

SML10IR941T-TR

Infrared

Surface Mount LED

3.2 × 2.7 × 1.85 mm Chip LED

120° viewing angle

DWG BY:
SL / GP
04-02-07

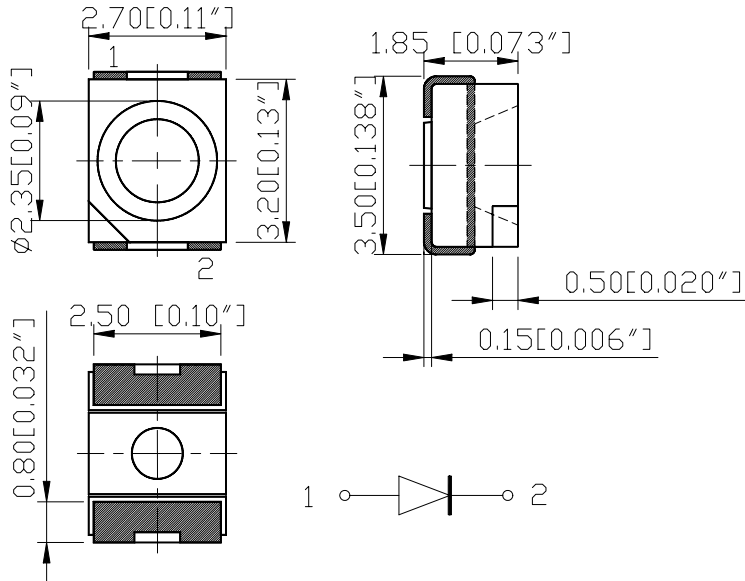
CHK BY:
PL
04-03-07

QA:
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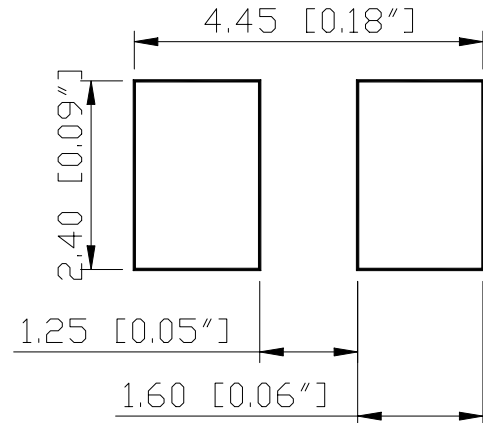
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REVISION LTR: -
04-02-07

Package outlines



RECOMMEND PAD LAYOUT



ITEM	MATERIALS
Resin (mold)	Epoxy
Bonding Wire	Ø25µm Au
Lens color	Water Transparent
Dice	GaAIAs/GaAs

NOTES:

1. All dimensions are in millimeters (inches);
2. Tolerance are ±0.2mm (0.008inch) unless otherwise noted.

Absolute maximum ratings (T_A = 25°C)

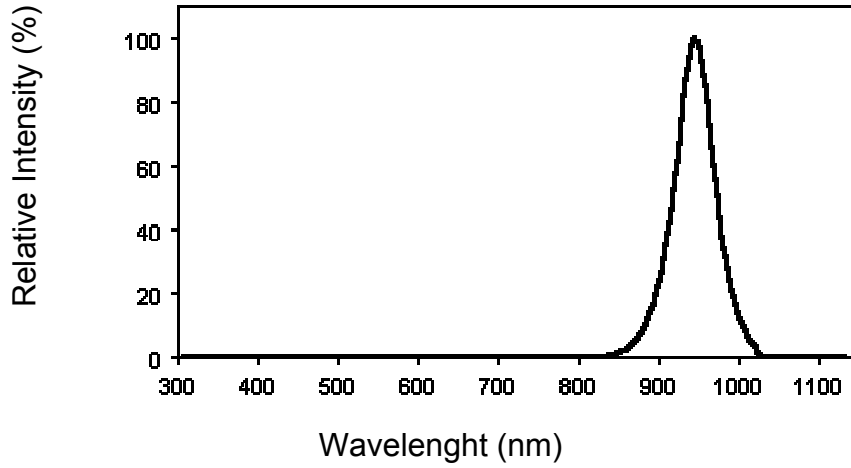
Parameter	Symbol	Value	Unit
Power dissipation	Pd	85	mW
Peak forward current Pulse width 100μs, duty cycle =1%	I _{fp}	1	A
Continuous forward current	I _f	50	mA
Reverse voltage	V _r	5	V
Operating temperature range	T _{op}	-20 ~+80	°C
Storage temperature range	T _{stg}	-20~+80	°C

Electro-optical characteristics (T_A = 25°C)

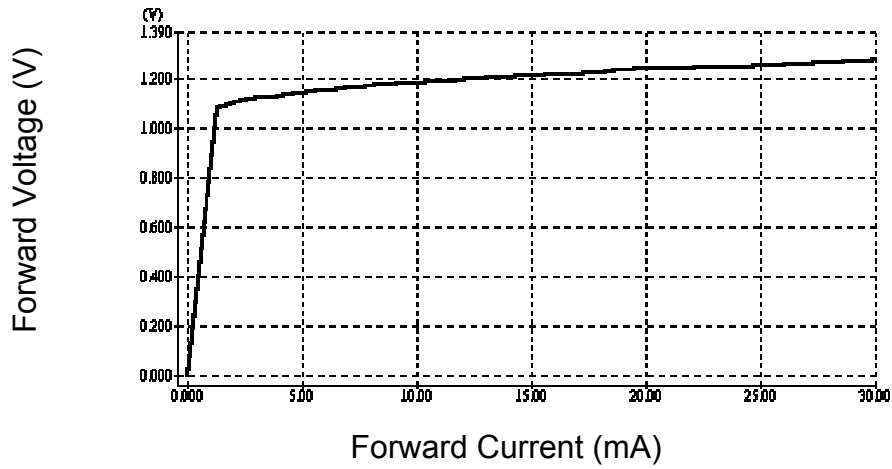
Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Radiated output power	I _f =20mA	P _o	0.6	--	--	mW
Forward voltage	I _f =20mA	V _f	--	1.20	1.70	V
Peak wavelength	I _f =20mA	λ _p	--	--	10	nm
Spectral bandwidth	I _f =20mA	Δλ	--	940	--	nm
Reverse current	V _r =5V	I _r	--	50	--	μA
View angle	I _f =20mA	2θ 1/2	--	120	--	Deg

OPTICAL CHARACTERISTIC CURVES

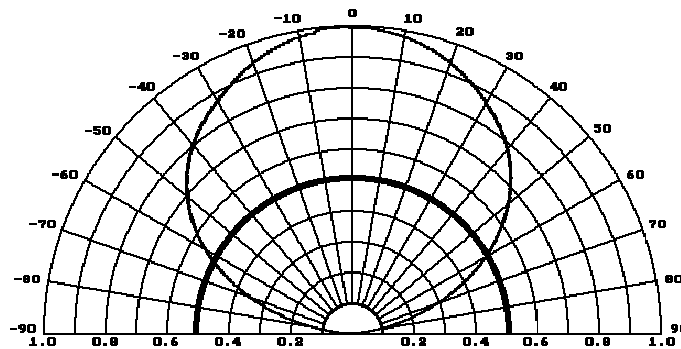
Relative Intensity vs. Wavelength



Forward Current vs. Forward Voltage

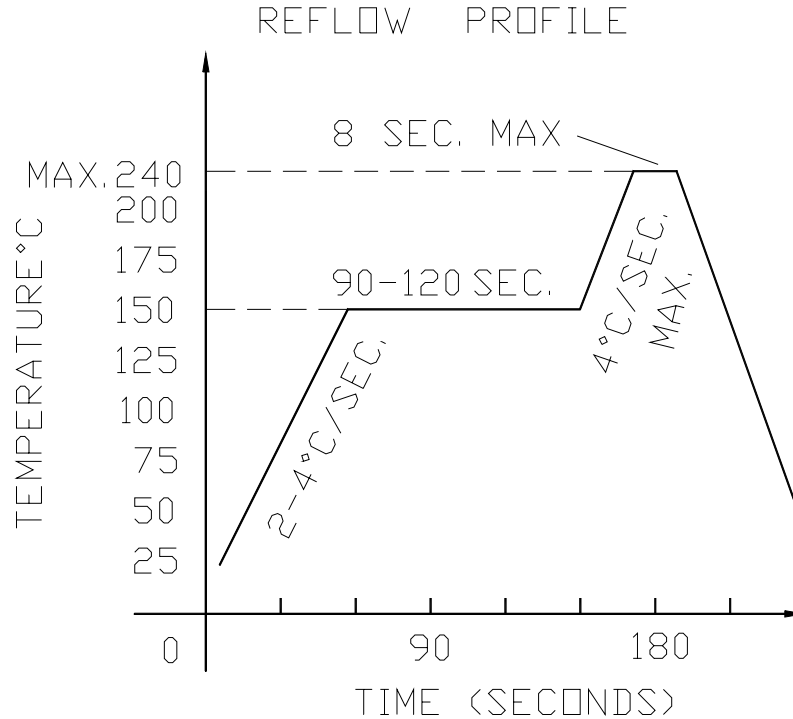


Directive Characteristics



Reflow Profile

■ Reflow Temp/Time

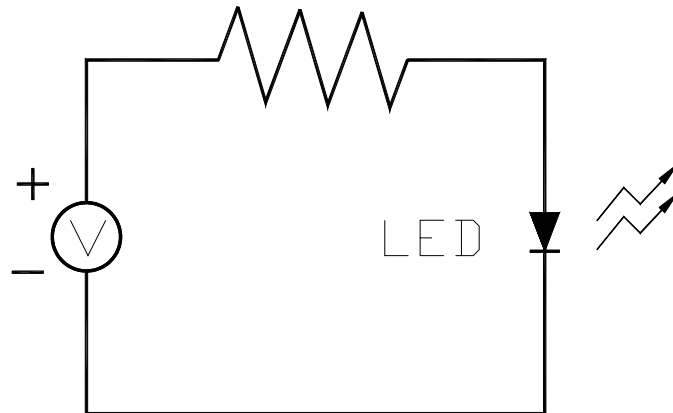


■ Soldering iron

Basic spec is $\leq 5\text{sec}$ when 260°C . If the temperature is higher, time should be shorter (+ $10^{\circ}\text{C} \rightarrow -1\text{sec}$). Power dissipation of iron should be smaller than 15W, and temperatures should be controllable. Surface temperature of the device should be under 230°C .

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°C~30°C (41°F~86°F)

2.2 Shelf life in sealed bag: 12 month at < 5°C~30°C and < 30% R.H. after the package is

Opened, the products should be used within a week or they should be keeping to storage at ≤ 20 R.H. with zip-lock sealed.

3. Baking

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

3.1 $60 \pm 3^\circ\text{C}$ x(12~24hrs) and < 5%RH, taped reel type

3.2 $100 \pm 3^\circ\text{C}$ x(45min~1hr), bulk type

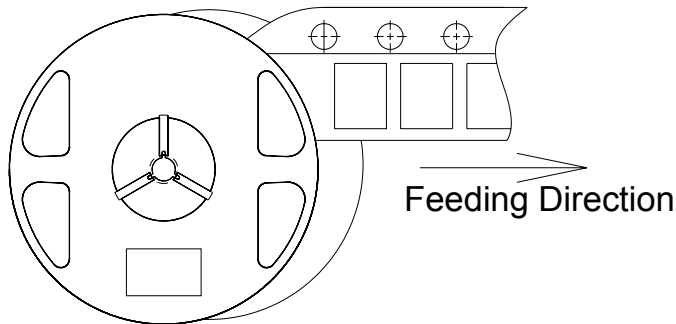
3.3 $130 \pm 3^\circ\text{C}$ x(15~30min), bulk type

Test items and results of reliability

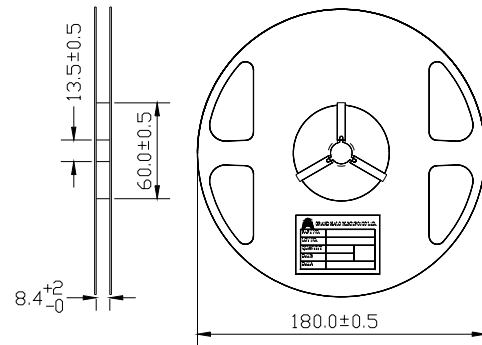
Type	Test Item	Test Conditions	Note	Number of Damaged
Environmental Sequence	Temperature Cycle	-20°C 30min ↑ ↓ 80°C 30min	100 cycle	0/22
	Thermal Shock	-20°C 15min ↑ ↓ 80°C 15min	100 cycle	0/22
	High Humidity Heat Cycles	30°C ↔ 65°C 90%RH 24hrs/1cycle	10 cycle	0/22
	High Temperature Storage	T _a =80°C	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

Single-Color High Performance SMD Top LED Lamps Packaging Specifications

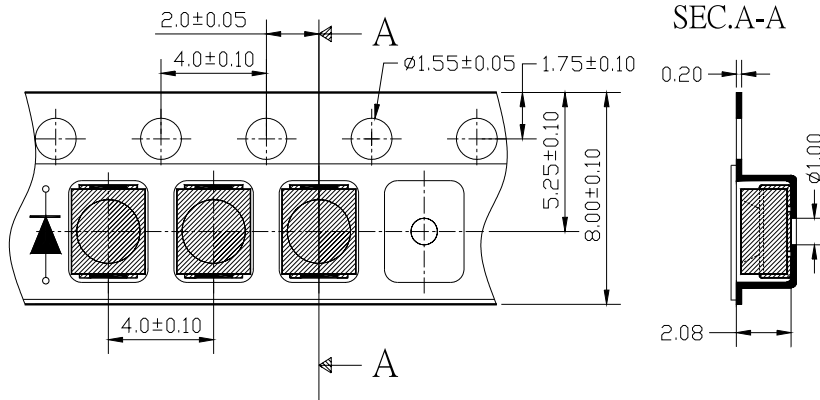
● Feeding Direction



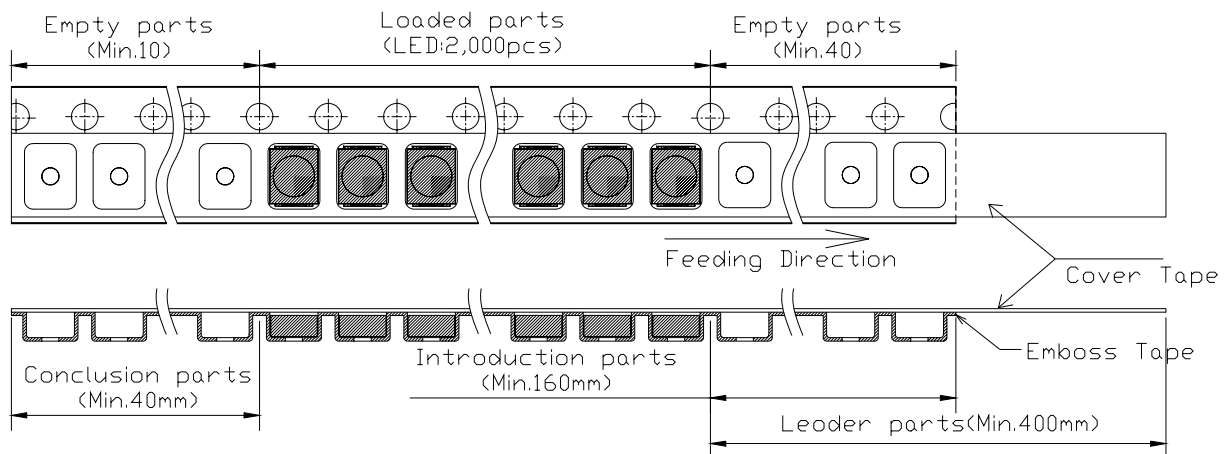
● Dimensions of Reel (Unit: mm)



● 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. The cathode is oriented towards the tape sprocket hole in accordance with ANSI/EIA RS-481 specifications.
4. 2,000 pcs/Reel