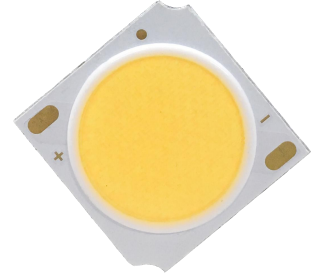


## MC-19AA-XXX-H-1210-B COB Series Datasheet

### Applications

- Spot lighting
- Down lighting
- Recessed fixtures
- Can lighting

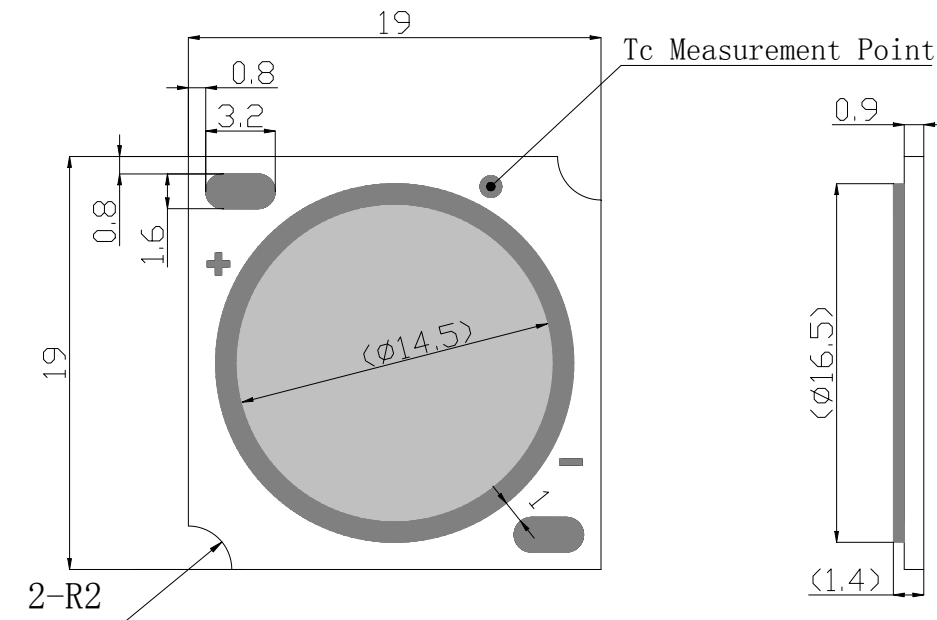


### Naming Conventions

MC-19AA - XXX - H - 1210 - B  
 (1)        (2)        (3)        (4)

- (1) COB Series
- (2) CCT Range
- (3) CRI Range
- (4) Chip Array: 12 series, 10 parallel

### Package Dimensions



1. All dimensions in millimeters.
2. Tolerance is +/-0.3mm unless otherwise noted.
3. The information in this document is subject to change without notice.

**Absolute Maximum Ratings**

Item	Symbol	Absolute Maximum Rating	Unit
Forward current	If	2300	mA
Reverse Current	Ir	1	mA
Operating Temperature	Topr	-30~85	°C
Storage Temperature	Tstg	-40~100	°C
Hand soldering condition	Tsld	3.5sec@350°C	sec
Case Temperature	Tc	100	°C
LED Junction Temperature	Tj	125	°C
Temperature of central silicon Surface	Ts	125@IRDA Test	°C

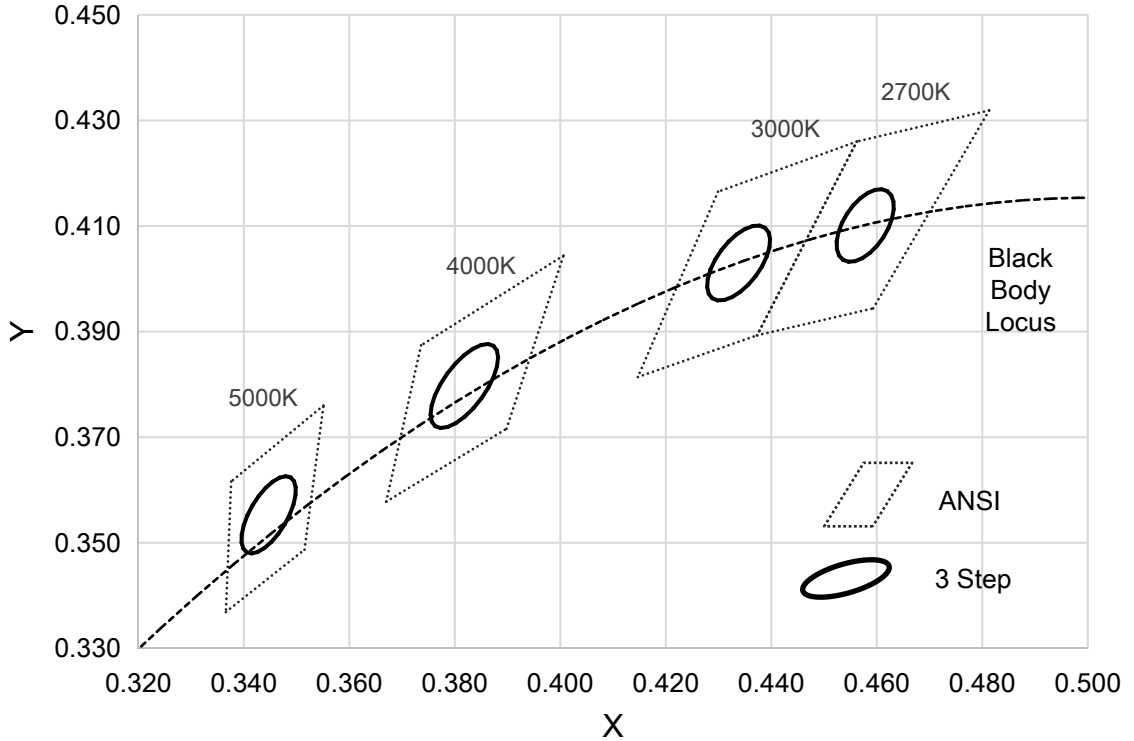
**Characteristics (Tc=25°C)**

Part Number	Nominal CCT	CRI(Ra)		Luminous flux (lm)		Forward Current (mA)	Voltage (V)			Thermal Resistance Rj-c (°C/W)
		Min.	Typ.	Min.	Typ.		Min.	Typ.	Max.	
MC-19AA-270-H-1210-B	2700K	80	82	5666		1200	33.6		40.8	0.66
MC-19AA-300-H-1210-B	3000K			5964						
MC-19AA-400-H-1210-B	4000K			6143						
MC-19AA-500-H-1210-B	5000K			6322						
MC-19AA-570-H-1210-B	5700K			6352						

## Notes:

- Luminous flux is measured with an accuracy of +/- 5 %.
- CRI is measured with an accuracy of +/- 1
- Some color and CRI bins may have limited availability, please contact us before ordering.
- All measurements were made under the standardized environment of Shineon.

Chromaticity Characteristics (Tc=25°C, If=1200mA)

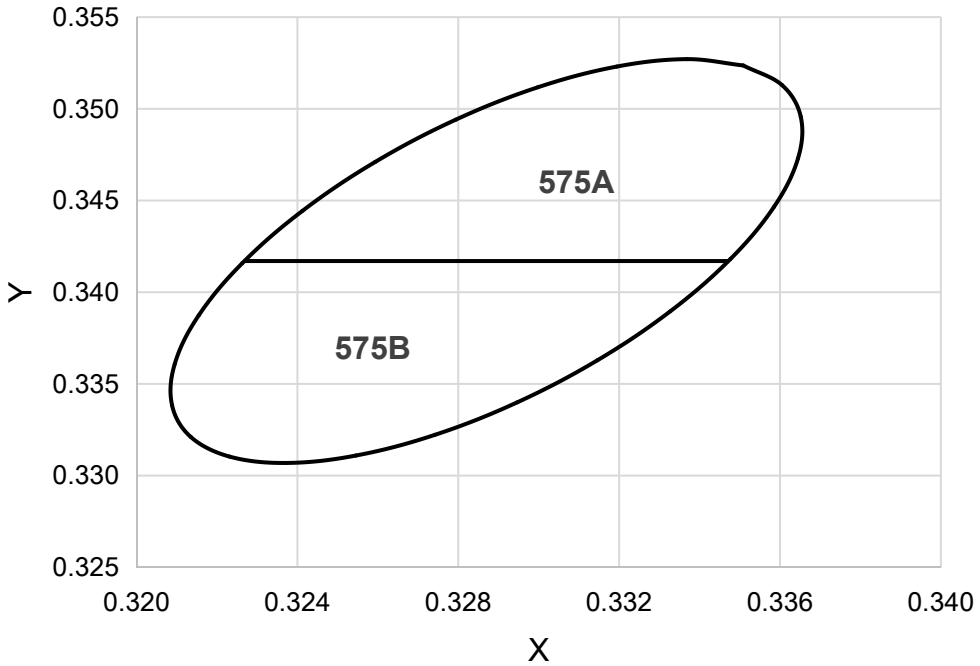


BIN CODE	CCT	Color Coordinates(x,y)				
		Center		Oval parameter		
		x	y	a	b	Theta°
273	2700K (3-step)	0.4578	0.4101	0.00774	0.00411	57.28
303	3000K (3-step)	0.4338	0.403	0.00834	0.00408	53.17
403	4000K (3-step)	0.3818	0.3797	0.0094	0.004	54
503	5000K (3-step)	0.3447	0.3553	0.00822	0.00354	59.62

Notes:

1. 5% tolerance for luminous intensity may be caused by measurement inaccuracy.
2. Measurement Uncertainty of the Forward Voltage : +/-3%
3. Chromaticity coordinate bins are measured with an accuracy of +/-0.005.

Chromaticity Characteristics (Tc=25°C, If=1200mA)

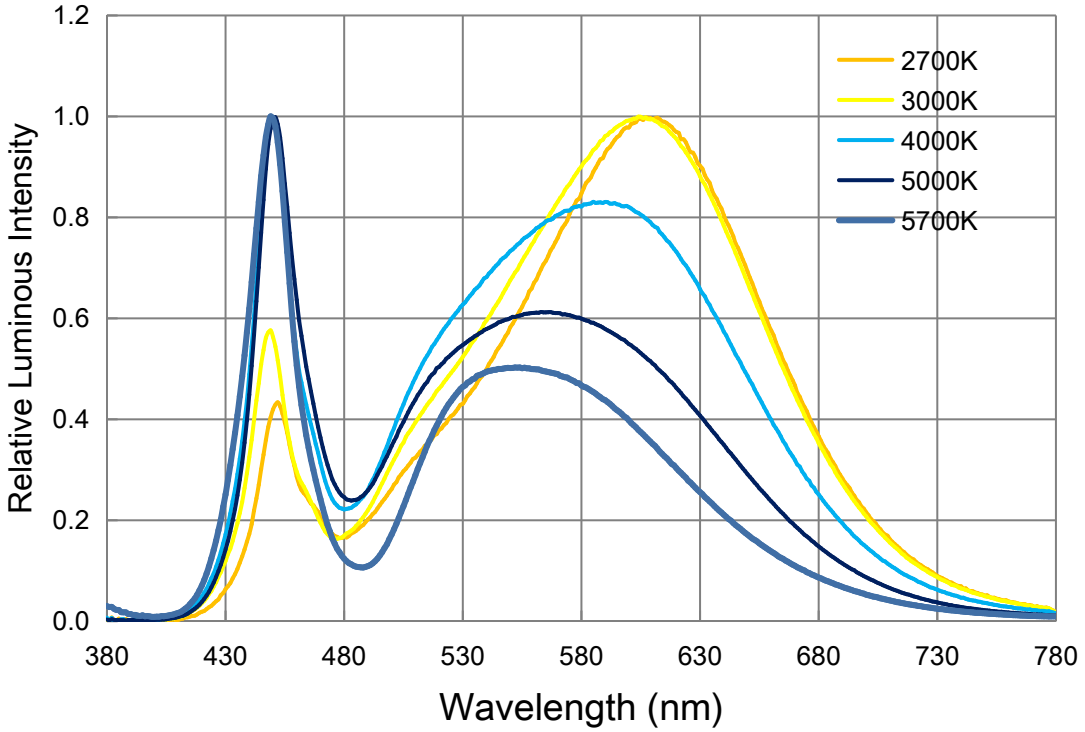


BIN CODE	CCT	Color Coordinates(x,y)				
		Center		Oval parameter		
575A	5700K(5-step)	x	y	a	b	Theta°
		0.3287	0.3417	0.01243	0.00533	59.09
575B		Cutting line		x	y	
				Point1	0.3227	0.3417
				Point2	0.3347	0.3417

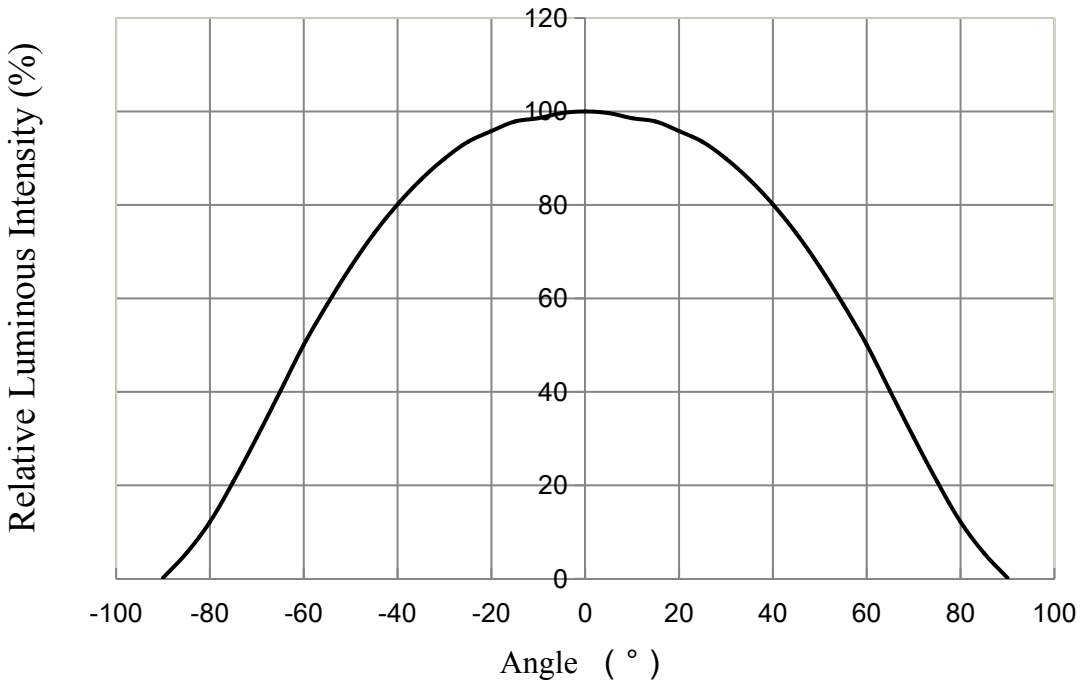
Notes:

1. The chromaticity center refers to ANSI C78.377:2008
2. 5% tolerance for luminous intensity may be caused by measurement inaccuracy.
3. Measurement Uncertainty of the Forward Voltage : +/- 3%.
4. Chromaticity coordinate bins are measured with an accuracy of +/- 0.005.

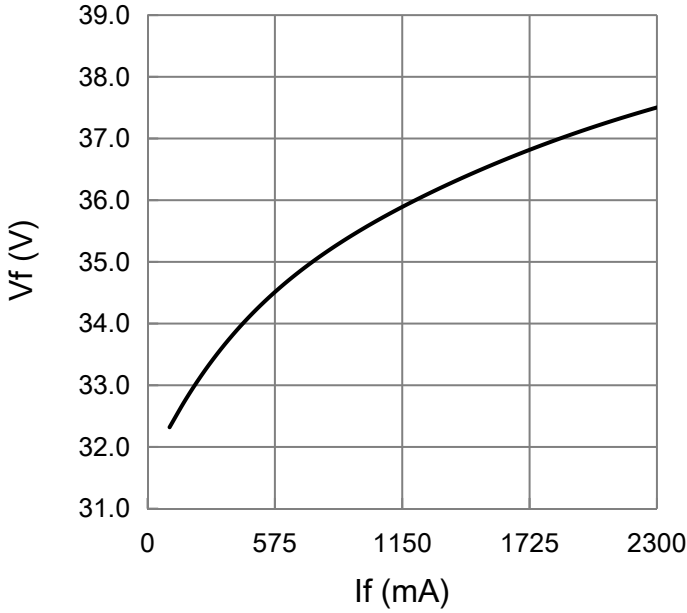
**Typical Relative Spectral Power Distribution (Tc=25°C, If=1200mA)**



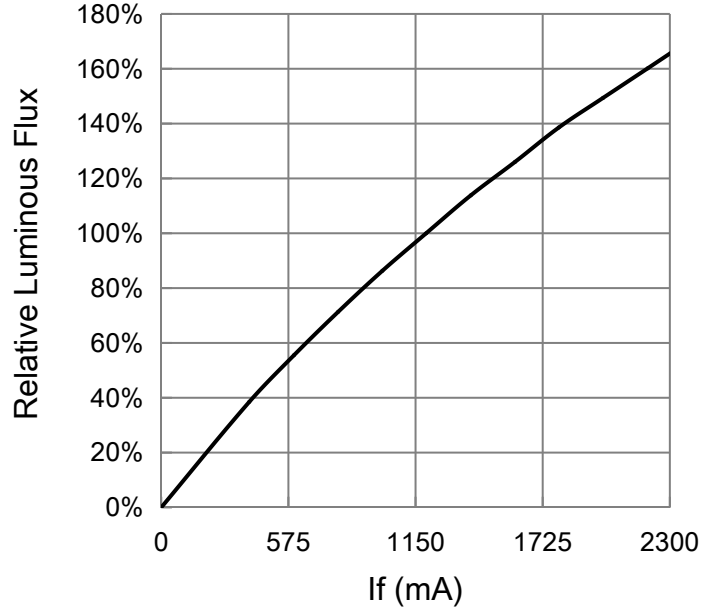
**Typical Spatial Distribution (Tc=25°C, If=1200mA)**



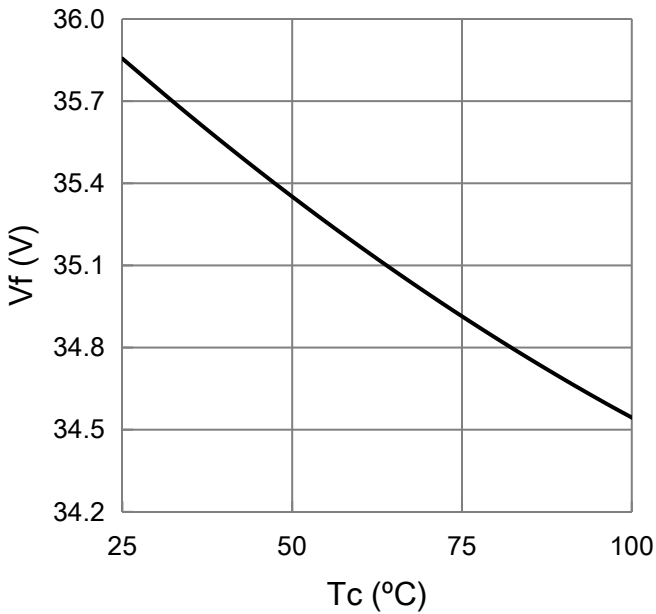
**Forward Current vs. Forward Voltage**  
( $T_c=25^\circ\text{C}$ )



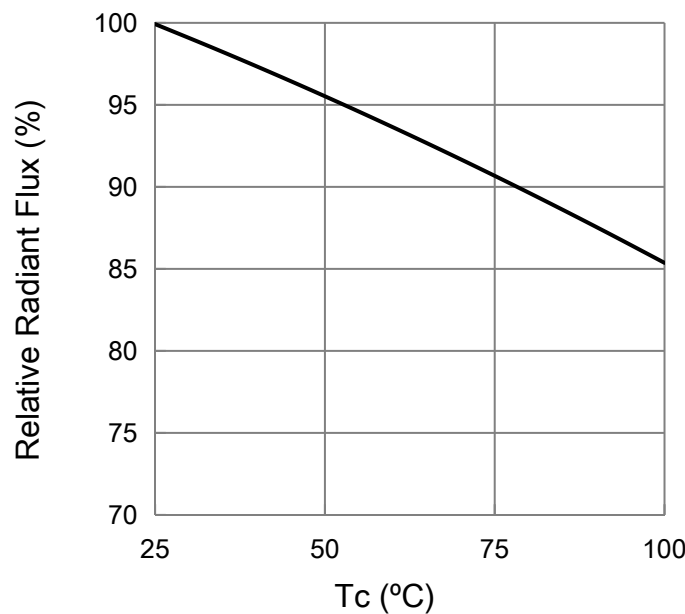
**Forward Current vs. Relative Luminous Flux**  
( $T_c=25^\circ\text{C}$ )



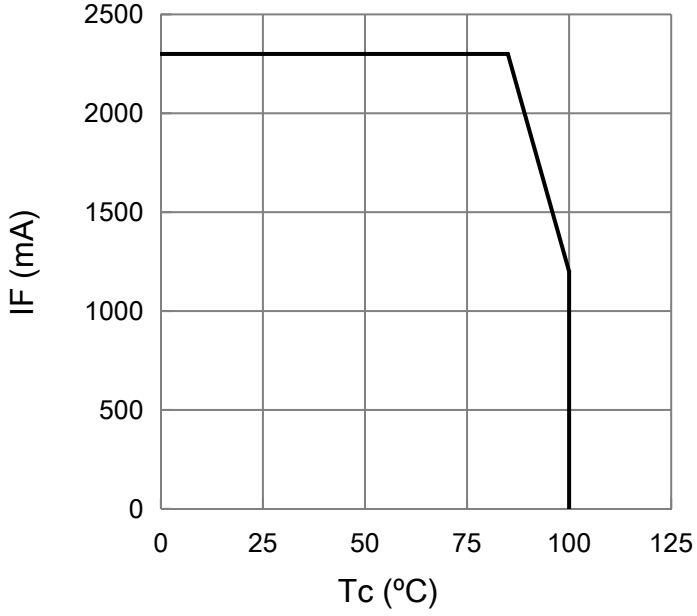
**Case Temperature vs. Forward Voltage**  
( $I_f=1200\text{mA}$ )



**Case Temperature vs. Relative Radiant Flux**  
( $I_f=1200\text{mA}$ )



### Case Temperature vs. Allowable Forward Current



## Reliability

### (1)Details of the tests

No.	Test Item	Reference Standard	Test Condition	Test Duration	Defective	Sample Size
1	High Temperature Operating Life	JESD22-A108	Tc=85°C, Typical IF	1000hr	0	10
2	Low Temperature Operating Life	JESD22-A108	Ta=-40°C, Typical IF	1000hr	0	10
3	Temperature Shock	MIL-STD-202G Method 107G	-40°C ↔ 100°C	100cycles	0	10
4	High Temperature Storage	JESD22-A103	100°C	1000hr	0	10
5	Temperature Humidity Storage	JEITA ED-4701 100 103	60°C, 90%RH	1000hr	0	10

### (2)Judgment Criteria of Failure for Reliability Test

(Ta=25°C)

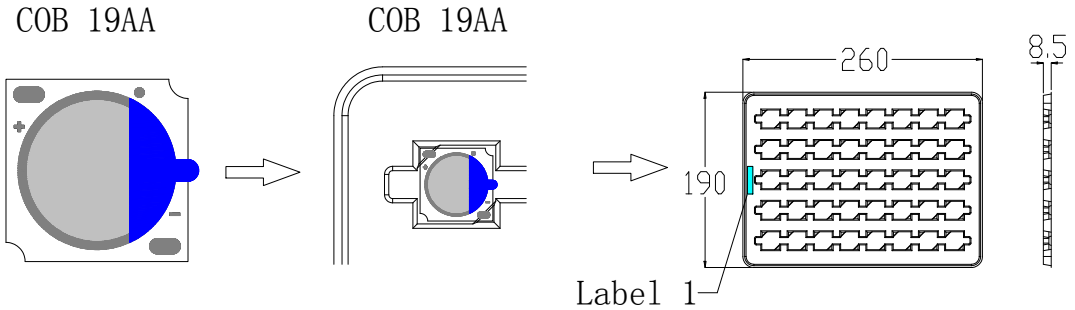
NO.	Measuring Item	Symbol	Measuring Condition	Judgment Criteria for Failure
1	Forward Voltage	Vf	If=1200mA	>U X 1.1
2	Total Luminous Flux	∅v	If=1200mA	<S X 0.85

Notes:

U defines the upper limit of the specified characteristics. S defines the initial value.

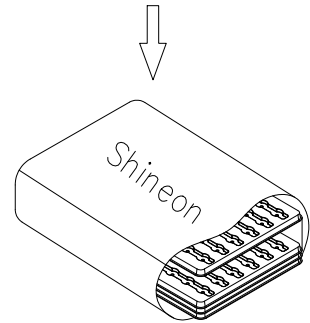


PACKING



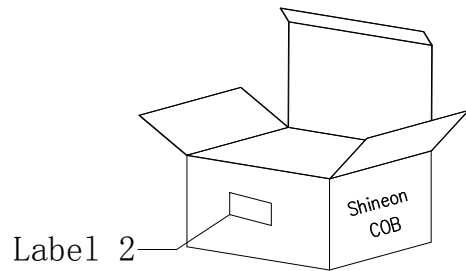
Protective film on LES      40 pcs of device per tray

6 trays in an anti-static bag, with one empty tray on top.  
The set of 6 trays is packed up with a vacuum bag.



7 bags per box ↓

Notes:  
Remove the protective film before use in the first time.



1400 pcs of device per box