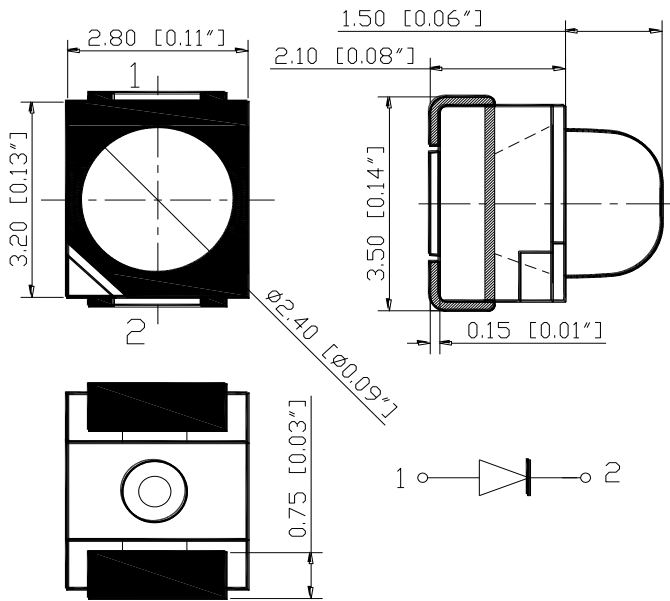


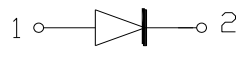
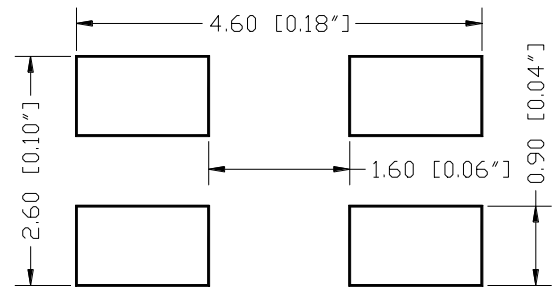
REFLECTOR COATING TYPE HIGH-PERFORMANCE LEDs

Part Number: N0R31S48BF

Package outlines



RECOMMEND PAD LAYOUT





ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
SENSITIVE DEVICES

ITEM	MATERIALS
Resin	Epoxy
Lens color	Water transparent
Dice	AlGaInP
Emitted color	Orange

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	2015/05/14	唐云	李用基	黃靜文

REFLECTOR COATING TYPE HIGH-PERFORMANCE LEDs

Part Number: N0R31S48BF

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	$^{\circ}\text{C}$
Storage temperature range	T_{stg}	-40 ~+85	$^{\circ}\text{C}$
Peak pulsing current (1/8 duty f=1kHz)	I_{fp}	125	mA

Electro-optical characteristics

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

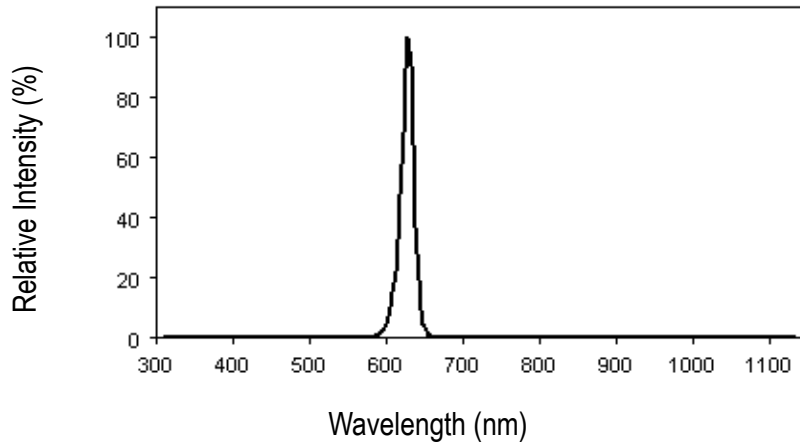
Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Wavelength at peak emission	$I_f=20\text{mA}$	λ_{peak}	--	628	--	nm
Spectral half bandwidth	$I_f=20\text{mA}$	$\Delta\lambda$	--	18	--	nm
Dominant wavelength	$I_f=20\text{mA}$	λ_{dom}	615	620	630	nm
Forward voltage	$I_f=20\text{mA}$	V_f	1.7	2.0	2.5	V
Luminous intensity	$I_f=20\text{mA}$	I_v	3200	6000	11200	mcd
Viewing angle at 50% I_v	$I_f=10\text{mA}$	$2\theta_{1/2}$	--	30	--	Deg
Reverse current	$V_r=5\text{V}$	I_r	--	--	10	μA

REFLECTOR COATING TYPE HIGH-PERFORMANCE LEDs

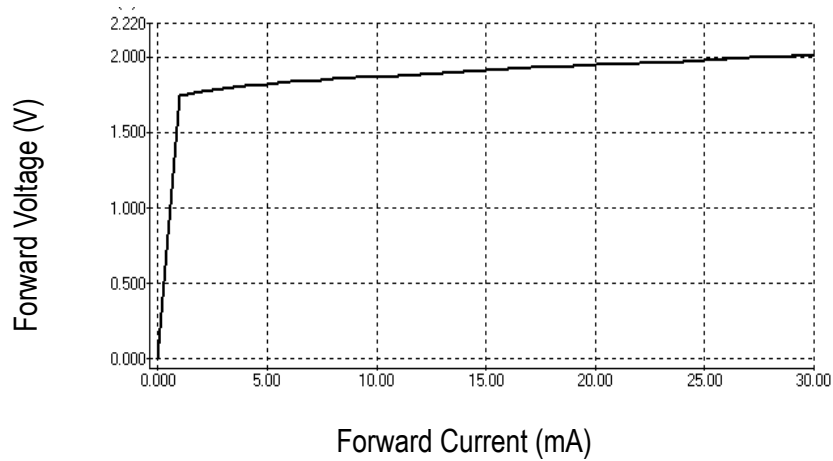
Part Number: N0R31S48BF

OPTICAL CHARACTERISTIC CURVES

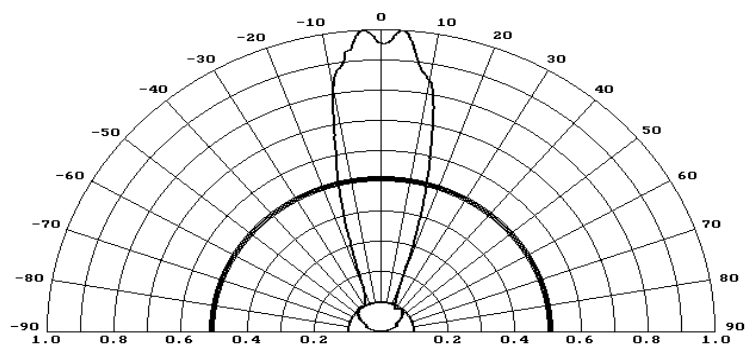
Relative Intensity vs. Wavelength



Forward Current vs. Forward Voltage



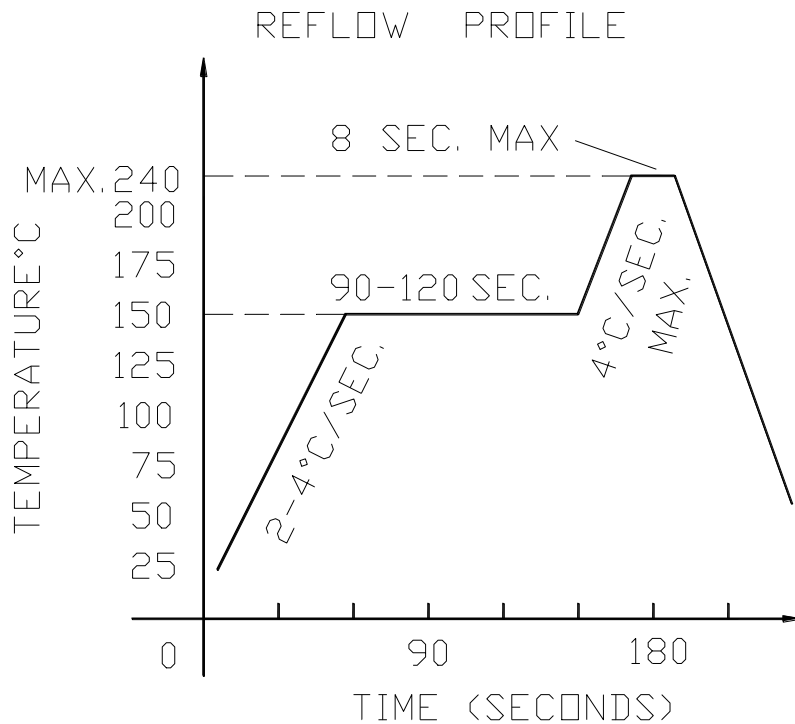
Directive Characteristics



REFLECTOR COATING TYPE HIGH-PERFORMANCE LEDs

Reflow Profile

■ Reflow Temp/Time



■ Soldering iron

Basic spec is ≤ 5 sec when 260°C . If temperature is higher, time should be shorter

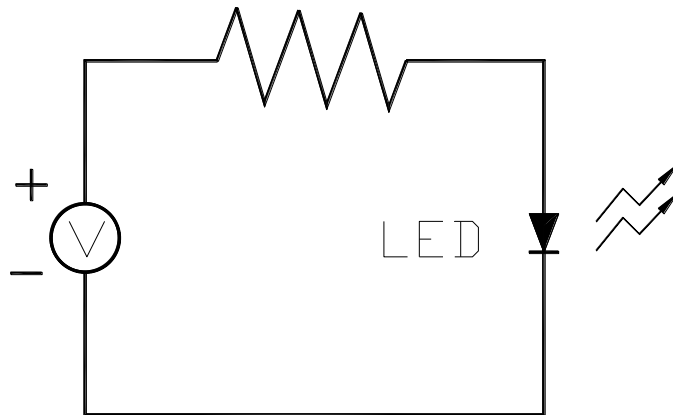
($+10^{\circ}\text{C} \rightarrow -1$ sec). Power dissipation of iron should be smaller than 20W, and temperatures

should be controllable. Surface temperature of the device should be under 230°C .

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 ≤ 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

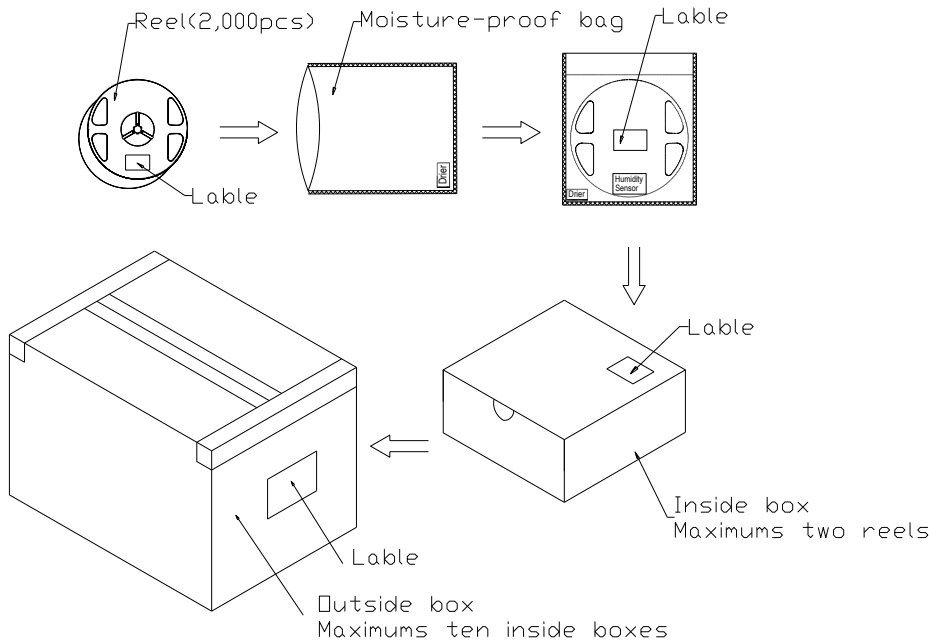
Test items and results of reliability

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 _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

PACKAGING SPECIFICATIONS

2031+Lens Packaging Specifications

- Packaging specifications



NOTES:

Reeled products (numbers of products are 2,000pcs) packed in a seal off moisture-proof bag along with a desiccant one by one and with a Humidity-Sensor one by one, Two moisture-proof bag of maximums (total maximum number of products are 4,000pcs) packed in an inside box (size: about 380mm x about 380mm x about 52mm) and ten inside boxes of maximums are put in the outside box (size: about 398mm x about 398mm x about 398mm) 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: N0R31S48BF

Forward Voltage Rank Combination (IF=20mA)

Rank	Min.	Max.	Unit
□	1.7	2.5	V

Luminous Intensity Rank Combination (IF=20mA)

Rank	Min.	Max.	Unit
Y	3200	4000	mcd
Z	4000	5200	
a	5200	6800	
b	6800	8800	
c	8800	11200	

Dominant wavelength Rank Combination (IF=20mA)

Rank	Min.	Max.	Unit
s	615	620	nm
t	620	625	
u	625	630	

Group Name on Label (Example DATA: □at 20)

DATA: □at 20	Vf(V)	Iv (mcd)	λd (nm)	Test Condition
□→a→t→20	1.7~2.5	5200~6800	620~625	IF=20mA

* 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.