V52720W60WNZ1 Datasheet

2720 Series (L* W*H): 2.75*2.0*0.6mm

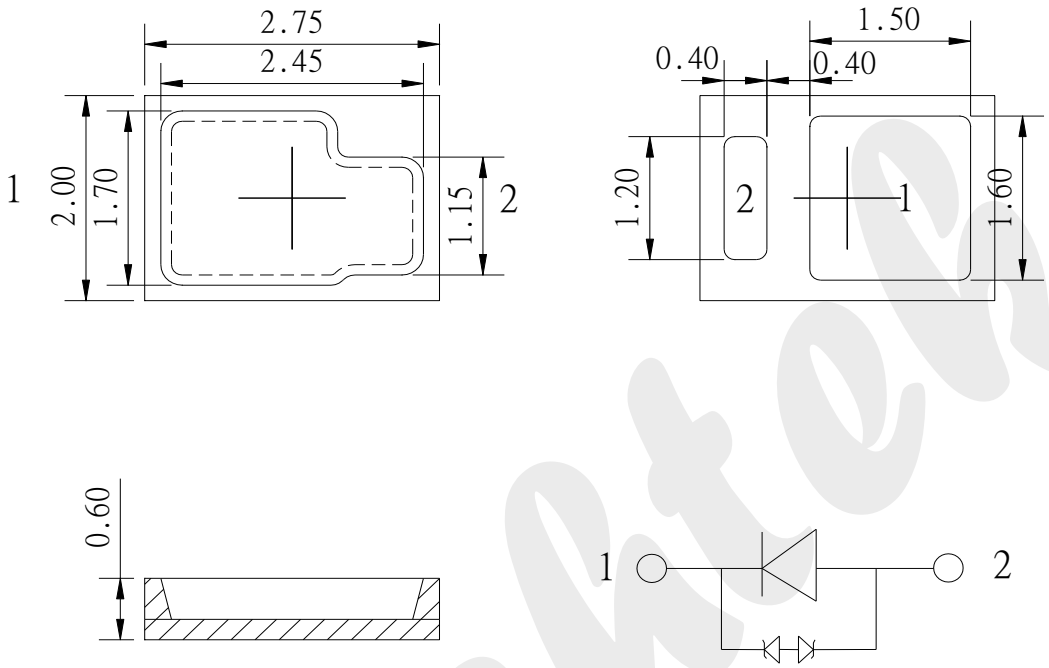
Applications

- Automotive electronics
- Others applications

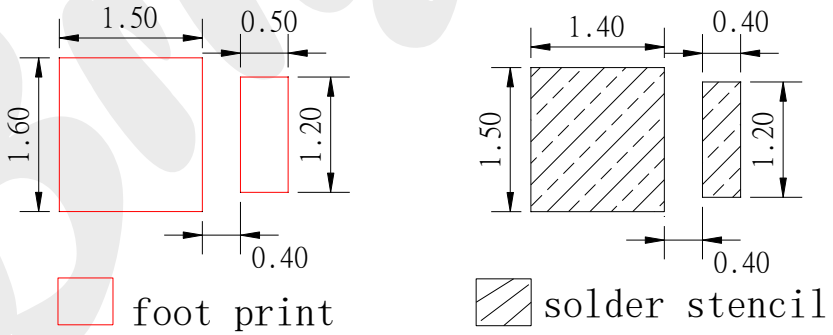
Features

- Forward current: ≦240mA ;
- Typical view angle 50% Iv:120°
- RoHS2.0 and REACH-compliant
- Glue color: cyan
- Emitting color: Lime color
- Qualified according to JEDEC moisture sensitivity Level 2a
- Reliability Test: AEC Q-102qualified
- ESD level 8kV(HBM)

Dimensional Drawing



Recommend Pad layout



1. Dimensions are in millimeters.
2. General tolerance is ± 0.1mm.

Naming Rule

V5-2720-W60-W-N-Z1

V5	2720	W60	W	N	Z1
Type	Package Size	Wavelength	Glue Color	Condition Code	Serial Number
V5: Automotive	2720: 2.75* 2.0mm	Wxx: white	W: water transparent	N: 200mA	Z: Zener 1: Serial number

Maximum Ratings

T_A : 25 °C

Parameter	Symbol		Values	Unit
Forward current	I_F	max.	240	mA
Pulse forward current	I_{PF}	max.	500	mA
Power Dissipation	P_D	max.	864	mW
Reverse voltage	V_R	max.	5	V
Junction temperature	T_j	max.	150	°C
Operating temperature	T_{op}	min. max.	-40 125	°C
Storage temperature	T_{stg}	min. max.	-40 125	°C
Soldering temperature	T_{SD}	max.	260	°C
Thermal Resistance Junction/ Solder Point	R_{THJ-S}	max.	23	°C /W
Thermal Resistance Junction/Ambient Point	R_{THJ-A}	max.	45	°C /W

1. There is no maximum or typical voltage parameter.
2. For other ambient, limited setting of current will be depended on de-rating curves.
3. Duty 1/10, pulse width 0.1ms.
4. The maximum of soldering time is 10 seconds in $T_{SD.}$

Characteristics

IF : 200mA | TA : 25 °C

Parameter	Symbol	Values		Unit
Color Coordinate	Cx		0.17	
	Cy		0.35	
View angle	$2\theta_{1/2}$	typ.	120	°
Luminous Flux	Φ_V	min.	50	lm
		typ.	66	
		max.	76	
Forward voltage	V_F	min.	2.8	V
		typ.	3.2	
		max.	3.6	
Reverse current (V_R=5V)	I_R	max.	10	μA

1. Tolerance of Measure:

   Forward Voltage: ±0.1V, Luminous Intensity: ±10%mcd, Dominant Wavelength: ±1.0nm, Color Coordinate ±0.005

Bin groups

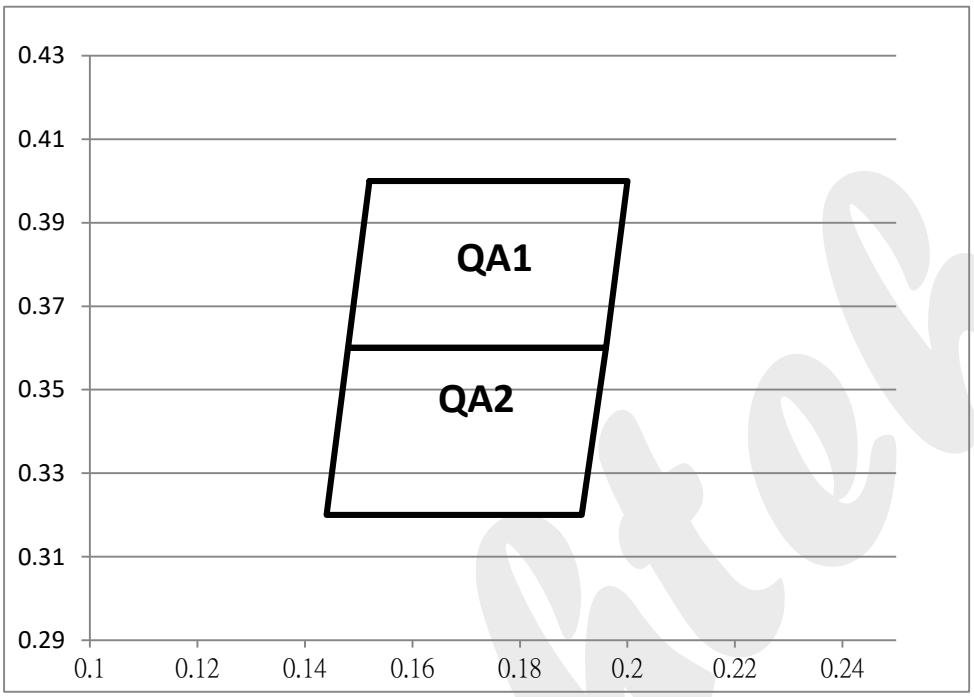
1. Luminous Flux (IF=200mA)

Group		Values	Unit
22	min.	50	lm
	max.	58	
23	min.	58	
	max.	66	
24	min.	66	
	max.	76	

2. Forward Voltage (IF=200mA)

Group		Values	Unit
K	min.	2.8	V
	max.	3.0	
L	min.	3.0	
	max.	3.2	
M	min.	3.2	
	max.	3.4	
N	min.	3.4	
	max.	3.6	

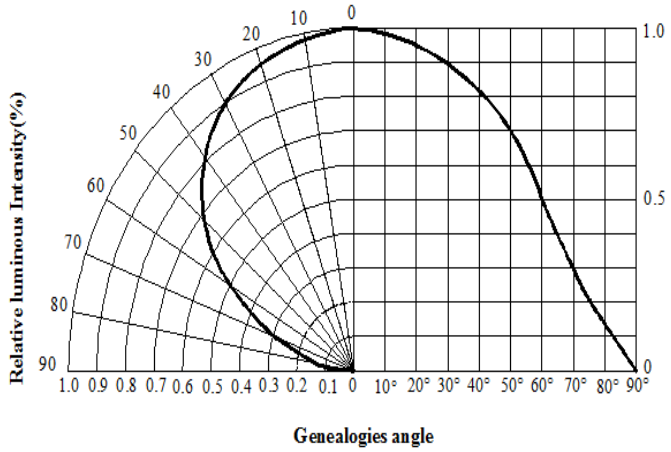
3. Chromaticity Coordinate Groups



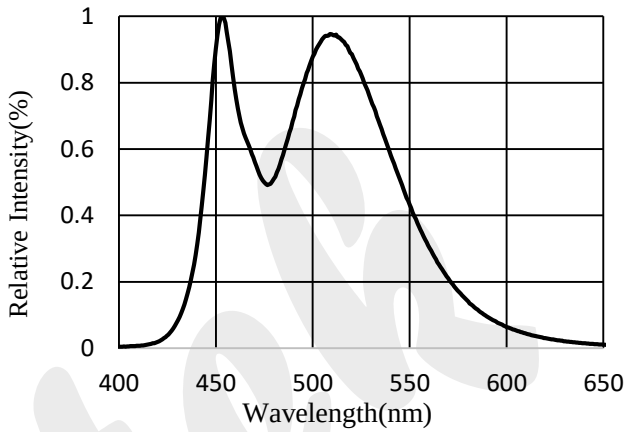
Group								
BIN	x	y	x	y	x	y	x	y
QA1	0.152	0.4	0.2	0.4	0.196	0.36	0.148	0.36
QA2	0.196	0.36	0.148	0.36	0.144	0.32	0.1915	0.32

Typical Electrical Optical Characteristics Curves

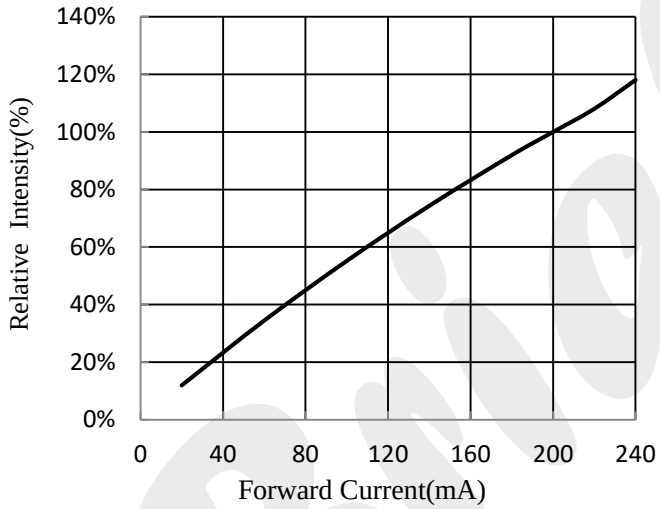
Radiation Characteristics



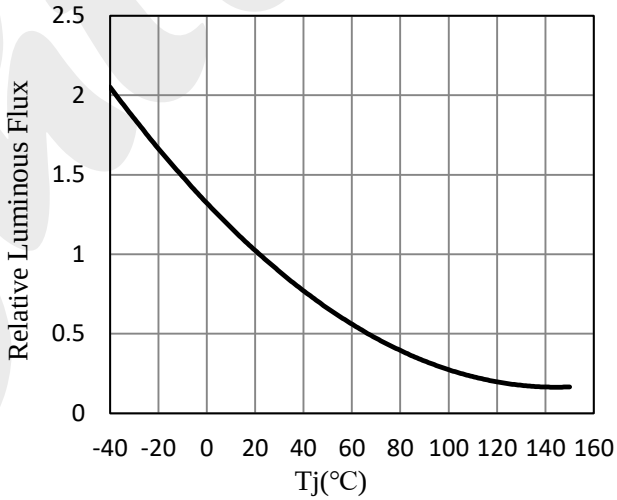
Relative Spectral Power Distribution



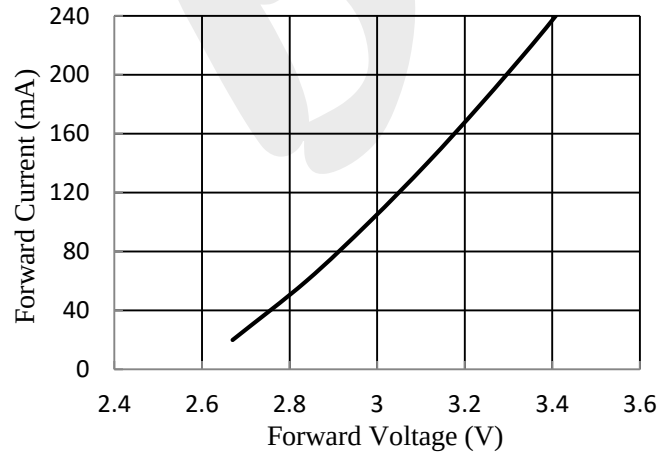
Relative Luminous Flux Vs Forward Current



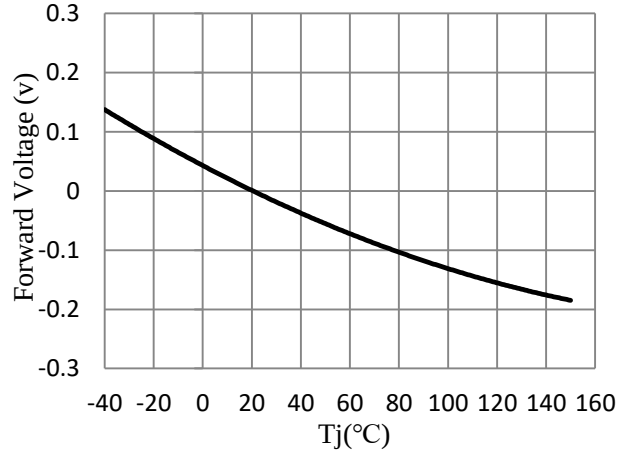
Relative Luminous Flux Vs Junction Temperature



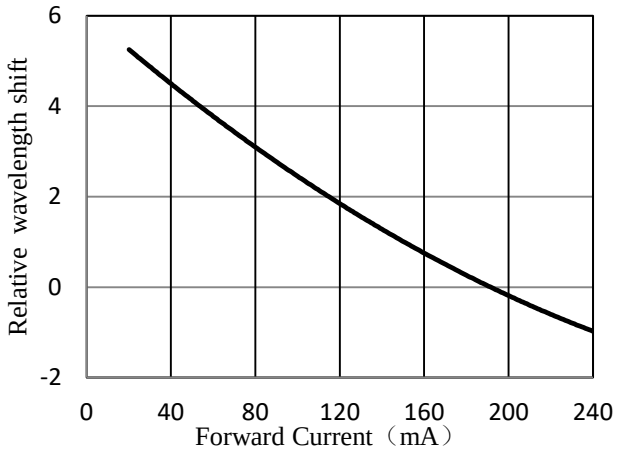
Forward Current Vs Forward Voltage



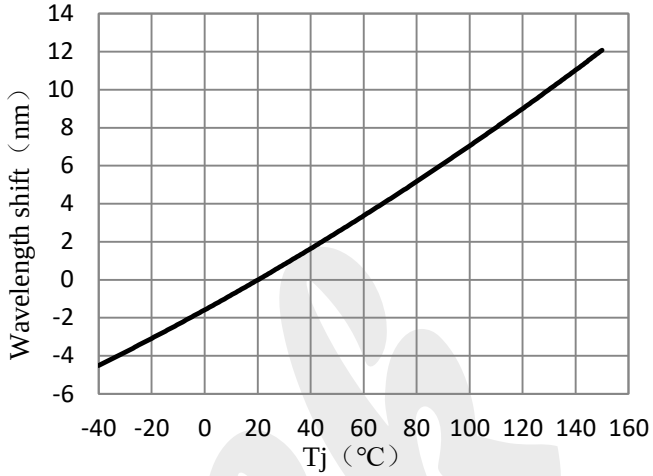
Forward Voltage vs. Junction Temperature



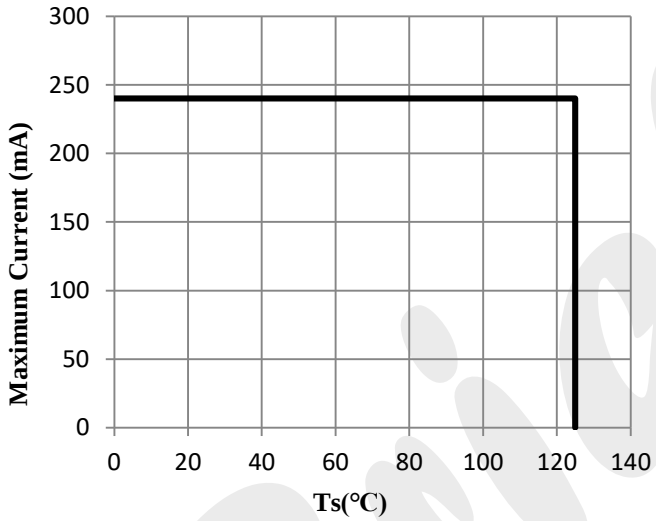
Wavelength shift vs. Forward Current



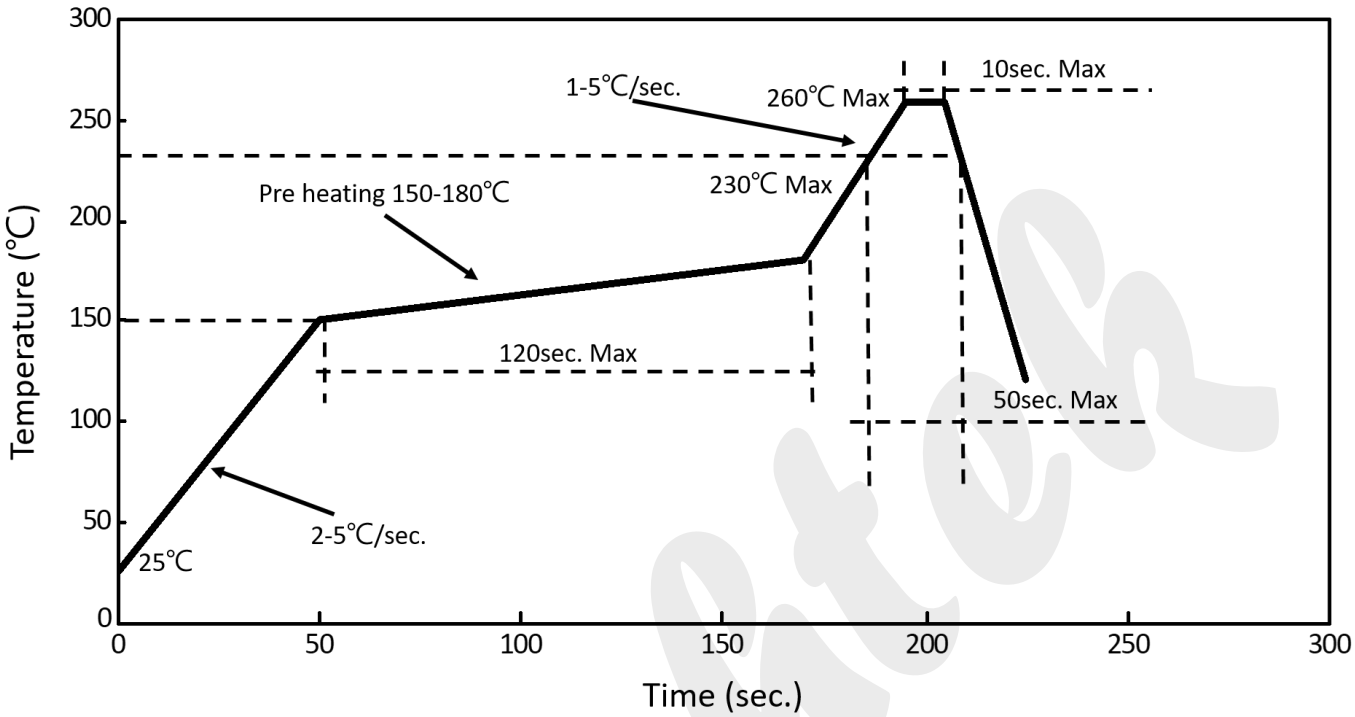
Wavelength shift vs. Junction Temperature



Thermal Design for De-rating



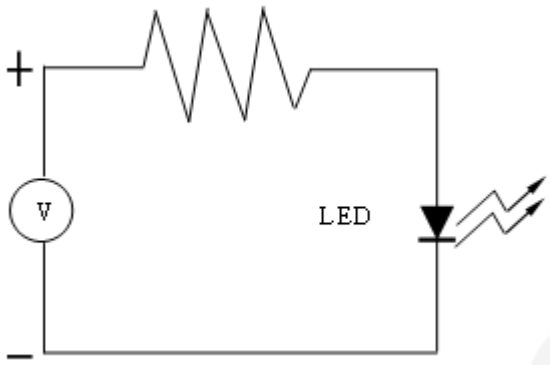
Reflow Soldering Profile



1. We recommend the reflow temperature 240℃ (±5℃).the maximum soldering temperature should be limited to 260℃.
2. Do not stress the silicone resin while it is exposed to high temperature.
3. The reflow process should not exceed 3 times.

Test Circuit and Handling Precautions

1. Test circuit



2. Handling precautions

2.1 Over-current-proof

Customer must apply resistors for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).

2.2 Storage

① It is recommended to store the products in the following conditions:

- Humidity: 60% R.H. Max.
- Temperature : 5℃~30℃(41℉~86℉)

② Shelf life in sealed bag: 12 month at ＜5℃~30℃ and ＜60% R.H. after the package is Opened, the products should be used within 1 weeks or they should be keeping to storage at ≦20%R.H. with zip-lock sealed.

2.3 Baking

Suggest packing open after 1 weeks, before use baking products, conditions as follows:

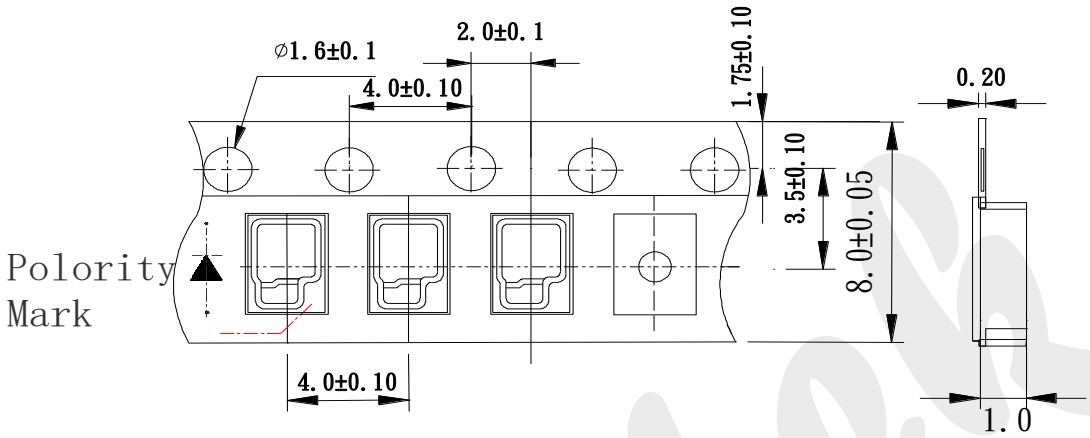
① 60±3℃ X 6hrs and ＜5%RH, for reel

② 125±3℃ X 2hrs, for single LED

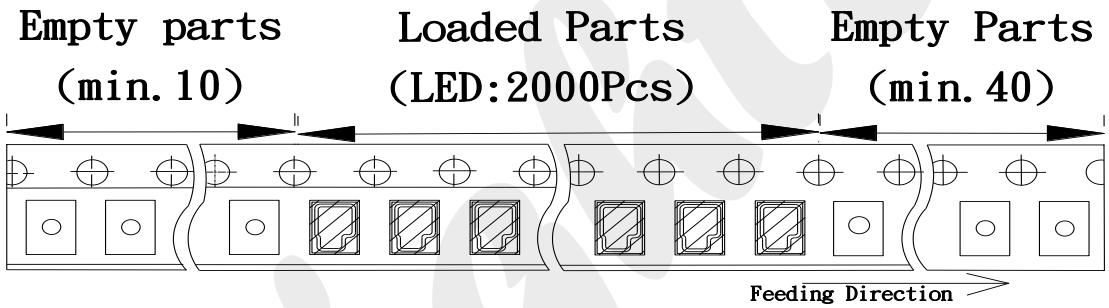
It shall be normal to see slight color fading of carrier (light yellow) after baking in process.

Tapping

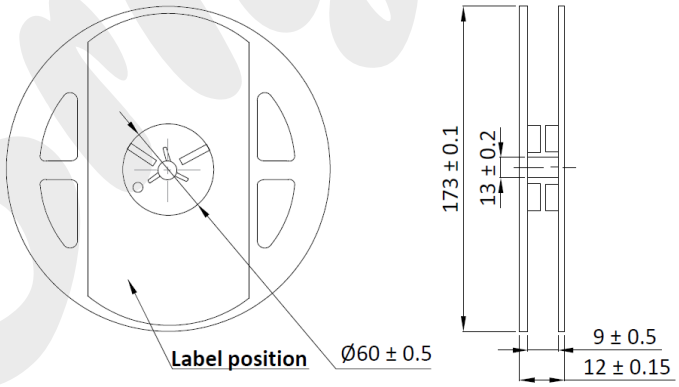
1. Dimensions of Tape (Unit: mm)



2. Arrangement of Tape



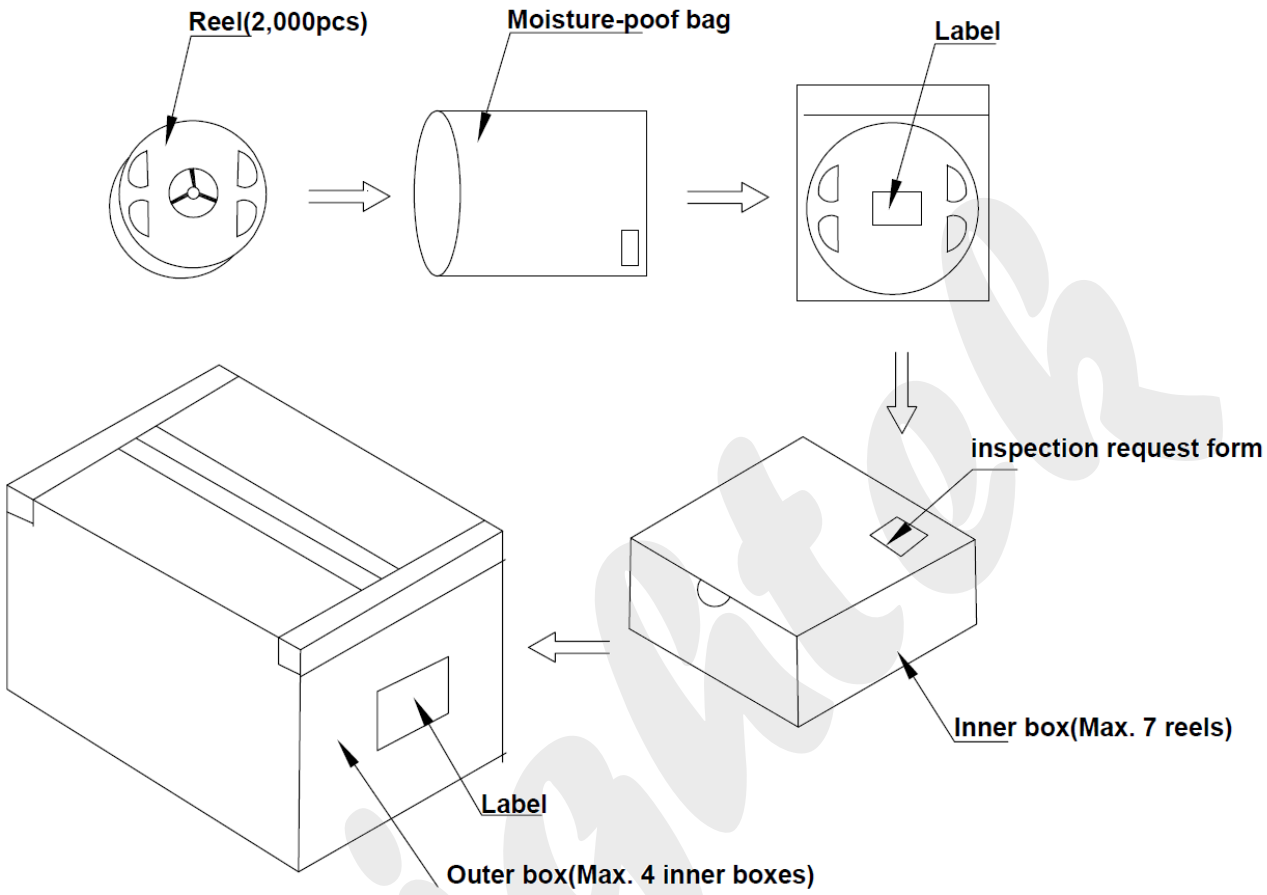
3. Dimensions of Reel (Unit: mm)



Notes:

1. Empty component pockets are sealed with top cover tape
2. The max loss number of SMD is 2pcs
3. The cathode is oriented towards the tape sprocket hole in accordance with ANSI/EIA RS-481 specifications
4. 2,000pcs per reel
5. The remainder packing in multiples of 500pcs.

Packing



Reeled product (max.2,000) is packed in a sealed moisture-proof bag. Seven bags are packed in an inner box (size: about 260 X 230 X 100 mm) and four inner boxes are in an outer box (size: about 480 X 275 X 215 mm). On the label of moisture-poof bag, there should be the information of Part No., Lot No. and quantity number; also the total quantity number should be on inspection request form on outer box.