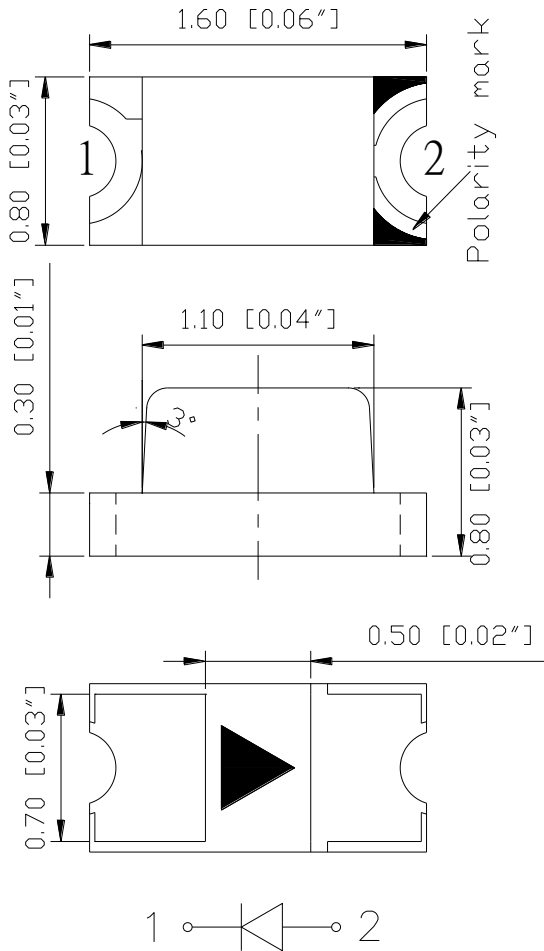


SURFACE MOUNT LED LAMPS

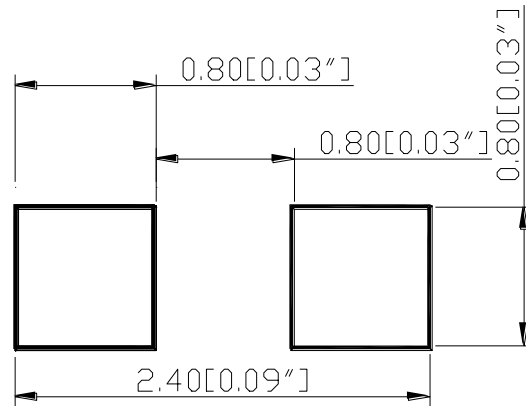
SMD Chip LED Lamps

Part Number: N0R32S86

Package outlines



RECOMMEND PAD LAYOUT





ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
SENSITIVE DEVICES

ITEM	MATERIALS
Resin (mold)	Epoxy
Lens color	Water transparent
Dice	AlGaInP
Emitted color	Red

NOTES:

1. All dimensions are in millimeters (inches);
2. Tolerances are $\pm 0.1\text{mm}$ (0.004inch) unless otherwise noted.

Rev :	Date	Drawn by :	Checked by :	Approved by :
A	2016/11/04	唐云	李用基	黃靜文

SURFACE MOUNT LED LAMPS

Part Number: N0R32S86

Absolute maximum ratings

($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Forward current	I _f	30	mA
Reverse voltage	V _r	5	V
Power dissipation	P _d	75	mW
Operating temperature range	T _{op}	-40 ~+80	°C
Storage temperature range	T _{stg}	-40 ~+85	°C
Peak pulsing current (1/8 duty f=1kHz)	I _{fp}	125	mA

Electro-optical characteristics

($T_A=25^{\circ}\text{C}$)

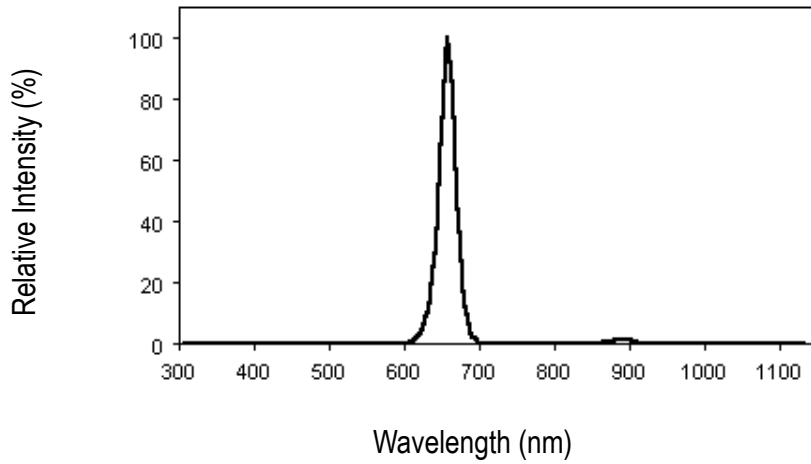
Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Wavelength at peak emission	I _f =20mA	λ_{peak}	--	658	--	nm
Spectral half bandwidth	I _f =20mA	$\Delta\lambda$	--	22	--	nm
Dominant wavelength	I _f =20mA	λ_{dom}	630	642	650	nm
Forward voltage	I _f =20mA	V _f	1.7	2.3	2.5	V
Luminous intensity	I _f =20mA	I _v	63	115	200	mcd
Viewing angle at 50% I _v	I _f =10mA	2 $\theta_{1/2}$	--	140	--	Deg
Reverse current	V _r =5V	I _r	--	--	10	μA

SURFACE MOUNT LED LAMPS

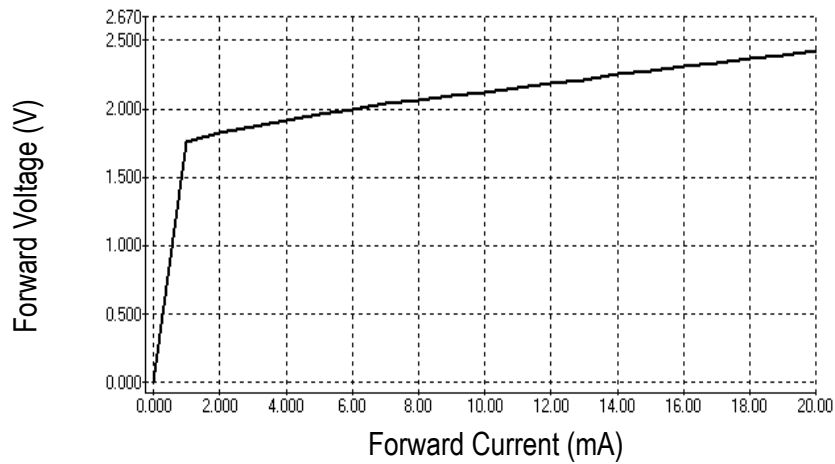
Part Number: N0R32S86

OPTICAL CHARACTERISTIC CURVES

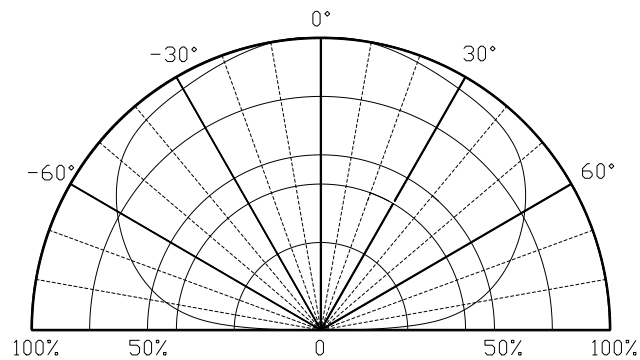
Relative Intensity vs. Wavelength



Forward Current vs. Forward Voltage



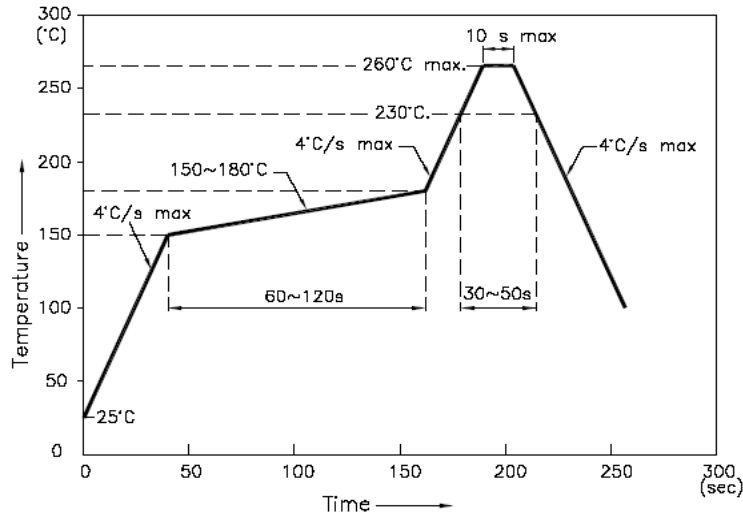
Directive Characteristics



SURFACE MOUNT LED LAMPS

Reflow Profile

■ Reflow Temp/Time



NOTES:

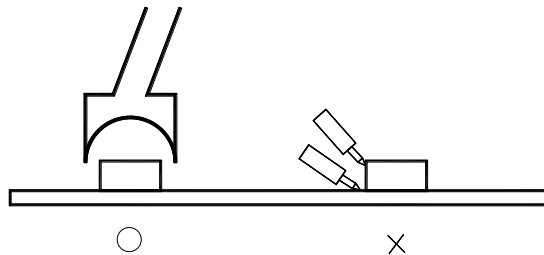
1. We recommend the reflow temperature $245^{\circ}\text{C} (\pm 5^{\circ}\text{C})$. the maximum soldering temperature should be limited to 260°C .
2. dont cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

■ Soldering iron

Basic spec is $\leq 5\text{sec}$ when 260°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°C .

■ Rework

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

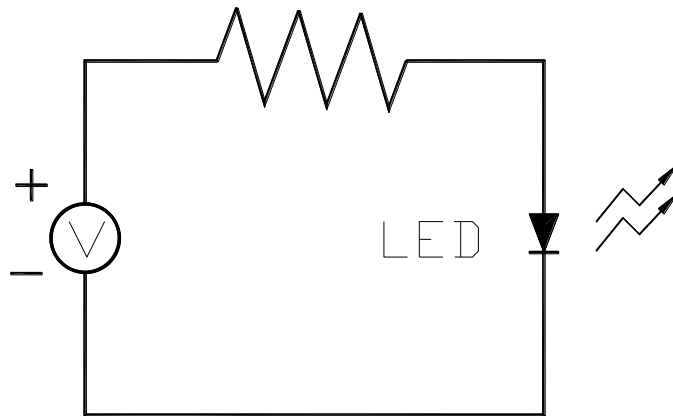


- Avoid rubbing or scraping the resin by any object, during high temperature, for example reflow 、 solder etc.

SURFACE MOUNT LED LAMPS

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. $60 \pm 5^\circ\text{C}$ x (24~48hrs) and < 5%RH, taped reel type ;

b. $110 \pm 5^\circ\text{C}$ x (8~16hr), bulk type ;

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

a. Baking is required before soldering when the pack is unsealed after 24hrs ;

b. Baking condition as 3.1 baking condition.

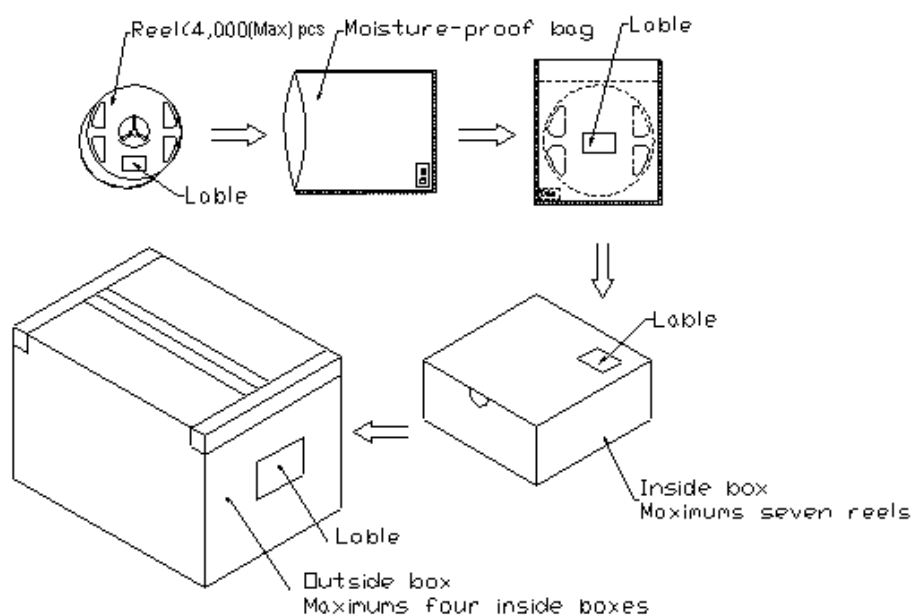
SURFACE MOUNT LED LAMPS

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

SMD Chip LED Lamps Packaging Specifications

- Packaging specifications



NOTES:

Reeled products [numbers of products are 4,000(Max)pcs] packed in a seal off moisture-proof bag along with a desiccant one by one, Seven moisture-proof bag of maximums [total maximum number of products are 28,000(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.

SURFACE MOUNT LED LAMPS

Part Number: N0R32S86

Forward Voltage Rank Combination (IF=20mA)

Rank	Min.	Max.	Unit
<input type="checkbox"/>	1.7	2.5	V

Luminous Intensity Rank Combination (IF=20mA)

Rank	Min.	Max.	Unit
H	63	80	mcd
I	80	100	
J	100	125	
K	125	160	
L	160	200	

Dominant wavelength Rank Combination (IF=20mA)

Rank	Min.	Max.	Unit
v	630	635	nm
w	635	650	

Group Name on Label (Example DATA: Jw 20)

DATA: <input type="checkbox"/> Jw 20	Vf(V)	Iv (mcd)	λ_d (nm)	Test Condition
<input type="checkbox"/> →J→w→20	1.7~2.5	100~125	635~650	IF=20mA

* NOTE:

1. The tolerance of luminous intensity (Iv) is $\pm 15\%$.
2. The tolerance of dominant wavelength is $\pm 1.5\text{nm}$.
3. This specification is preliminary.