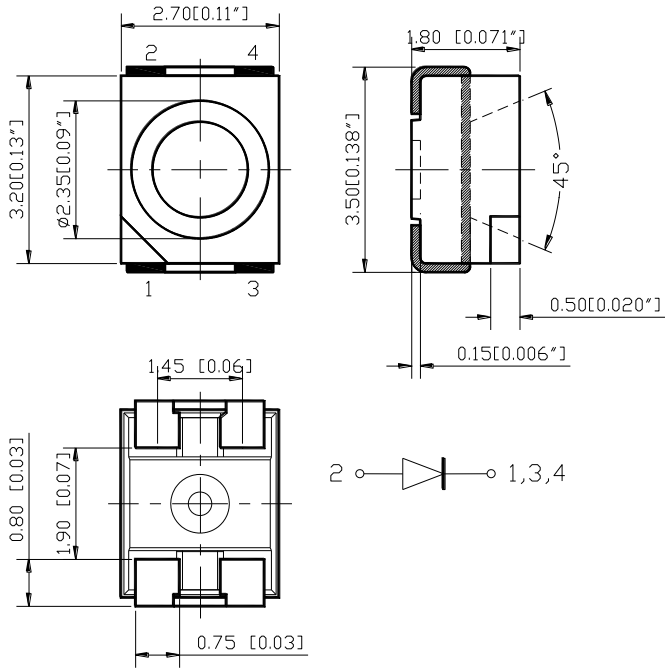


# REFLECTOR COATING TYPE HIGH-PERFORMANCE LEDs

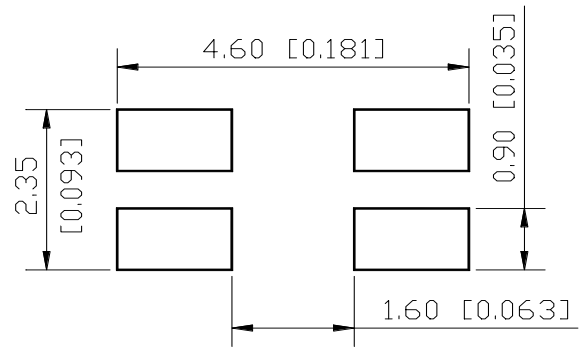
## High Performance SMD Single-Color Top LEDs

Part Number: N0A19S72

### Package outlines



### RECOMMEND PAD LAYOUT





**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
SENSITIVE DEVICES

ITEM	MATERIALS
Resin	Silicon
Lens color	Water transparent
Dice	AlGaInP
Emitted color	Amber

#### NOTES:

1. All dimensions are in millimeters (inches);
2. Tolerances are  $\pm 0.2\text{mm}$  (0.008inch) unless otherwise noted.

Rev :	Date	Drawn by :	Checked by :	Approved by :
A	2015/08/03	唐云	李用基	黃靜文

# REFLECTOR COATING TYPE HIGH-PERFORMANCE LEDs

Part Number: N0A19S72

## Absolute maximum ratings (T<sub>A</sub>=25°C)

Parameter	Symbol	Value	Unit
Forward current	I <sub>f</sub>	50	mA
Reverse voltage	V <sub>r</sub>	5	V
Power dissipation	P <sub>d</sub>	145	mW
Operating temperature range	T <sub>op</sub>	-40 ~+80	°C
Storage temperature range	T <sub>stg</sub>	-40 ~+85	°C
Peak pulsing current (1/8 duty f=1kHz)	I <sub>fp</sub>	125	mA

## Electro-optical characteristics (T<sub>A</sub>=25°C)

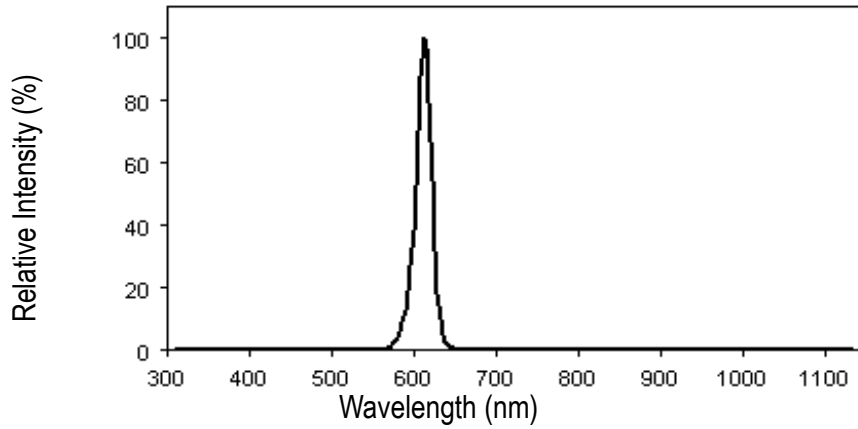
Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Wavelength at peak emission	I <sub>f</sub> =50mA	λ <sub>peak</sub>	--	612	--	nm
Spectral half bandwidth	I <sub>f</sub> =50mA	Δλ	--	20	--	nm
Dominant wavelength	I <sub>f</sub> =50mA	λ <sub>dom</sub>	600	605	610	nm
Forward voltage	I <sub>f</sub> =50mA	V <sub>f</sub>	1.9	2.7	2.9	V
Luminous intensity	I <sub>f</sub> =50mA	I <sub>v</sub>	1250	2400	4000	mcd
Viewing angle at 50% I <sub>v</sub>	I <sub>f</sub> =10mA	2θ <sub>1/2</sub>	--	120	--	Deg
Reverse current	V <sub>r</sub> =5V	I <sub>r</sub>	--	--	10	μA

# REFLECTOR COATING TYPE HIGH-PERFORMANCE LEDs

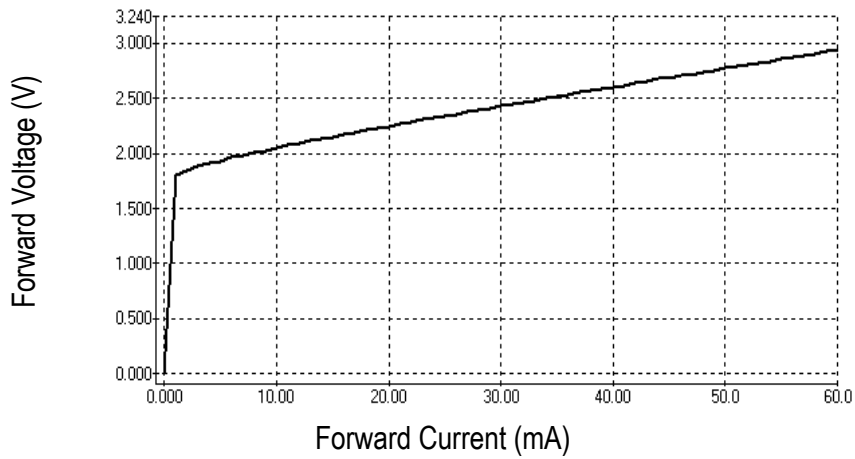
Part Number: N0A19S72

## OPTICAL CHARACTERISTIC CURVES

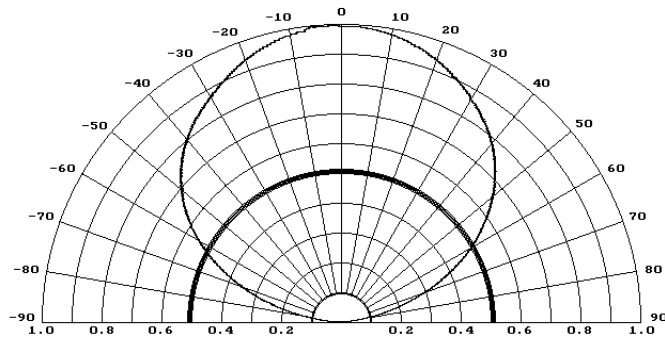
Relative Intensity vs. Wavelength



Forward Current vs. Forward Voltage



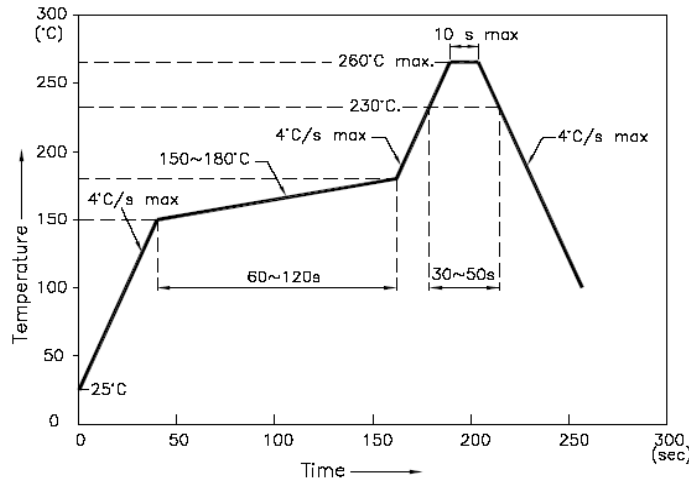
Directive Characteristics



# REFLECTOR COATING TYPE HIGH-PERFORMANCE LEDs

## Reflow Profile

### ■ Reflow Temp/Time



### NOTES:

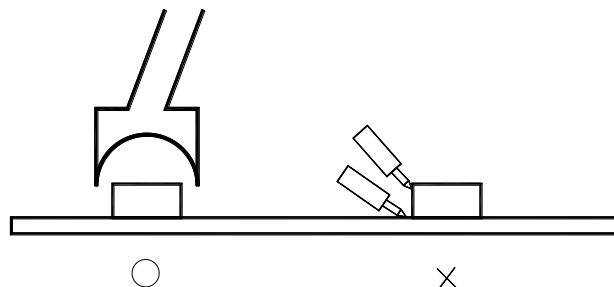
1. We recommend the reflow temperature  $245^{\circ}\text{C} (\pm 5^{\circ}\text{C})$ . the maximum soldering temperature should be limited to  $260^{\circ}\text{C}$ .
2. dont cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

### ■ Soldering iron

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

### ■ Rework

1. Customer must finish rework within 5 sec under  $260^{\circ}\text{C}$ .
2. The head of iron can not touch copper foil
3. Twin-head type is preferred.

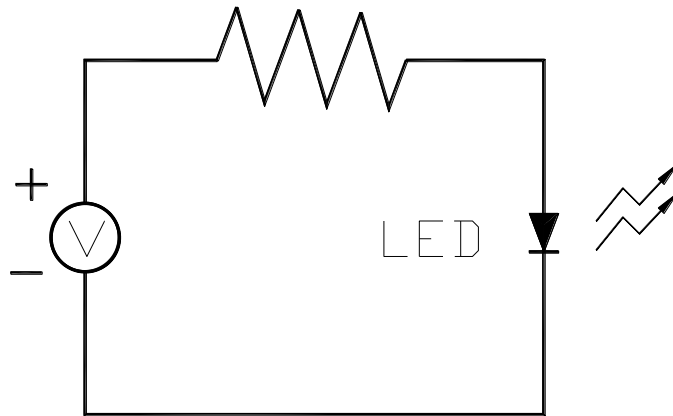


■ Avoid rubbing or scraping the resin by any object, during high temperature, for example reflow 、 solder etc.

# REFLECTOR COATING TYPE HIGH-PERFORMANCE LEDs

## 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. Shelf life in sealed bag: 12 month at 5°C~30°C and < 60% R.H;

3. After the package is Opened:

3.1. It is recommended to baking before the first use:

Baking condition:

a.  $60 \pm 3^\circ\text{C}$  x (36~48hrs) and < 5%RH, taped reel type ;

b.  $110 \pm 3^\circ\text{C}$  x (8~16hr), bulk type ;

3.2 The products should be used within a week or they should be keeping to stored at  $\leq 20$  R.H. with zip-lock sealed:

a. It is recommended to baking before soldering when the pack is unsealed after 72hrs ;

b. Baking condition as 3.1 baking condition.

# REFLECTOR COATING TYPE HIGH-PERFORMANCE LEDs

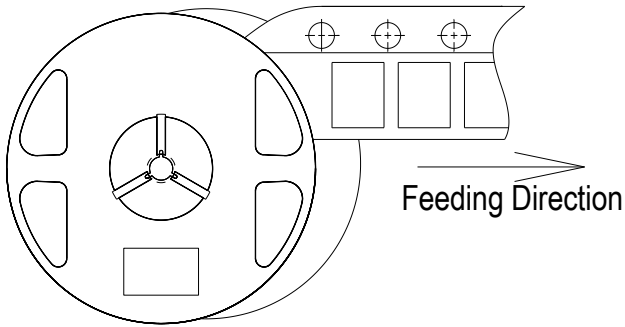
## Test items and results of reliability

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 <sub>a</sub> =80°C	1000 hrs	0/22
	Humidity Heat Storage	T <sub>a</sub> =60°C RH=90%	1000 hrs	0/22
	Low Temperature Storage	T <sub>a</sub> =-30°C	1000 hrs	0/22
Operation Sequence	Life Test	T <sub>a</sub> =25°C I <sub>F</sub> =20mA	1000 hrs	0/22
	High Humidity Heat Life Test	60°C RH=90% I <sub>F</sub> =10mA	500 hrs	0/22
	Low Temperature Life Test	T <sub>a</sub> =-20°C I <sub>F</sub> =20mA	1000 hrs	0/22

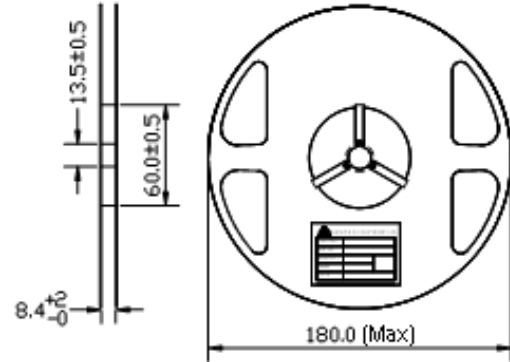
# PACKAGING SPECIFICATIONS

## Single-Color High Performance SMD Top LEDs Packaging Specifications

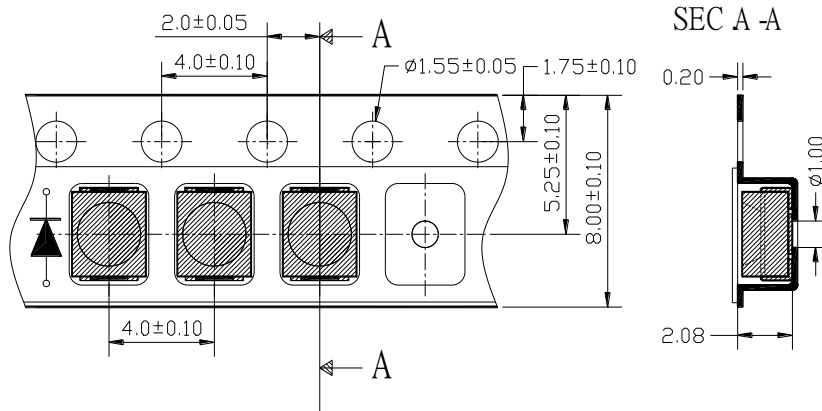
### ● Feeding Direction



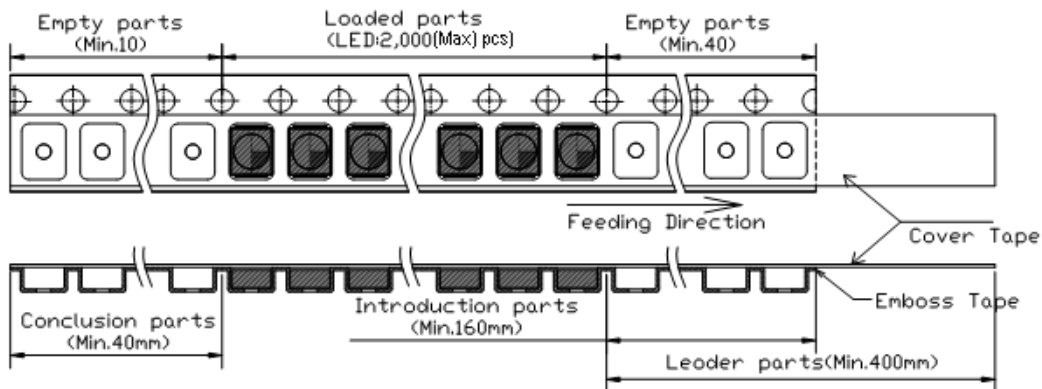
### ● Dimensions of Reel (Unit: mm)



### ● Dimensions of Tape (Unit: mm)



### ● Arrangement of Tape



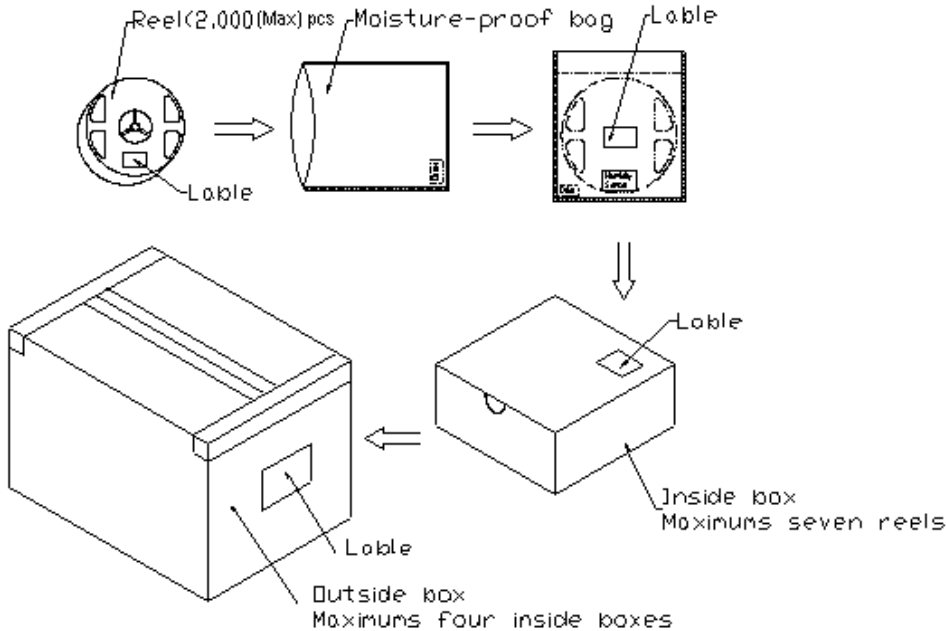
### NOTES

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;
4. 2,000(Max)pcs/Reel

# PACKAGING SPECIFICATIONS

## Single-Color High Performance SMD Top LEDs Packaging Specifications

- **Packaging specifications**



### NOTES:

Reeled products [numbers of products are 2,000(Max)pcs] packed in a seal off moisture-proof bag along with desiccant and Humidity card one by one, Seven moisture-proof bag of maximums [total maximum number of products are 14,000(Max)pcs] packed in an inside box (size: about 238mm x about 194mm x about 102mm) and four inside boxes of maximums are put in the outside box (size: about 410mm x about 254mm x about 229mm) Together with buffer material, and it is packed. (Part No., Lot No., quantity should appear on the label on the moisture-proof bag, part No. And quantity should appear on the label on the cardboard box.) The number of the loading steps of outside box (cardboard box) has it to three steps.



# REFLECTOR COATING TYPE HIGH-PERFORMANCE LEDs

Part Number: N0A19S72

## Forward Voltage Rank Combination (IF=50mA)

Rank	Min.	Max.	Unit
□	1.9	2.9	V

## Luminous Intensity Rank Combination (IF=50mA)

Rank	Min.	Max.	Unit
U	1250	1600	mcd
V	1600	2000	
W	2000	2500	
X	2500	3200	
Y	3200	4000	

## Dominant wavelength Rank Combination (IF=50mA)

Rank	Min.	Max.	Unit
p	600	605	nm
q	605	610	

## Group Name on Label ( Example DATA: □Wq 50 )

DATA: □Wq 50	Vf(V)	Iv (mcd)	λd (nm)	Test Condition
□→W→q→50	1.9~2.9	2000~2500	605~610	IF=50mA

\* NOTE:

1. The tolerance of luminous intensity (Iv) is  $\pm 15\%$ .
2. The tolerance of dominant wavelength is  $\pm 1\text{nm}$ .
3. This specification is preliminary.