

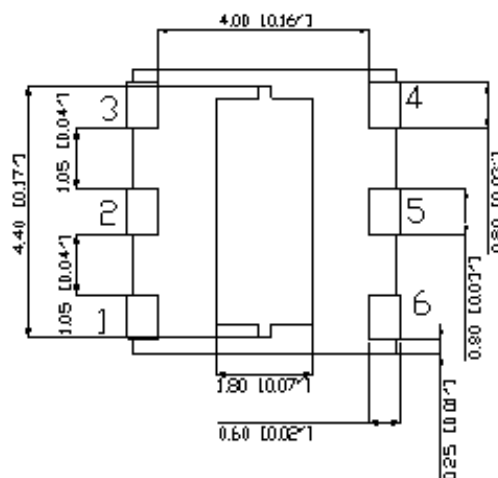
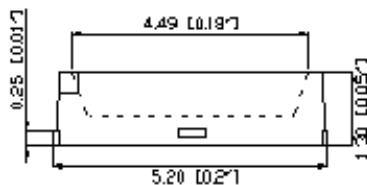
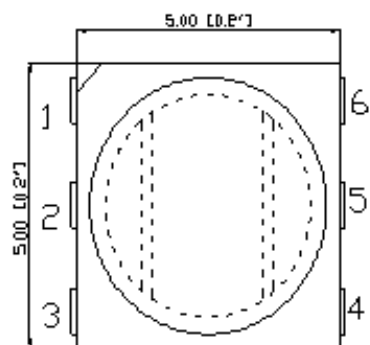


American Opto Plus LED Corp.

L950MUWMC-TR

5.0 x 5.0 x 1.3 mm PLCC6 Warm White SMD, Tape & Reel

PACKAGE OUTLINES



4, 5, 6 1, 2, 3

ITEM	MATERIALS
Resin	Silicon
Lens color	Yellow
Dice	InGaN/GaN
Emitted color	White

NOTES:

1. All dimensions are in millimeters (inches);
2. Tolerances are $\pm 0.2\text{mm}$ (0.008inch) unless otherwise noted.
3. Please add heat sink during usage.



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ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

Parameter	Symbol	Value	Unit
Forward current	If	700	mA
Reverse voltage	Vr	5	V
Power dissipation	Pd	2450	mW
Operating temperature range	Top	-40 ~ +85	°C
Storage temperature range	Tstg	-40 ~ +85	°C
Peak pulsing current (1/8 duty f= 1kHz)	Ifp	1	A

OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Color temperature	TC	I _F = 350mA	--	4000	--	K
CIE Coordinates	X Y	I _F = 350mA	--	0.3818 0.3797	--	--
Forward Voltage *	Vf	I _F = 350mA	2.8	3.3	3.5	V
Luminous intensity **	Iv	I _F = 350mA	--	32	--	cd
Luminous flux	LM	I _F = 350mA	--	105	--	lm
Viewing angle at 50% Iv	2 θ ½	I _F = 10mA	--	120	--	Deg
Reverse current	Ir	Vr=5V	--	--	10	μA

*Note: Luminous intensity tolerance is ±10%.

**Note: Luminous flux tolerance is ±10%.



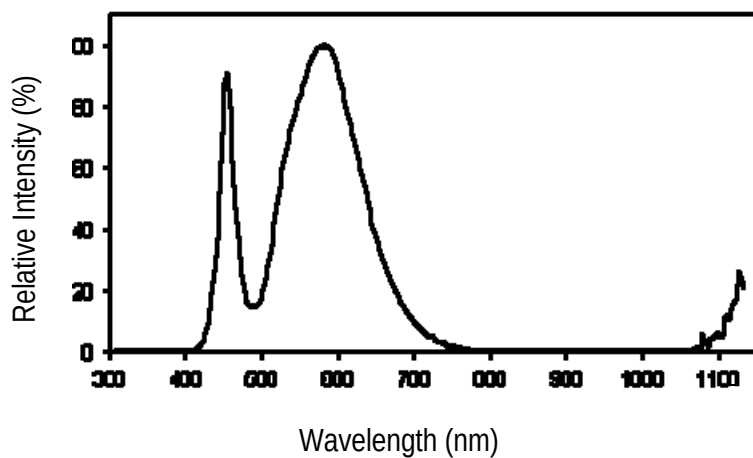
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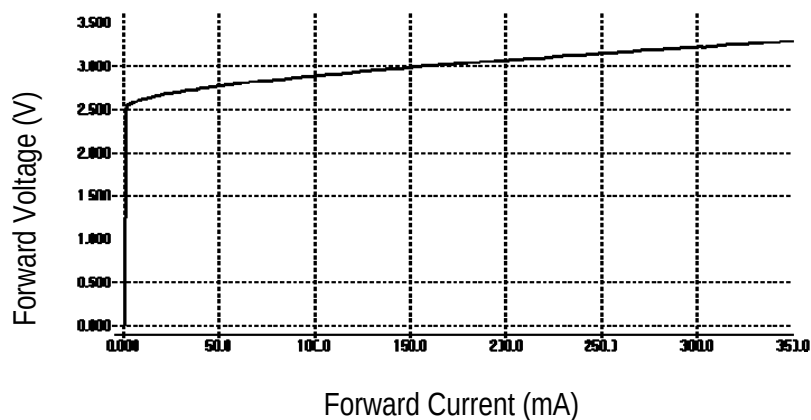
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OPTICAL CHARACTERISTIC CURVES

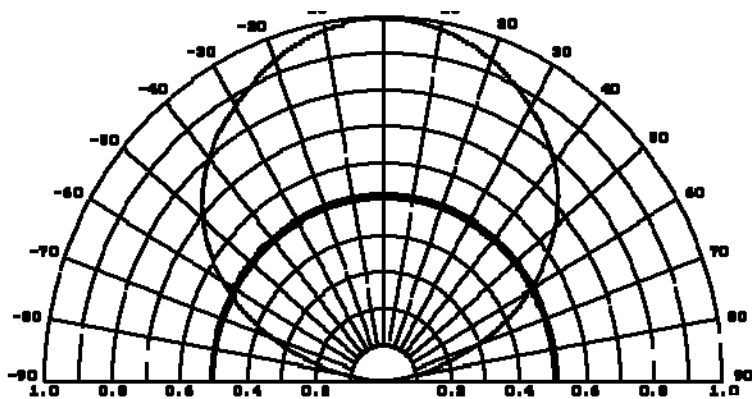
Relative Intensity vs. Wavelength



Forward Current vs. Forward



Directive Characteristics



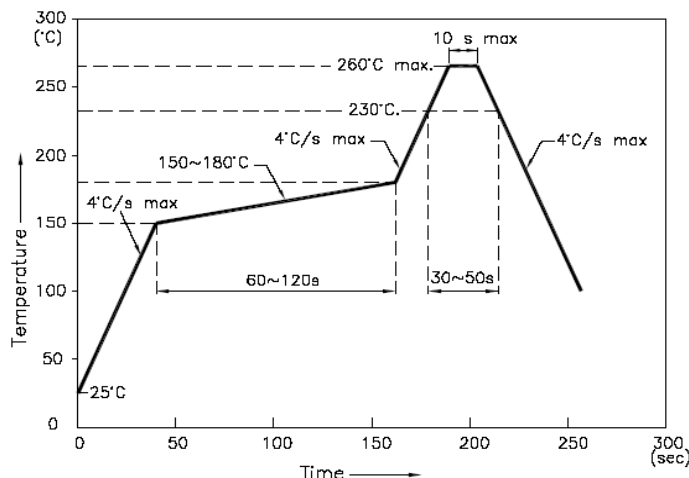


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REFLOW PROFILE



NOTES:

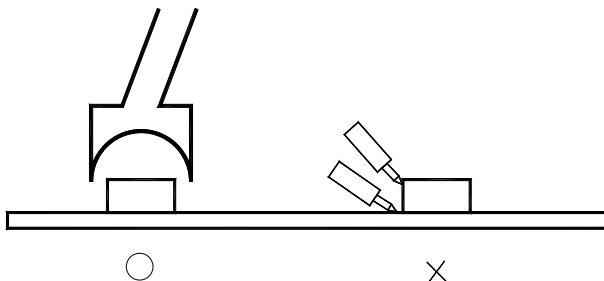
1. We recommend the reflow temperature 245°C (±5°C). The maximum soldering temperature should be limited to 260°C.
2. Do not cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

- Soldering iron

Basic spec is $\leq 5\text{sec}$ when 260°C. If temperature is higher, time should be shorter (+10°C $\rightarrow$ -1sec). Power dissipation of iron should be smaller than 20W, and temperatures should be controllable. Surface temperature of the device should be under 230°C.

- Rework

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



- **Avoid rubbing or scraping the resin by any object, during high temperature, for example reflow, solder etc.**



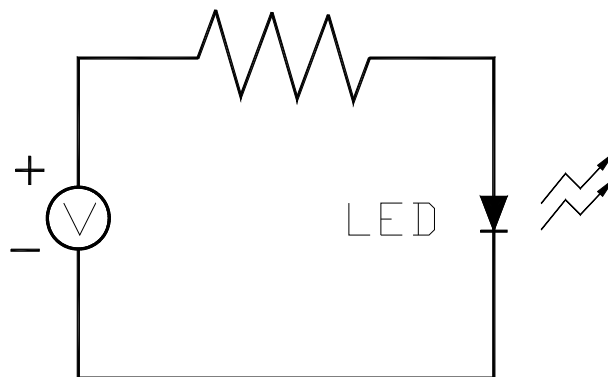
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TEST CIRCUIT AND HANDLING PRECAUTIONS

- **Test circuit**



- **Handling precautions**

1. Over-current-proof
Customer must apply resistors for protection; otherwise slight voltage will cause big current change (Burn out will happen).
2. Shelf life in sealed bag: 12 month at $< 5^{\circ}\text{C} \sim 30^{\circ}\text{C}$ and $< 60\% \text{ R.H.}$
3. After the package is opened; it is recommended to bake before the first use.
Baking condition:
 - A. $60 \pm 3^{\circ}\text{C}$ x (36min~48hrs) and $< 5\% \text{ RH}$, taped reel type;
 - B. $110 \pm 3^{\circ}\text{C}$ x (8~16hrs), bulk type;
4. The product should be used within a week.
5. It is recommended to bake before soldering when the pack is unsealed after 72 hrs



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Test items and results of reliability

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



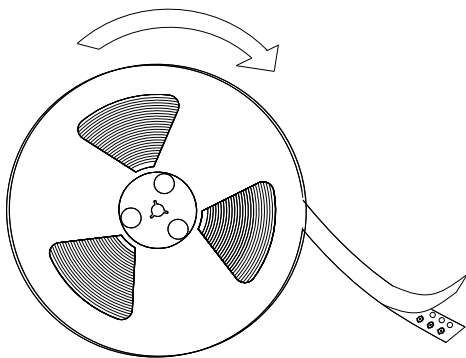
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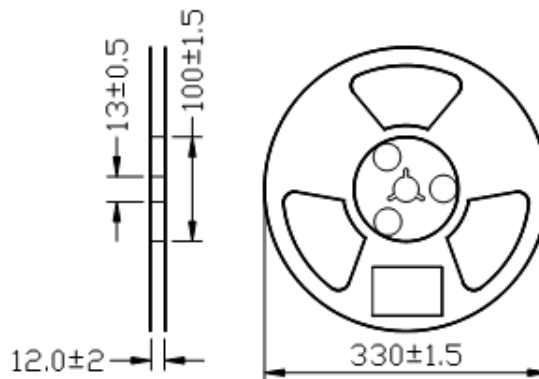
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PACKAGING SPECIFICATION

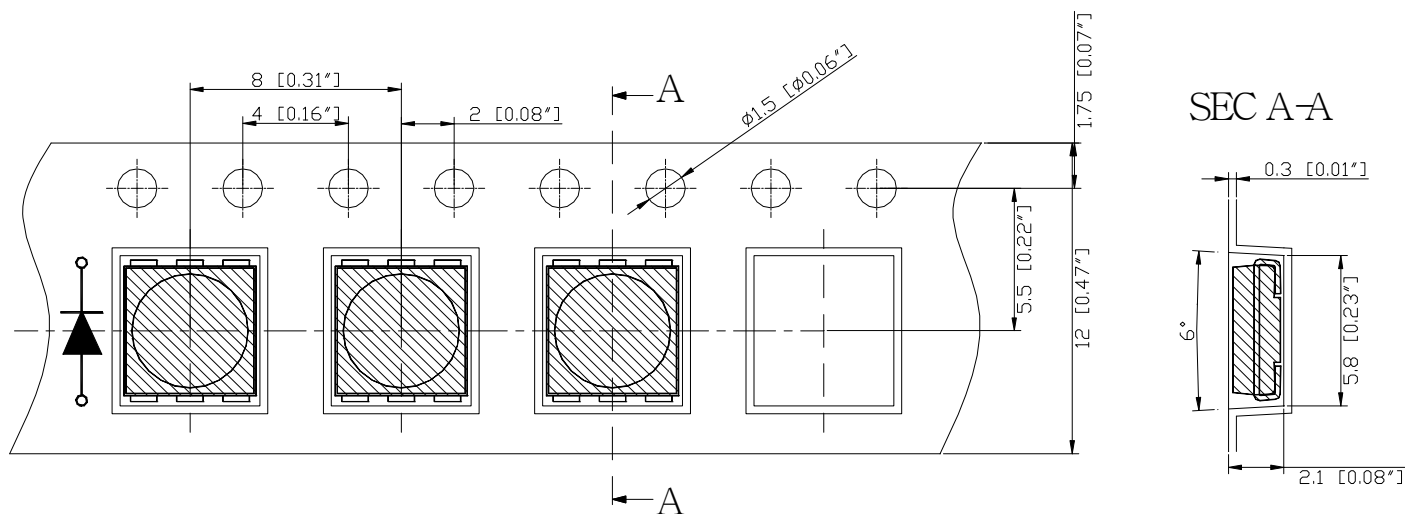
- Feeding Direction



- Dimensions of Reel (Unit: mm)



- Dimensions of Tape (Unit: mm)



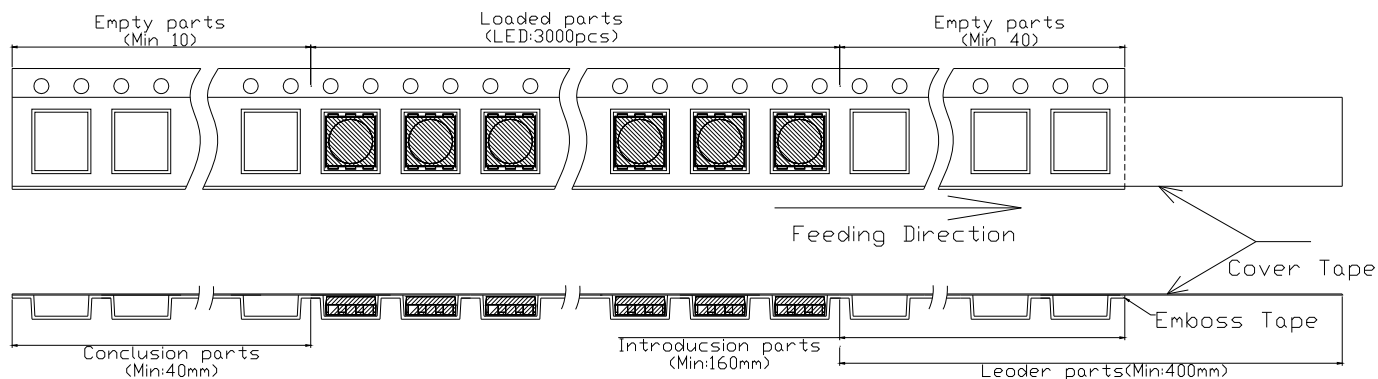


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- **Arrangement of Tape**



Notes:

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