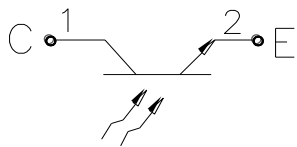
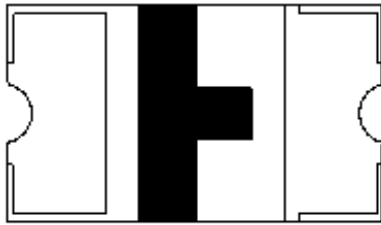
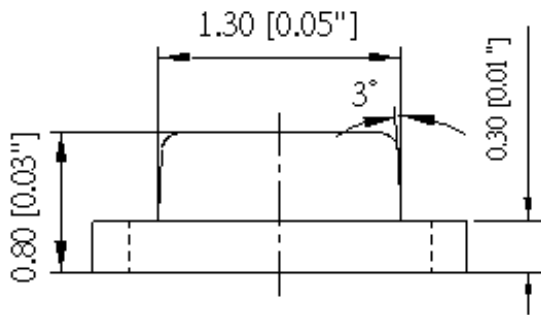
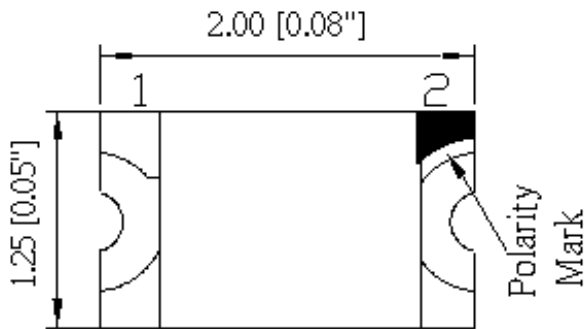


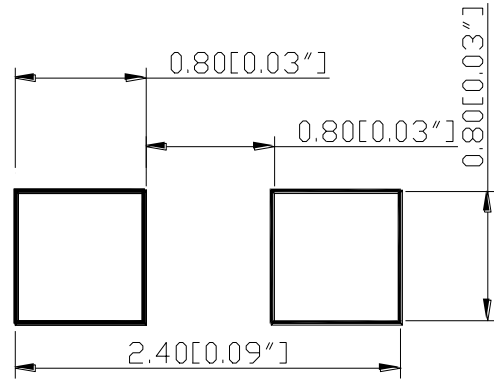
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Part Number: N0F18S72

Package outlines



RECOMMEND PAD LAYOUT



ITEM	MATERIALS
Resin (mold)	Epoxy
Lens color	Water transparent
Dice	Silicon

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	2014/07/31	唐云	許媚鳳	黃靜文

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Part Number: N0F18S72

Absolute maximum ratings

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

Parameter	Symbol	Value	Unit
Power dissipation	P_D	100	mW
Collector-emitter voltage	V_{CEO}	30	V
Emitter-collector voltage	V_{ECO}	5	V
Operating temperature range	T_{OP}	-40 ~+85	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-40 ~+85	$^{\circ}\text{C}$

Electro-optical characteristics

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

Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Collector-emitter breakdown voltage	$I_C = 100\mu\text{A}$ $E_e=0\text{mW}/\text{cm}^2$	$V_{(BR)CEO}$	30	--	--	V
Emitter-collector breakdown voltage	$I_E = 100\mu\text{A}$ $E_e=0\text{mW}/\text{cm}^2$	$V_{(BR)ECO}$	5	--	--	V
Collector-emitter saturation voltage	$I_C = 2\text{mA}$ $E_e=20\text{mW}/\text{cm}^2$	$V_{CE(SAT)}$	--	--	0.8	V
Collector Dark Current	$V_{CE} = 10\text{V}$ $E_e=0\text{mW}/\text{cm}^2$	I_{CEO}	--	--	100	nA
Rise Time (10% to 90%)	$V_{CE} = 5\text{V}$ $I_C=2\text{mA}$ $R_L=1000\ \Omega$	T_R	--	15	--	μS
Fall Time (90% to 10%)		T_F	--	15	--	μS
On State Collector Current	$V_{CE} = 5\text{V}$, $E_e=1\text{mW}/\text{cm}^2$ $\lambda=940\text{nm}$	$I_{(ON)}$	0.2	0.4	--	mA

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Part Number: N0F18S72

OPTICAL CHARACTERISTIC CURVES

Typical Electro-Optical Characteristics Curves

Fig.1 Collector Power Dissipation vs. Ambient Temperature

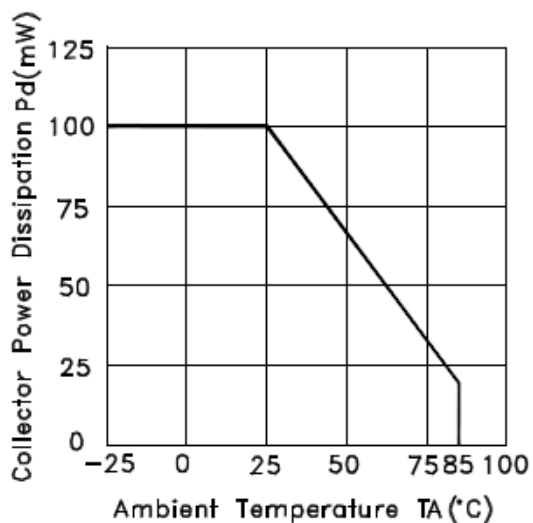


Fig.2 Spectral Sensitivity

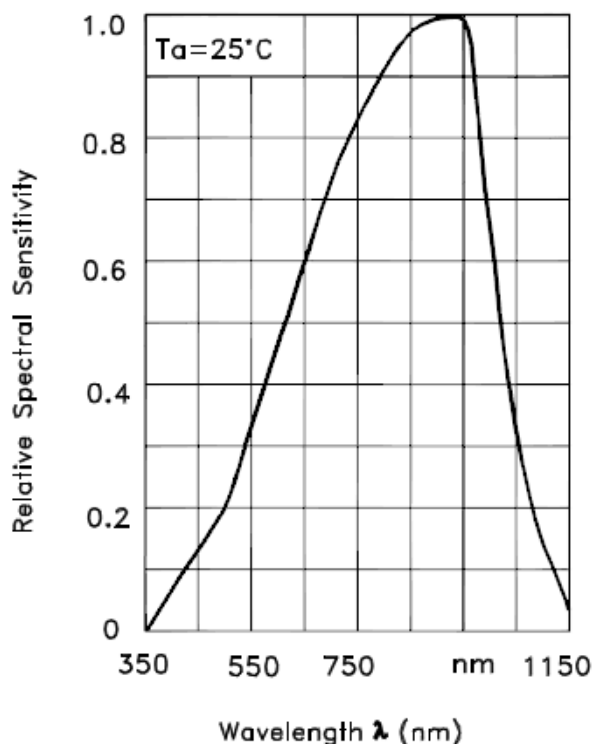


Fig.3 Relative Collector Current vs. Ambient Temperature

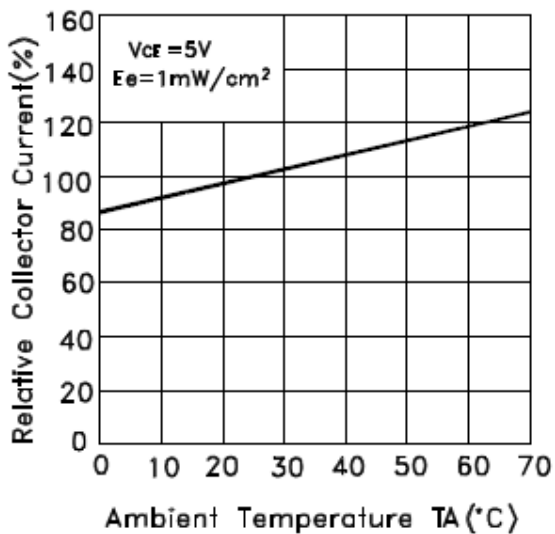


Fig.4 Collector Current $I_c = f(E_e), V_{ce} = 5V, T_a = 25^\circ C$

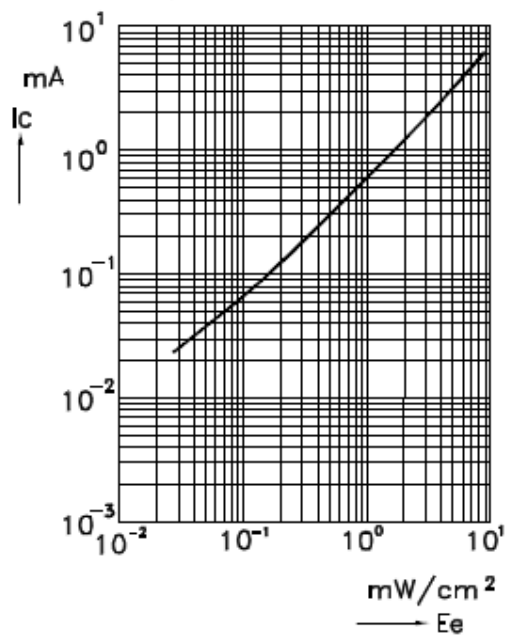


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Part Number: N0F18S72

OPTICAL CHARACTERISTIC CURVES

Fig.5 Collector Dark Current vs. Ambient Temperature

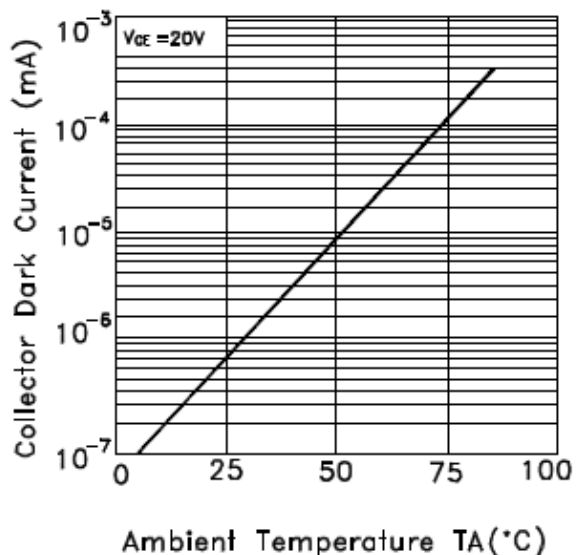


Fig.6 Collector Current vs. Collector-Emitter Voltage

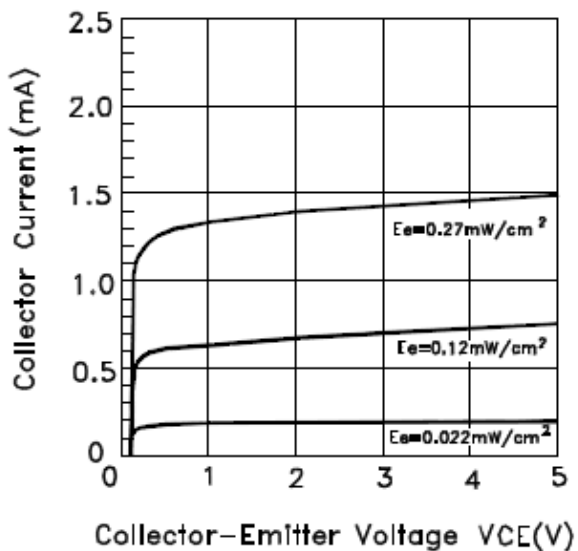
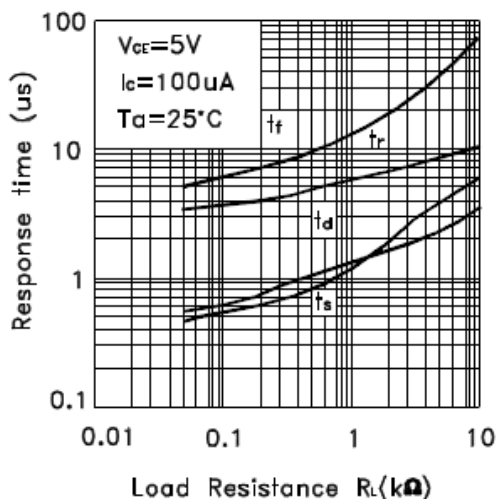


Fig.7 Response Time vs. Load Resistance



Test Circuit for Response Time

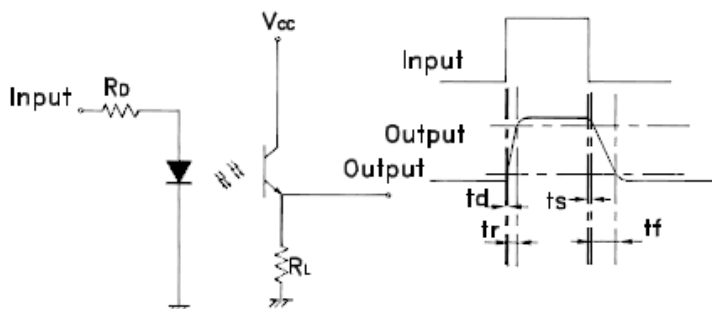
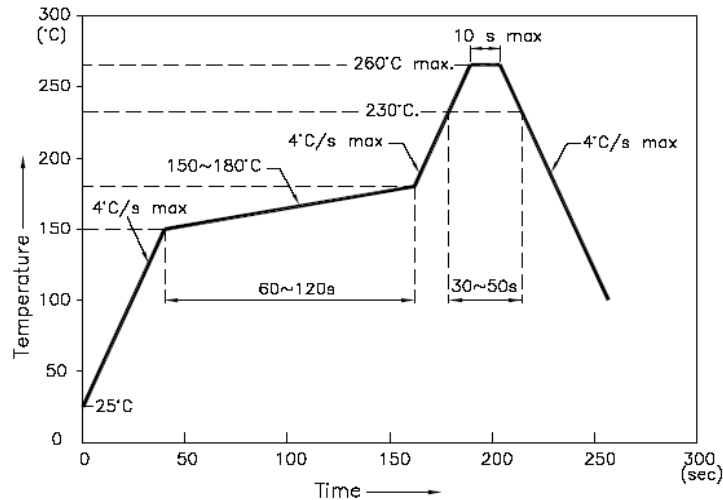


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Reflow Profile

■ Reflow Temp/Time



NOTES:

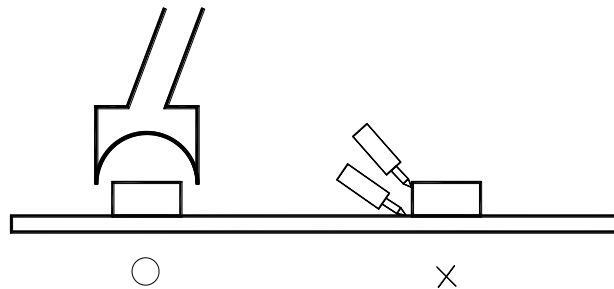
1. We recommend the reflow temperature $245^{\circ}\text{C} (\pm 5^{\circ}\text{C})$. the maximum soldering temperature should be limited to 260°C .
2. dont cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

■ 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.

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Test circuit and handling precautions

■ 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 $5^{\circ}\text{C}\sim 30^{\circ}\text{C}$ 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.

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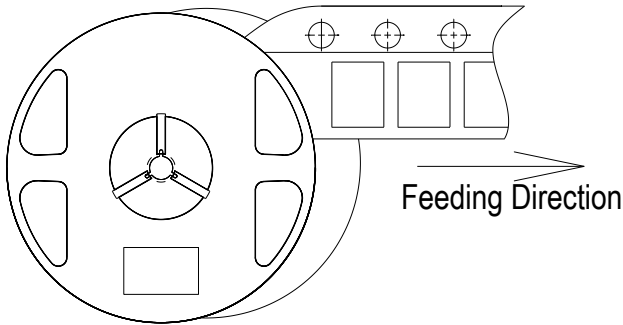
Test items and results of reliability

Type	Test Item	Test Conditions	Device Hours/Cycle	Device Tested	Failures
1	Temperature Cycle	-20°C 30min 50min ↑ ↓ 100min 80°C 30min	50 cycle	22	0
2	Thermal Shock	-20°C 15min ↑ ↓ 80°C 15min	50 cycle	22	0
3	High Temperature High Humidity Test	T _a =85°C RH 85%	1000 hrs	22	0
4	High Temperature Storage	T _a =80°C	1000 hrs	22	0
5	Low Temperature Storage	T _a = -30°C	1000 hrs	22	0
6	DC Operating Life	V _{CE} = 5V T _a = 25°C Ee=1mW/cm ²	1000 hrs	22	0

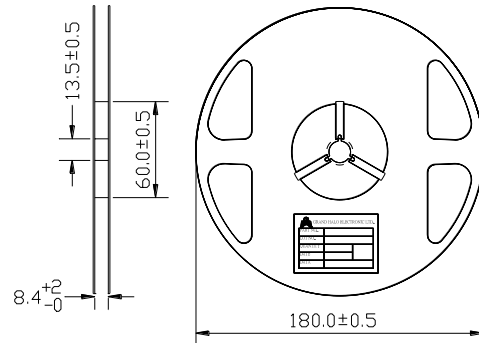
PACKAGING SPECIFICATIONS

D171 Series SMD Chip LED Lamps Packaging Specifications

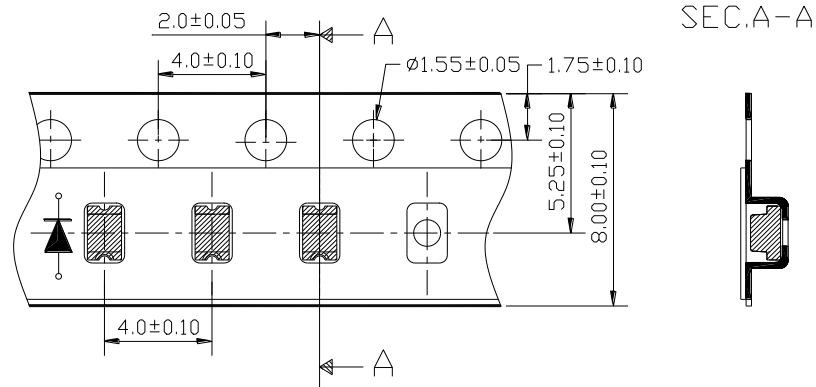
● Feeding Direction



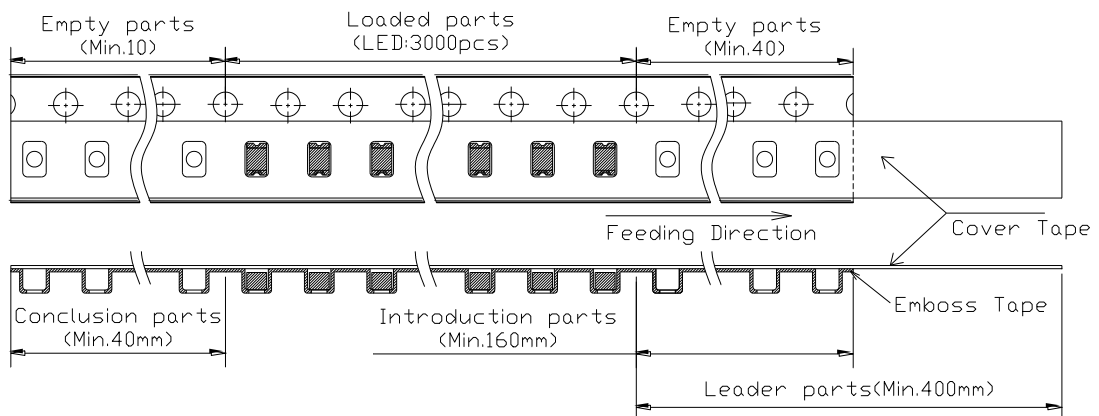
● Dimensions of Reel (Unit: mm)



● Dimensions of Tape (Unit: mm)



● Arrangement of Tape



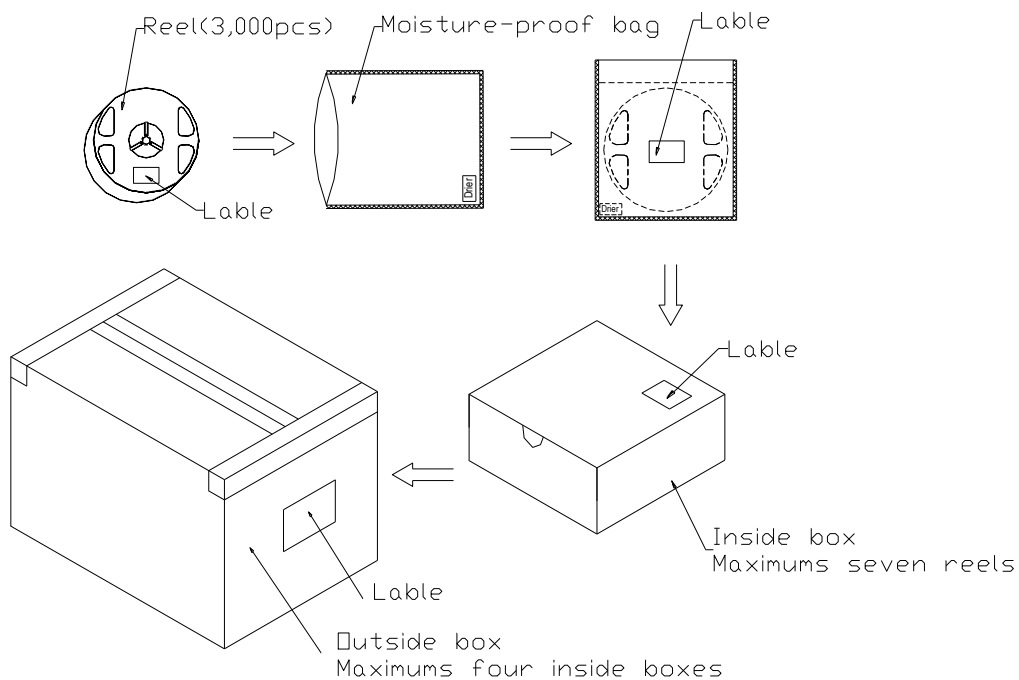
NOTES

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.
4. 3,000 pcs/Reel

PACKAGING SPECIFICATIONS

D171 Series SMD Chip LED Lamps Packaging Specifications

- Packaging specifications



NOTES:

Reeled products (numbers of products are 3,000pcs) 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 21,000pcs) 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.