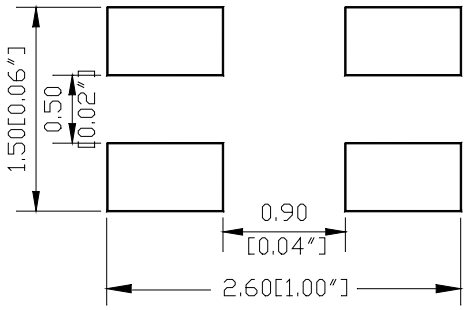
Package outlines



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
SENSITIVE DEVICES

RECOMMEND PAD LAYOUT



ITEM	MATERIALS	
Resin (mold)	Epoxy	
Bonding Wire	Ø25μm Au	
Lens color	Water Transparent	
Printed circuit board	BT (White)	
Dice	Yellow	AlGaInP
	Green	AlGaInP

NOTES:
1. All dimensions are in millimeters (inches);
2. Tolerance are ±0.1mm (0.004inch) unless otherwise noted.

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Absolute maximum ratings (T_A=25℃)

Parameter	Symbol	Value		Unit
		Y	G	
Power dissipation	Pd	75	75	mW
Forward current	If	30		mA
Reverse voltage	Vr	5		V
Operating temperature range	Top	-20 ~+80		℃
Storage temperature range	Tstg	-20~+80		℃
Peak pulsing current (1/8 duty f=1kHz)	Ifp	125		mA

Electro-optical characteristics (T_A=25℃)

Parameter	Test Condition	Symbol		Value Min	Value Typ	Value Max	Unit
Wavelength at peak emission	If=20mA	λ peak	Y	--	592	--	nm
			G	--	575	--	
Spectral half bandwidth	If=20mA	△λ	Y	--	19	--	nm
			G	--	17	--	
Dominant wavelength	If=20mA	λ dom	Y	--	589	--	nm
			G	--	573	--	
Forward voltage	If=20mA	Vf	Y	--	2.0	2.6	V
			G	--	2.1	2.6	
Luminous intensity ＊1	If=20mA	Iv	Y	--	100.0	--	mcd
			G	--	45.0	--	
Viewing angle at 50% Iv	If=10mA	2θ 1/2		--	140	--	Deg
Reverse current	Vr=5V	Ir		--	--	10	μA
Chromaticity Coordinates	If=20mA	X		--	0.57	--	Yellow
		Y			0.42		
Chromaticity Coordinates	If=20mA	X		--	0.47	--	Green
		Y			0.52		

＊1 Note: Luminous intensity tolerance is ±10%.

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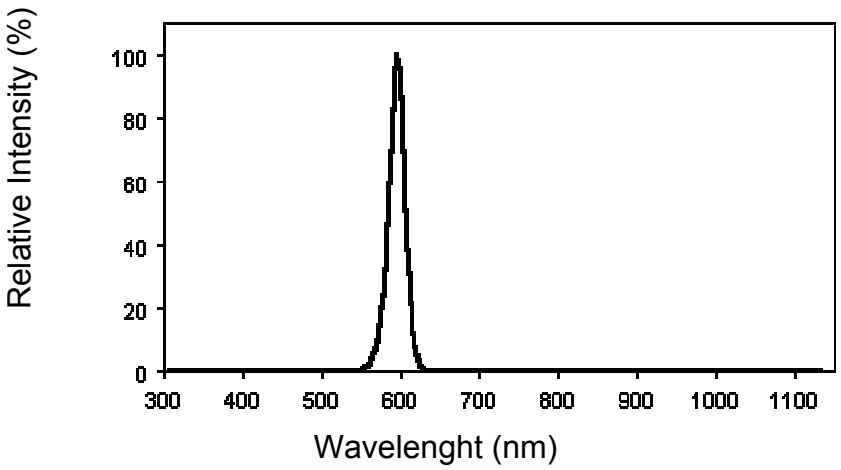
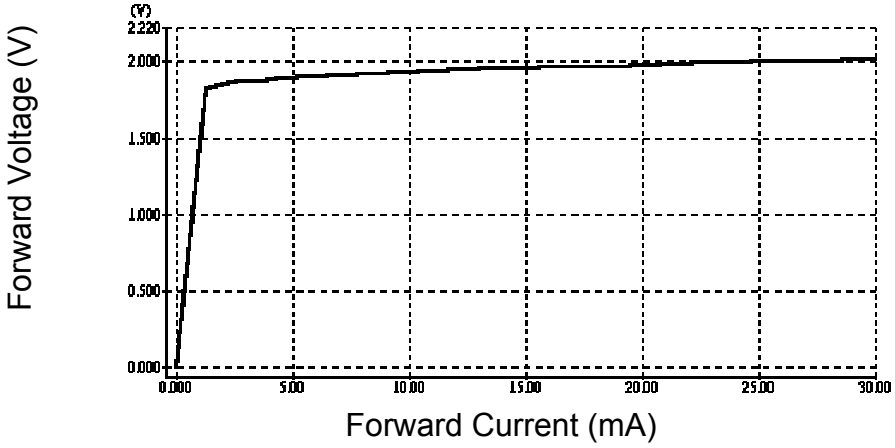
OPTICAL CHARACTERISTIC CURVES (Yellow)

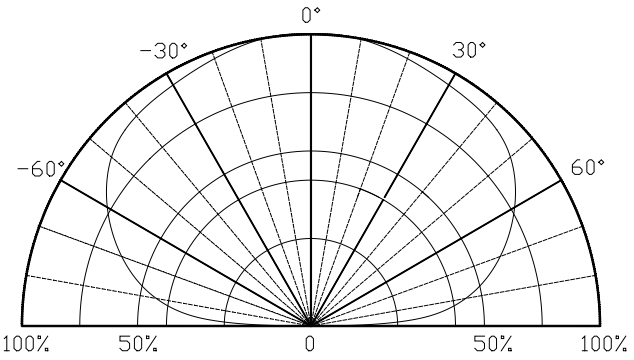
Relative Intensity vs. Wavelenght



Forward Current vs. Forward Voltage



Directive Characteristics



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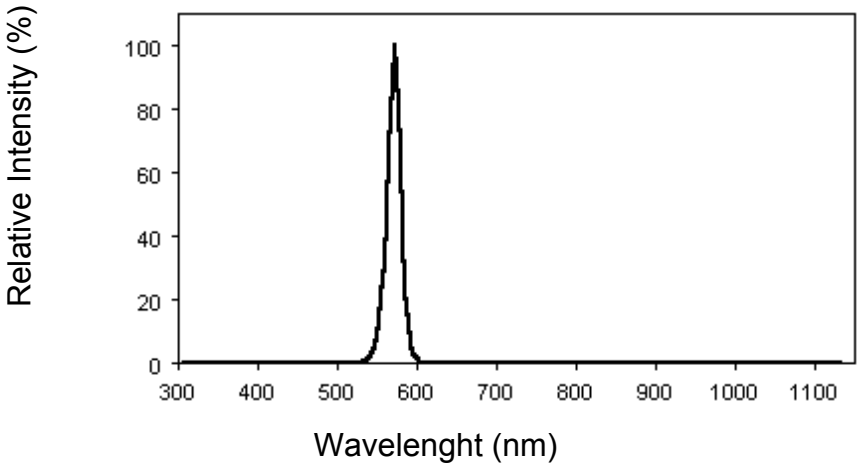
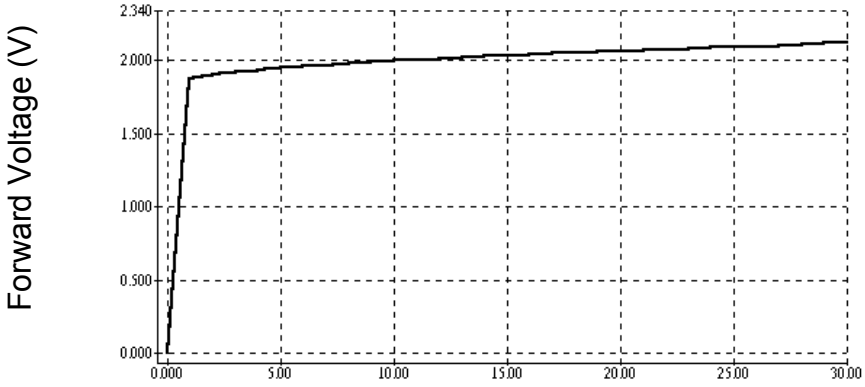
OPTICAL CHARACTERISTIC CURVES (Green)

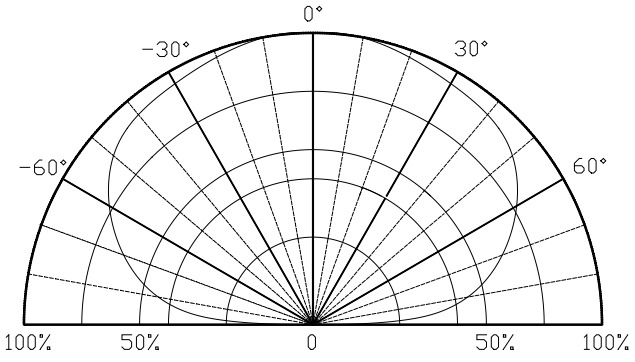
Relative Intensity vs. Wavelenght



Forward Current vs. Forward Voltage



Directive Characteristics



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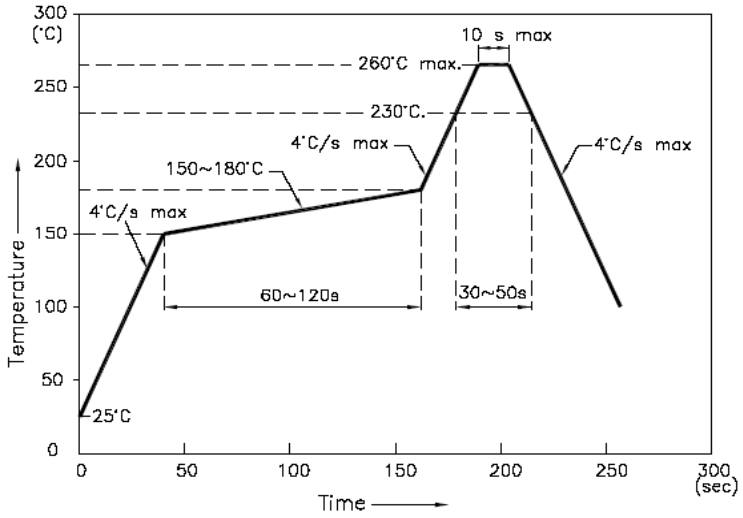
Reflow Profile

■ Reflow Temp/Time



NOTES:

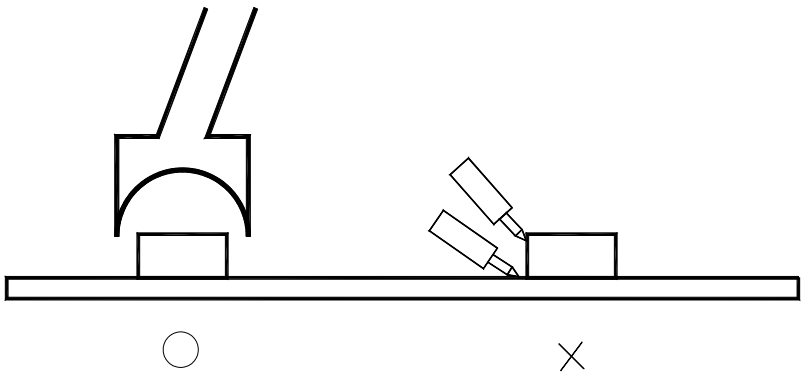
1. We recommend the reflow temperature 245℃(±5℃).the maximum soldering temperature should be limited to 260℃.
2. dont cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

■Soldering iron

Basic spec is ≤ 5sec when 260℃. If temperature is higher, time should be shorter (+10℃→ -1sec).Power dissipation of iron should be smaller than 15W, and temperatures should be controllable .Surface temperature of the device should be under 230℃ .

■Rework

1. Customer must finish rework within 5 sec under 260℃.
2. The head of iron can not touch copper foil
3. Twin-head type is preferred.



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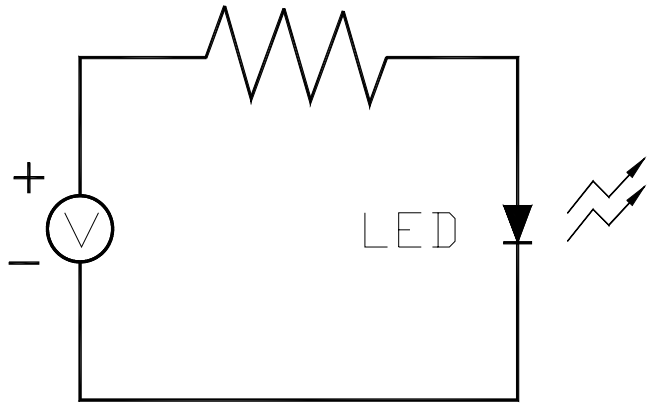
Test circuit and handling precautions

■ Test circuit



■ Handling precautions

1. Over-current-proof

Customer must apply resistors for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).

2.Storage

2.1 It is recommended to store the products in the following conditions:

Humidity: 60% R.H. Max.

Temperature : 5℃~30℃(41℉~86℉)

2.2 Shelf life in sealed bag: 12 month at ＜5℃~30℃ and ＜30% R.H. after the package is Opened, the products should be used within a week or they should be keeping to stored at ≦20 R.H. with zip-lock sealed.

3.Baking

It is recommended to baking before soldering when the pack is unsealed after 72hrs. The Conditions are as followings:

3.1 60±3℃ x(12~24hrs) and ＜5%RH, taped reel type

3.2 100±3℃ x(45min~1hr), bulk type

3.3 130±3℃ x(15~30min), bulk type

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Test items and results of reliability

Type	Test Item	Test Conditions	Note	Number of Damaged
Environmental Sequence	Temperature Cycle	-20℃ 30min ↑ ↓ 80℃ 30min	100 cycle	0/22
	Thermal Shock	-20℃ 15min ↑ ↓ 80℃ 15min	100 cycle	0/22
	High Humidity Heat Cycle	30℃⇔65℃ 90%RH 24hrs/1cycle	10 cycle	0/22
	High Temperature Storage	T_a=80℃	1000 hrs	0/22
	Humidity Heat Storage	T_a=60℃ RH=90%	1000 hrs	0/22
	Low Temperature Storage	T_a=-30℃	1000 hrs	0/22
Operation Sequence	Life Test	T_a=25℃ I_F=20mA	1000 hrs	0/22
	High Humidity Heat Life Test	60℃ RH=90% I_F=10mA	500 hrs	0/22
	Low Temperature Life Test	T_a=-20℃ I_F=20mA	1000 hrs	0/22

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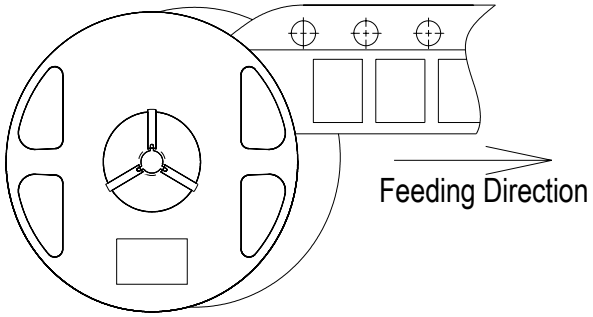
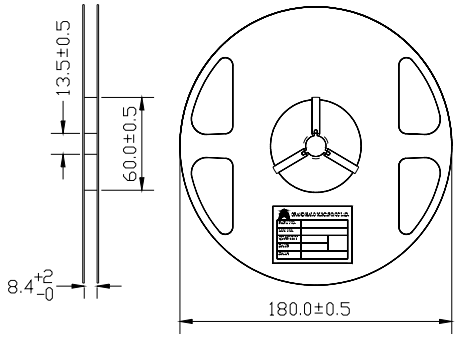
LED Lamps Packaging Specifications

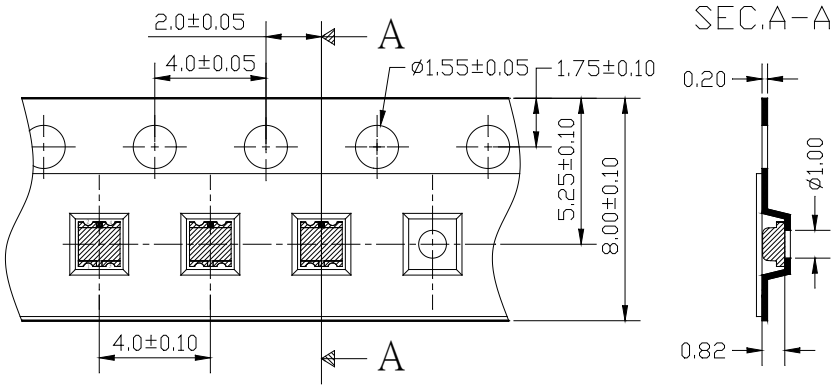
- **Feeding Direction**



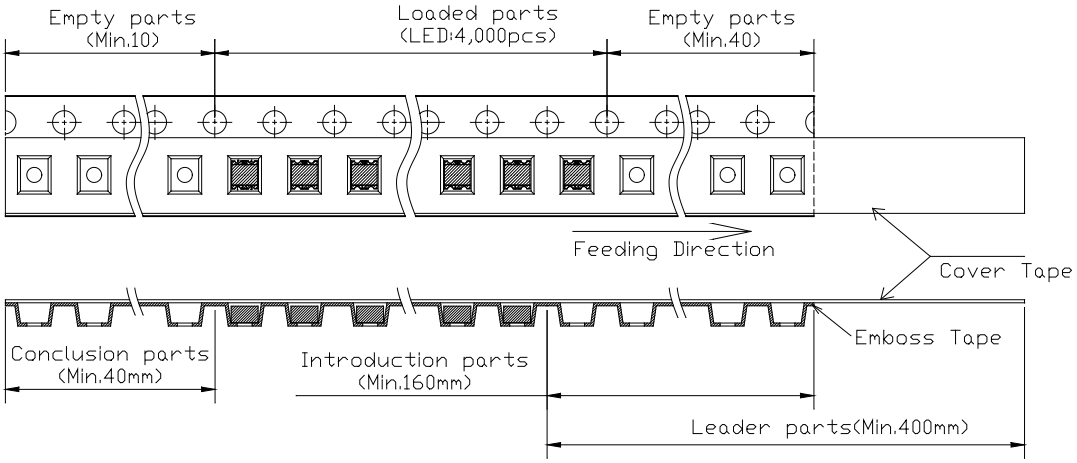
- **Dimensions of Reel (Unit: mm)**



- **Dimensions of Tape (Unit: mm)**



- **Arrangement of Tape**



NOTES

1. Empty component pockets are sealed with top cover tape;
2. The maximum number of missing lamps is two;
3. 4,000pcs/Reel