

# Specifications for Approval

Customer Part No.:

JOINHANDS Part No.: JH-CW57A04SDP001

Part Name: 1005 白光 LED

Spec Issue Date:2019-01-08

Revision No.: A0

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To Customer:

1. Accessory: Samples  Samples Data
2. Customer's Proposal : Agree Disagree

Reason :

Draw by :	Checked by :	Approved by :
李飞	卢伟昌	钟志鸿
Customer Approve		



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## Features

1.0mm × 0.5mm SMD LED, 0.43mm thickness

Low power consumption

Wide view angle

Package: 4000pcs/reel

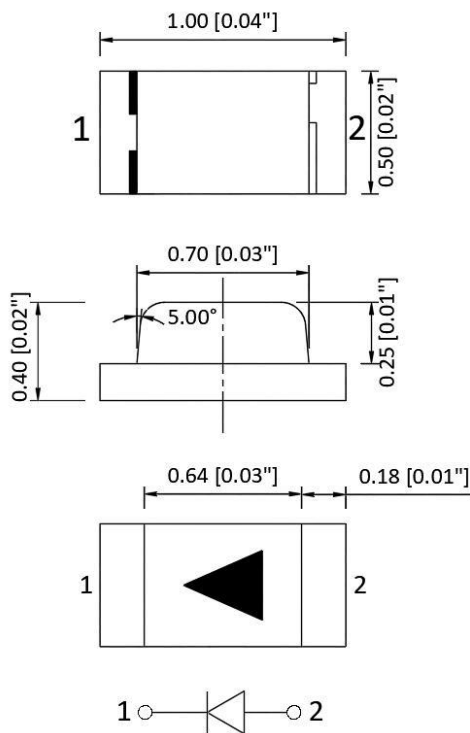
RoHS Compliant

## Applications

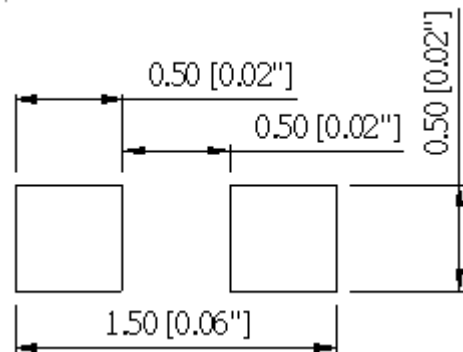
Ideal for back light and indicator

Various colors and lens types available

### Package outlines



### Recommend Pad Layout



Part No.	Emitted color	Dice	Lens color
JH-CW57A04SDP001	White	InGaN/GaN	Yellow

### Notes:

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

**Absolute Maximum Ratings (Ta=25°C)**

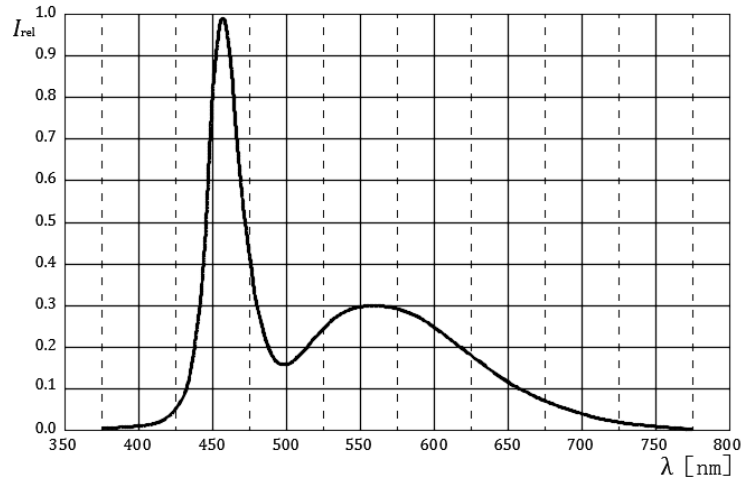
Parameter	Symbol	Value	Unit
Forward current	If	30	mA
Reverse voltage	Vr	5	V
Power dissipation	Pd	108	mW
Operating temperature	Top	-40 ~+85	°C
ESD(Human-body mode)	--	2	KV
Storage temperature	Tstg	-40 ~+85	°C
Peak pulsing current (1/8 duty f=1kHz)	Ifp	125	mA

**Electro-Optical Characteristics (Ta=25°C)**

Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
CIE Coordinates	If=20mA	X	0.234	--	0.2855	--
		Y	0.2123	--	0.2974	
Forward voltage	If=20mA	Vf	2.8	--	3.6	V
Luminous intensity	If=20mA	Iv	320	550	800	mcd
Viewing angle at 50% Iv	If=10mA	2θ1/2	--	140	--	Deg
Reverse current	Vr=5V	Ir	--	--	10	μA

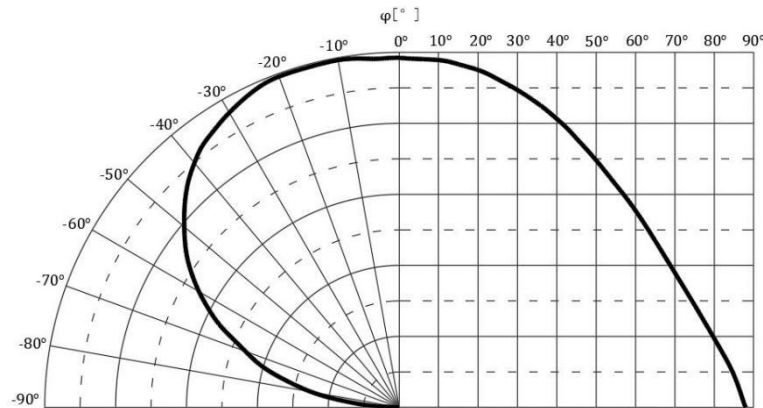
**Relative Spectral Emission**

IF=20mA, Ta=25°C



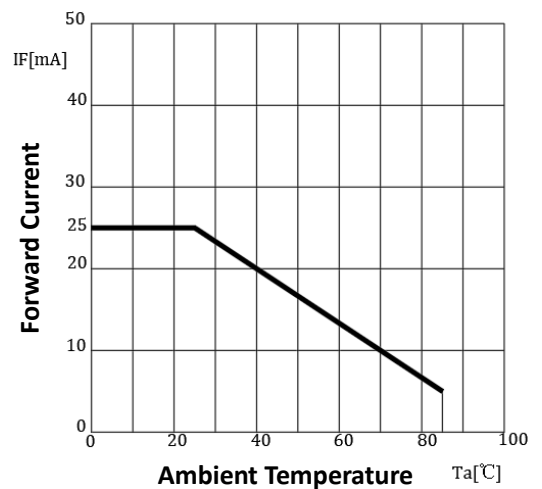
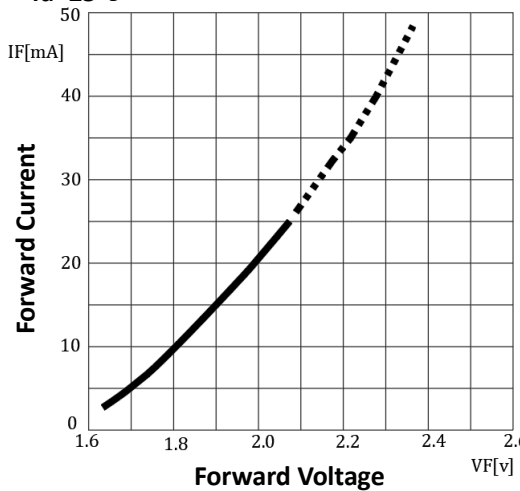
**Radiation Characteristics**

IF=10mA, Ta=25°C



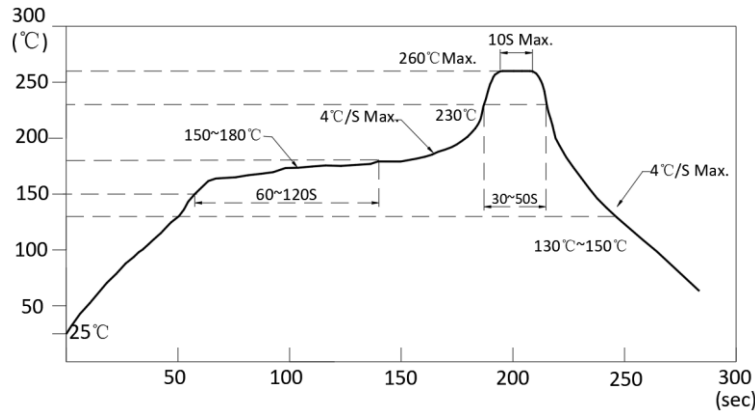
**Forward Current vs Forward Voltage Forward Current Derating Curve**

Ta=25°C



**Reflow Profile**

■ Reflow Temp/Time



Notes:

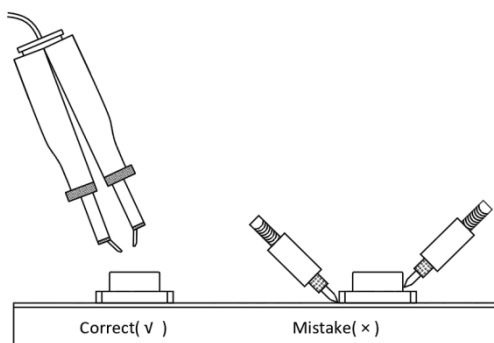
1. We recommend the reflow temperature 245°C(±5°C).The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

■ Soldering iron

Basic spec is ≤ 5sec when 320°C(±20°C). If temperature is higher, time should be shorter(+10°C → -1sec). Powerdissipation of iron should be smaller than 20W, and temperatures should be controllable .Surface temperature of the device should be under 350°C.

■ Rework

1. Customer must finish rework within 5 sec under 340°C.
2. The head of iron cannot touch copper foil
3. Twin-head type is preferred.

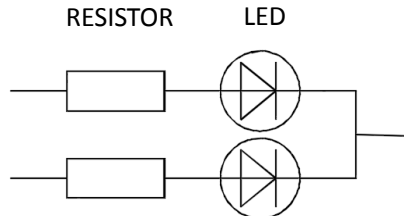


- Avoid rubbing or scraping the resin by any object, during high temperature, for example reflow solder etc.

## Handling precautions

### 1. Drive Method

A LED is a current-operated device. In order to ensure intensity uniformity on multiple LEDs connected in parallel in an application, it is recommended that a current limiting resistor be incorporated in the drive circuit, in series with each LED as shown in Circuit below.



### 2. Storage

2.1 Do not open moisture proof bag before the products are ready to use.

2.2 Before opening the package: The LEDs should be kept at 30°C or less and 60% RH or less.

2.3 After the package is opened, the products should be used within a week or they should be kept to store at  $\leq 20$  R.H. with zip-lock sealed.

### 3. Baking

It is recommended to baking before soldering when the pack is unsealed after 72hrs. The Conditions are as followings:

3.1 60 $\pm$ 3°C x(12~24hrs) and <5%RH, taped reel type

3.2 100 $\pm$ 3°C x(45min~1hr), bulk type

3.3 130 $\pm$ 3°C x(15~30min), bulk type

## Test Items and Results of Reliability

Test Item	Test Conditions	Standard Test Method	Note	Number of Test
Reflow Soldering	Ta=260±5℃,Time=10±2S	JB/T 10845-2008	3times	0/22
Salt Atmosphere	Ta=35±3℃,PH=6.5~7.2	GB/T 2423.17-2008	24hrs	0/22
Temperature Cycling	-40±5℃ 30±1min ↑→(25℃/5±1min)↓ 100±5℃ 30±1min	GB/T 2423.22-2012	100cycles	0/22
Thermal Shock	Ta=-40±5℃~100±5℃, 15±1min dwell	GB/T 2423.22-2012	100cycles	0/22
High Humidity High Temp. Cycling	Ta=30±5℃~65±5℃, 90±5%RH,24hrs/1cycle	GB/T 2423.4-2008	10cycles	0/22
High Humidity High Temp. Storage Life	Ta=85±5℃,ψ(%)=85±5%RH	GB/T 2423.3-2006	1000hrs	0/22
High Temperature Storage Life	Ta=100±5℃,non-operating	GB/T 2423.2-2008	1000hrs	0/22
Low Temperature Storage Life	Ta=-40±5℃,non-operating	GB/T 2423.1-2008	1000hrs	0/22
Life Test	Ta=26±5℃,@20mA, ψ(%)=25%RH~55%RH	--	1000hrs	0/22
High Humidity High Temp. Operating Life	Ta=85±5℃,@20mA, ψ(%)=85%RH	GB/T 2423.3-2006	500hrs	0/22
Low Temperature Operating Life	Ta=-20±5℃,@20mA	GB/T 2423.1-2008	1000hrs	0/22

### Forward Voltage Rank Combination (IF=20mA)

Rank	Min.	Max.	Unit
H	2.8	2.9	V
I	2.9	3.0	
J	3.0	3.1	
K	3.1	3.2	
L	3.2	3.3	
M	3.3	3.4	
N	3.4	3.5	
O	3.5	3.6	

### Luminous Intensity Rank Combination (IF=20mA)

Rank	Min.	Max.	Unit
O	320	400	mcd
P	400	500	
Q	500	630	
R	630	800	

### Chromaticity coordinates Ranks combination (IF=20mA)

Rank	Chromaticity coordinates				
	X	Y	Z	u'	v'
A5	X	0.2537	0.2438	0.2517	0.2612
	Y	0.2123	0.2165	0.2338	0.2292
A6	X	0.2438	0.234	0.2422	0.2517
	Y	0.2165	0.2212	0.2383	0.2338
A8	X	0.2612	0.2517	0.2611	0.2697
	Y	0.2292	0.2338	0.2524	0.2463
A9	X	0.2517	0.2422	0.2524	0.2611
	Y	0.2338	0.2383	0.2585	0.2524
B2	X	0.2697	0.2611	0.2701	0.2777
	Y	0.2463	0.2524	0.2704	0.2621
B3	X	0.2611	0.2524	0.2626	0.2701
	Y	0.2524	0.2585	0.2787	0.2704
B5	X	0.2777	0.2701	0.2794	0.2855
	Y	0.2621	0.2704	0.2871	0.2769
B6	X	0.2701	0.2626	0.2734	0.2794
	Y	0.2704	0.2787	0.2974	0.2871



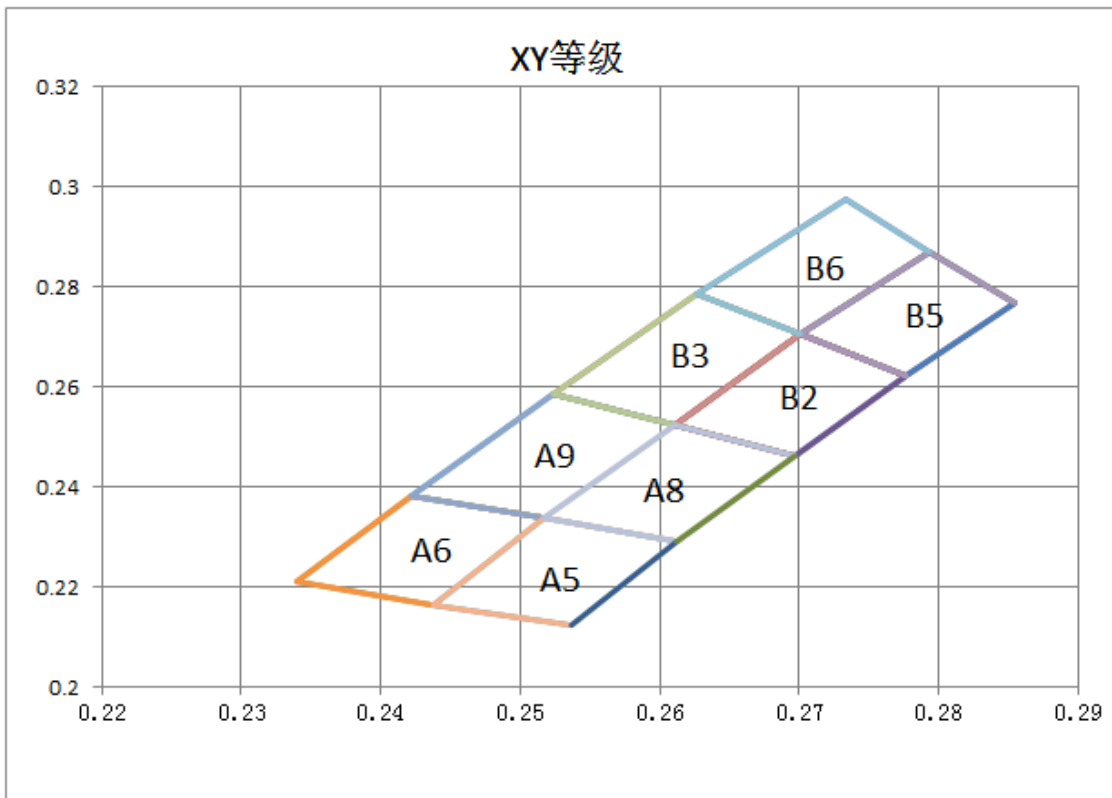
Group Name on Label ( Example DATA: IQA9 20 )

DATA: IQA9 20	Vf(V)	Iv (mcd)	CIE(X,Y)	Test Condition
I→Q→A9→20	2.9~3.0	500~630	X(0.2422~0.2611),Y(0.2338~0.2585)	IF=20mA

Notes:

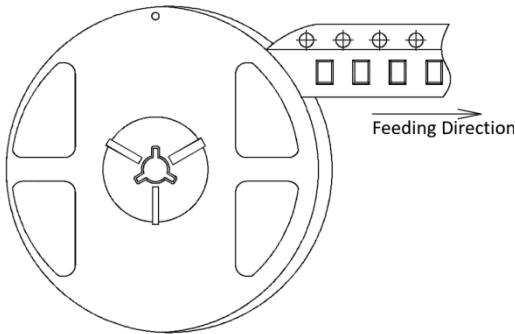
1. The tolerance of luminous intensity (Iv) is  $\pm 15\%$ .
2. The tolerance of CIE Coordinates(X,Y) is  $\pm 0.01$ .
3. This specification is preliminary.
4. This specification is a standard specification of our factory, can make in accordance with customer's special requirement.

**XY chromaticity coordinate**

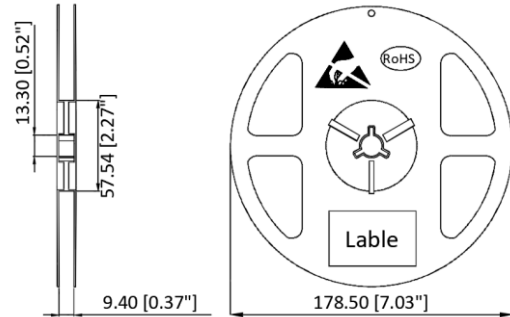


**1005 Series SMD Chip LED Lamps Packaging Specifications**

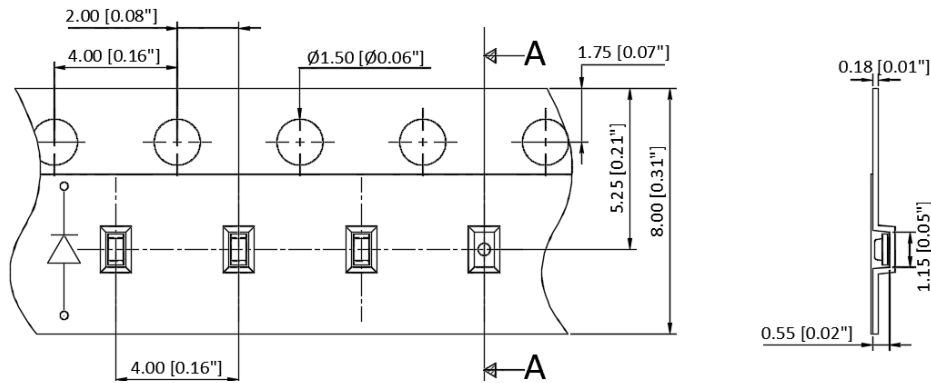
● **Feeding Direction**



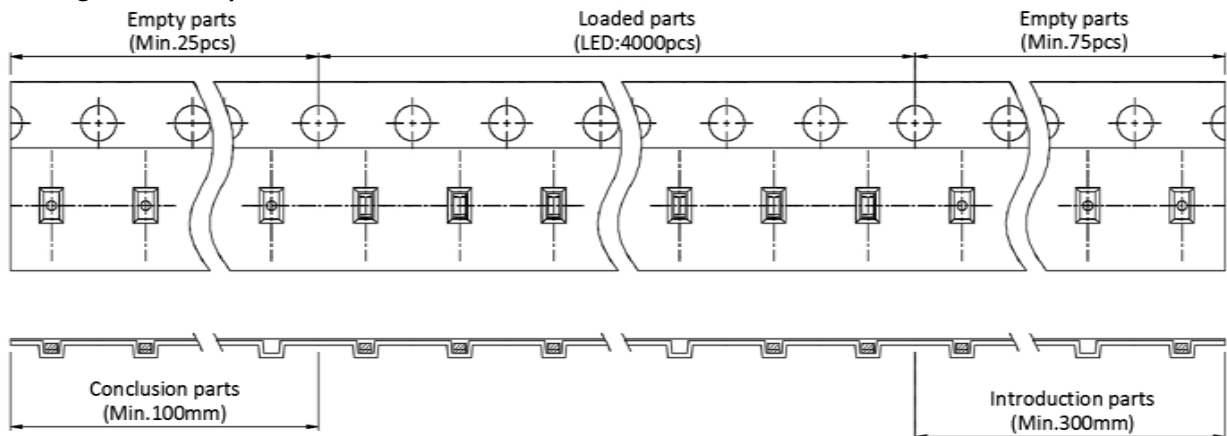
● **Dimensions of Reel (Unit: mm)**



● **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 in accordance with ANSI/EIA RS-481 specifications.
4. 4,000pcs/Reel.

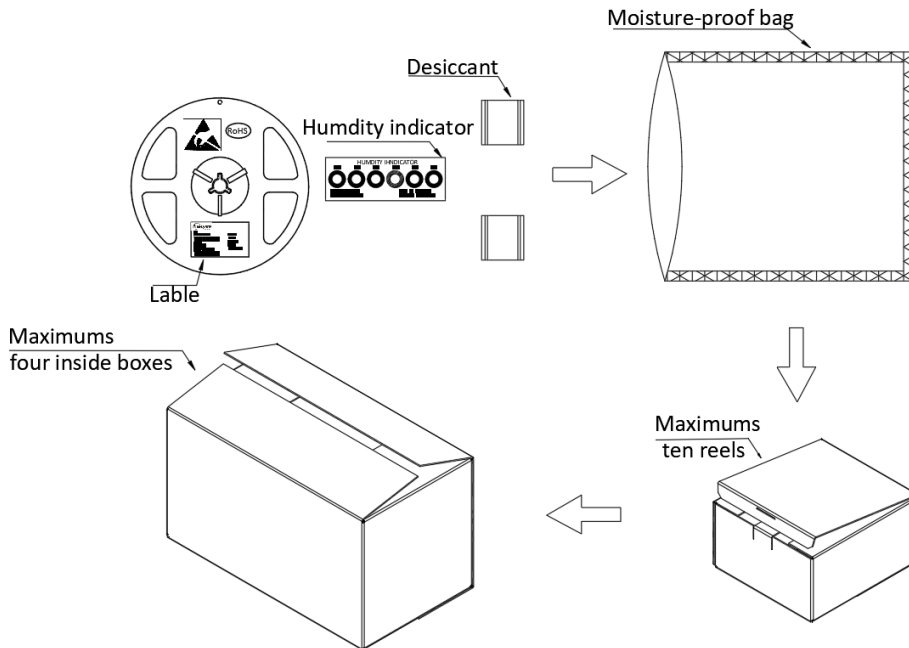
## 1005 Series SMD Chip LED Lamps Packaging Specifications

- Label Explanation



CPN:Customer's Product Number  
 P/N:Product Number  
 QTY:Packing Quantity  
 LOT NO:Lot Number  
 VF:Forward Voltage Rank  
 IV:Luminous Intensity Rank  
 WLD:Dom. Wavelength Rank  
 BIN:BIN Code  
 DATE:Date Of Dispatch

- Transportation Packing



Notes:

Reeled products (numbers of products are 4,000pcs) packed in a seal off moisture-proof bag along with two desiccant one by one, ten moisture-proof bag of maximums packed in an inside box (about size: 240x 220x 120mm) and four inside boxes of maximums are put in the outside box (about size: 460mm x 246mm x 250mm) Together with buffer material, and it is packed. The number of the loading steps of outsidebox (cardboard box) has it to three steps.