





Drawing No.	*Rev.	Date	Page
CBL2214A-ZYN-020mA	A	2023/02/14	1/10

APPROVAL SHEET

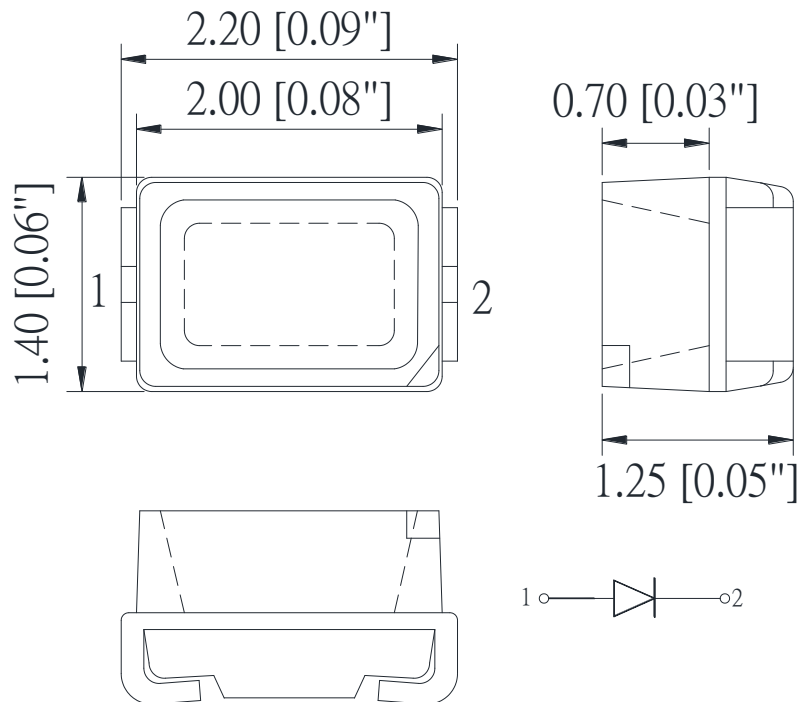
Part No: CBL2214A-ZYN-020mA

NOTE : Green Part

MAKER			CUSTOMER	
				
R&D	QA	Sales	Checked	Approved
				

Prepared	Checked	Approved
Rachel Lee	Sky Lin	Kenneth Wu

Package outlines



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

NOTES:

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

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

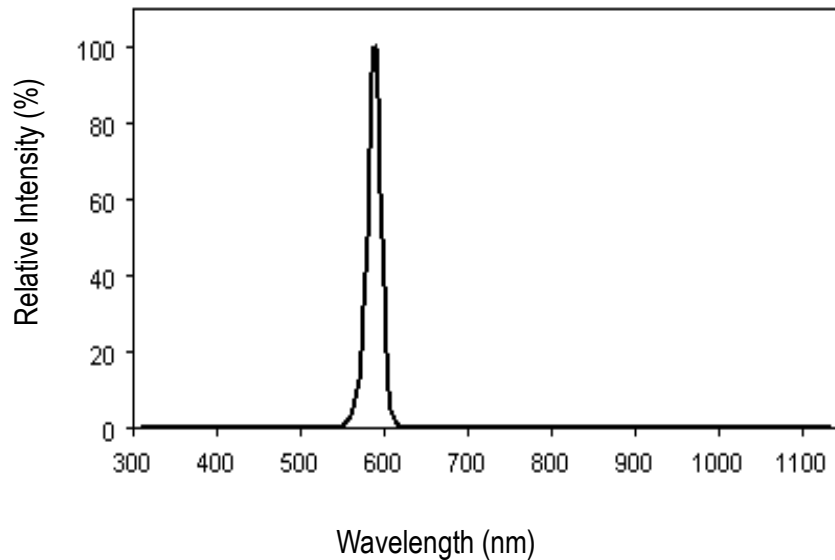
Electro-optical characteristics

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

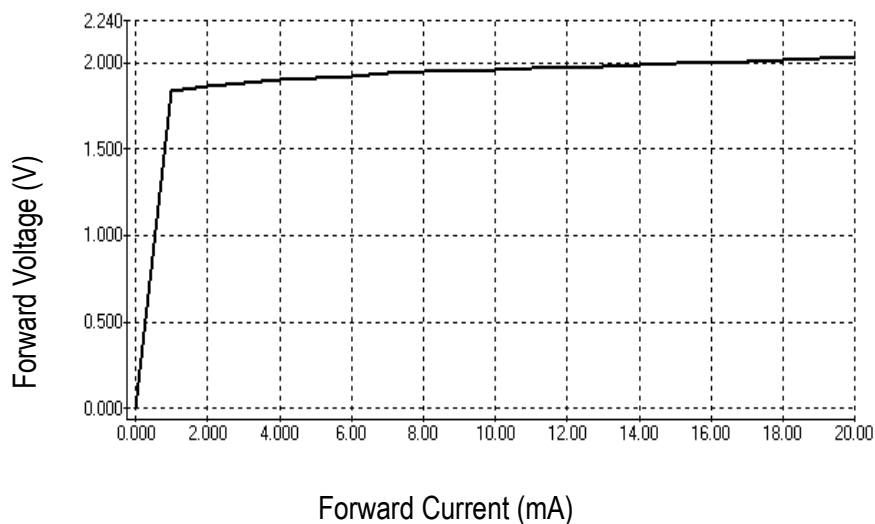
Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Wavelength at peak emission	I _f =20mA	λ peak	-	588	-	nm
Spectral half bandwidth	I _f =20mA	$\Delta \lambda$	-	18	-	nm
Dominant wavelength	I _f =20mA	λ dom	585	587	595	nm
Forward voltage	I _f =20mA	V _f	1.7	2.0	2.5	V
Luminous intensity	I _f =20mA	I _v	63	122	200	mcd
Viewing angle at 50% I _v	I _f =10mA	2 θ 1/2	-	120	-	Deg
Reverse current	V _r =5V	I _r	-	-	10	μA

OPTICAL CHARACTERISTIC CURVES

Relative Intensity vs. Wavelength

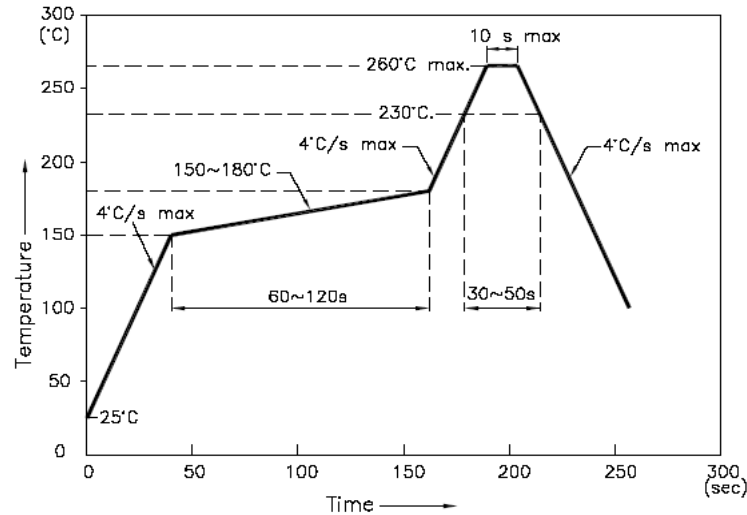


Forward Current vs. Forward Voltage



Reflow Profile

■ Reflow Temp/Time



NOTES:

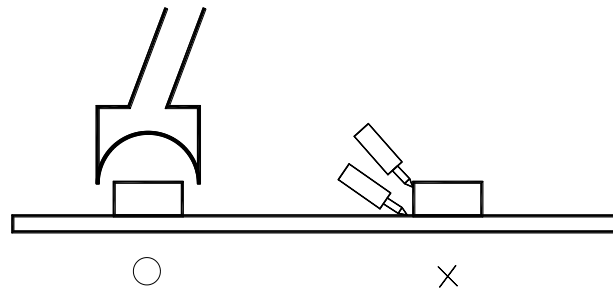
1. We recommend the reflow temperature $245^{\circ}\text{C} (\pm 5^{\circ}\text{C})$. the maximum soldering temperature should be limited to 260°C .
2. dont cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

■ 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

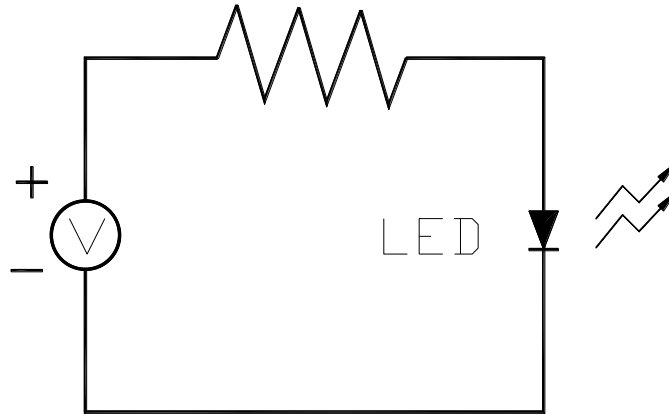
1. Customer must finish rework within 5 sec under 260°C .
2. The head of iron can not touch copper foil
3. Twin-head type is preferred.



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

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±5°C x (24~48hrs) and <5%RH, taped reel type ;

b. 110±5°C x (8~16hr), bulk type ;

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

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

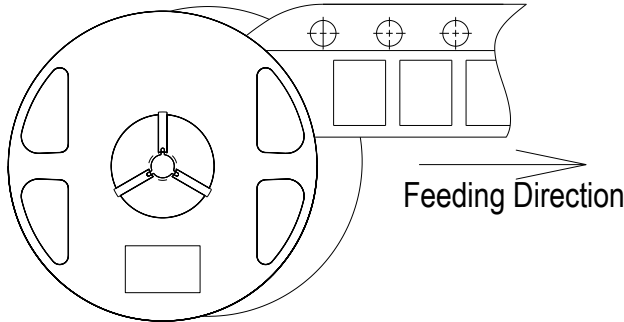
b. Baking condition as 3.1 baking condition.

Test items and results of reliability

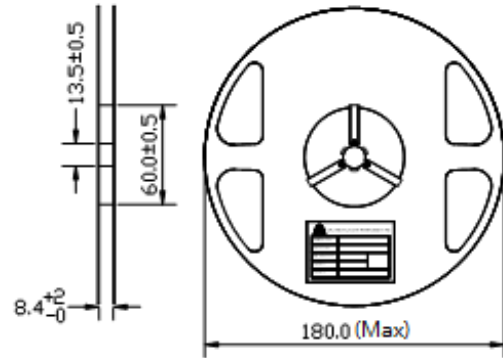
Type	Test Item	Test Conditions	Note	Number of Damaged
Environmental Sequence	Temperature Cycle	-20°C 30min ↑ ↓ 80°C 30min	100 cycle	0/22
	Thermal Shock	-20°C 15min ↑ ↓ 80°C 15min	100 cycle	0/22
	High Humidity Heat Cycle	30°C ↔ 65°C 90%RH 24hrs/1cycle	10 cycle	0/22
	High Temperature Storage	T _a =80°C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

2214 Single-Color High Performance SMD Top LEDs Packaging Specifications

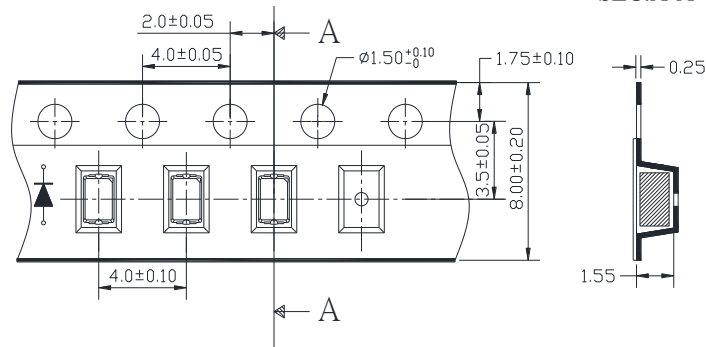
● Feeding Direction



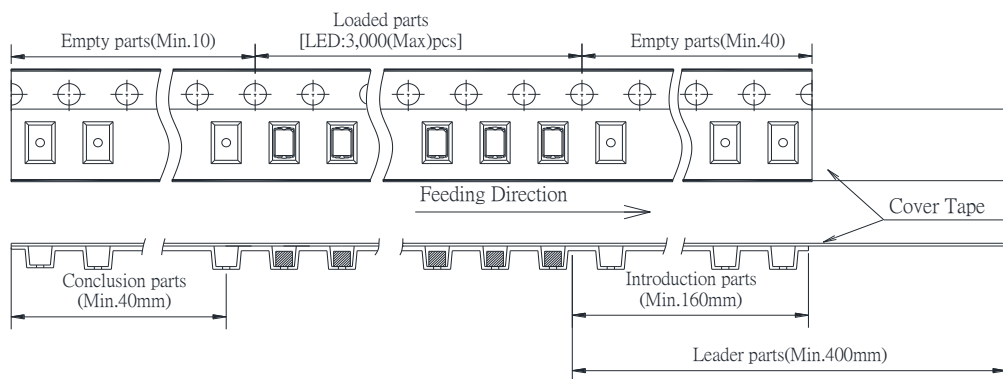
● Dimensions of Reel (Unit: mm)



● Dimensions of Tape (Unit: mm)



● Arrangement of



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. 3,000(Max)pcs/Reel.

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
m	585	590	nm
n	590	595	

Group Name on Label (Example DATA: Jm 20)

DATA: <input type="checkbox"/> Jm 20	Vf(V)	Iv (mcd)	λ d (nm)	Test Condition
<input type="checkbox"/> →J→m→20	1.7~2.5	100~125	585~590	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.