SPECIFICATION

ISSUED DATE : 2011.12.21

DOCUMENT NO : KLED-KP5450B45E7F

CUSTOMER :

DESCRIPTION : 5450 6 Pin Top View LED

MODEL NO. : KP5450B45E7F

[AUK CORP.]

ISSUE DEPT.			PRODUCTION		Q/A	
ISSUE	REVIEW	APPR'L	REVIEW	APPR'L	REVIEW	APPR'L

[CUSTOMER APPROVAL]

ISSUE	REVIEW					

[REVISION]

NO	DATE	REVISION ITEMS	ISSUED BY	APPR'D BY
O	2011.12.21	Spec. Update	K.LIM	SM.LEE

■ Contents

◆ **PL**

AUK takes no responsibility for damage caused by improper use of the devices which does not meet the conditions and absolute maximum ratings to be used specified in the relevant specification sheet.

Please obey the instructions mentioned below for actual use of this device.

① This device is designed for general electronic equipment.
Main use of this device are as follows;

* Computer * OA equipment * Telecommunication equipment(Terminal)
* Measuring instrument * Machine tool *Industrial robot
* AV equipment * Home appliance,etc.

② Please take proper steps in order to maintain reliability and safety, in case this device is used for the uses mentioned below which require high reliability.

* Unit concerning control and safety of a vehicle (air plane,train,automobile, etc.)
* Traffic signal * Gas leak detection breaker
* Fire box and burglar alarm box * Other safety equipment,etc.

③ Please don't use for the uses mentioned below which require extremely high reliability.

* Space equipment * Telecommunication equipment(Trunk)
* Nuclear control equipment * Medical equipment(relating to any fatal element),etc.

1. Descriptions

The KP5450B45E7F is a LED consisting of small and thin form plastic leaded chip carrier (PLCC) 6-pin package, InGaN blue chip.

2. Features

- Small Footprint Surface Mount Package (5.4 L × 5.0 W × 1.6 H [mm])
- Typical Forward Voltage(V_F) : 3.2 V @ Forward Current(I_F)=60mA
- Operation Temperature from -30℃ to +85℃
- Soldering methods : IR reflow soldering
- Taping : 12㎜ conductive black carrier tape & antistatic clear cover tape

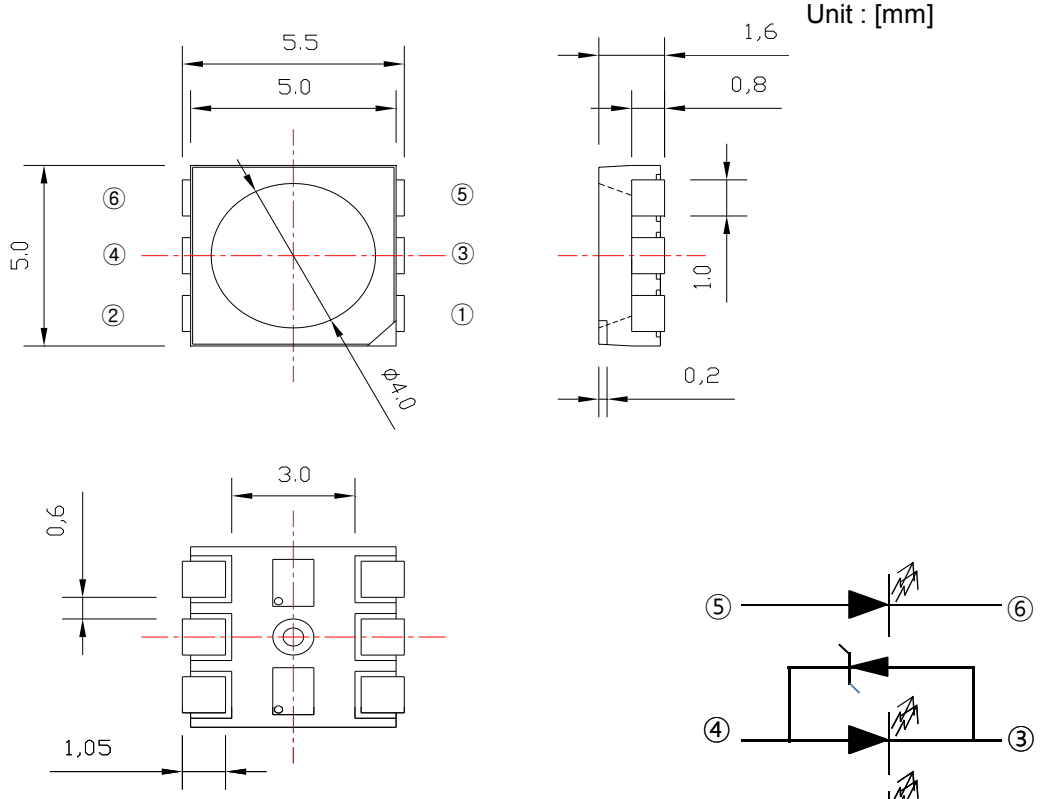
3. Applications

- Vegetative lighting
- Interior lighting
- Indoor and out door displays
- Architectural / Decorative lighting

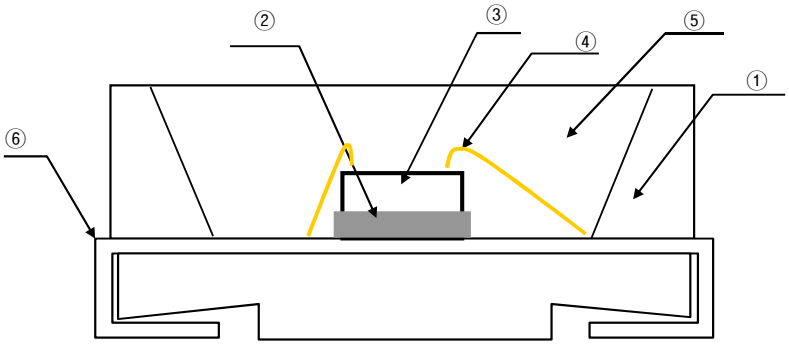
4. Outline Dimensions and Material Descriptions

◆ Outline Dimensions

Unit : [mm]



◆ Material Descriptions



No.	Item	Material
①	Package	PPA
②	Die Adhesive	Clear Sillicone
③	LED Chip	InGaN
④	Wire	Au or Ag
⑤	Encapsulant	Silicone
⑥	Lead	Cu Alloy

5. Absolute Maximums

Parameter	Symbol	Ratings	Unit
Forward current	I_F	30/each	mA
Pulse forward current *1	I_{FP}	0.1/each	A
Power dissipation	P_D	315	mW
Operating temperature	$T_{opr.}$	-30 ~ +85	°C
Storage temperature	$T_{stg.}$	-40 ~ +100	°C
Soldering Temperature *2	$T_{sol.}$	260	°C

*1. IFP was measured at Tw ≤ 1 msec of pulse width and D ≤ 1/10 of duty ratio.

*2. Soldering time : 5 Sec

6. Electro-Optical Characteristics (T_A = 25℃)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage / each*3	V_F	I_F=60mA	-	3.2	3.5	V
Reverse Current	I_R	V_R = 5 V	-	-	10	μA
Wavelength	I_v	I_F=60mA	450.0		460.0	nm
Luminance Intensity*1	I_v	I_F=60mA	600	750	-	mcd
Half angle*2	$2\Delta\theta_{1/2}$	I_F=60mA	-	120	-	deg.

*1. The luminous intensity IV was measured at the peak of the spatial pattern which may not be aligned with the mechanical axis of the LED package.

*2. $2\Theta_{1/2}$ is the off-axis where the luminous intensity is 1/2 of the peak intensity.

*3. Measuring Tolerance

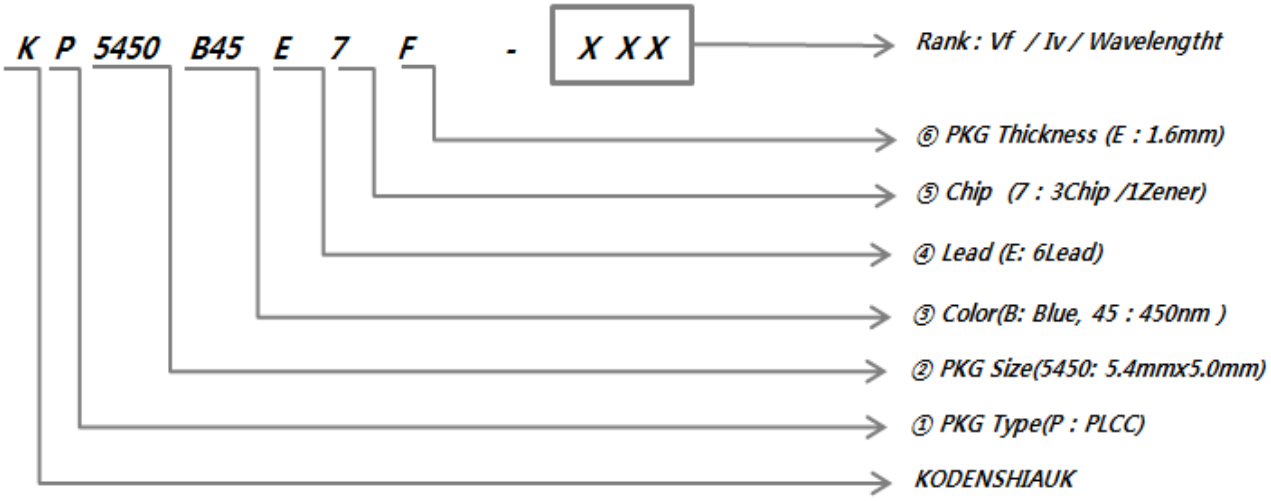
- V_F : ± 0.1 V, I_V : ± 10%, Ra : ± 3, X,Y : ± 0.01

7. Ranks

◆ IV, V_F, Color Rank @ I_F = 60 mA

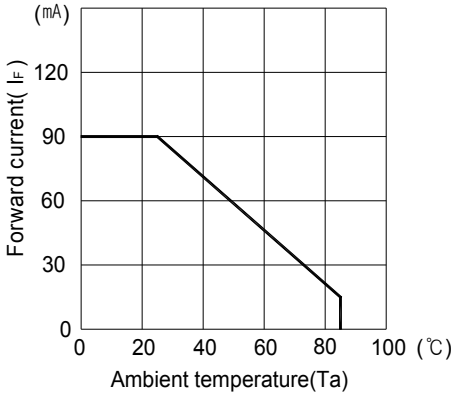
Rank Table		
Forward Voltage [V]	**Luminuous Intensity [mcd]**	**Wavelengeh(nm)**
1 : 2.9 ~ 3.1	**P : 600 ~ 700**	**a : 450 ~ 455**
2 : 3.1 ~ 3.3	**Q : 700 ~ 800**	**b : 455 ~ 460**
3 : 3.3 ~ 3.5	**R : 800 ~ 1000**	

8. Part Numbering

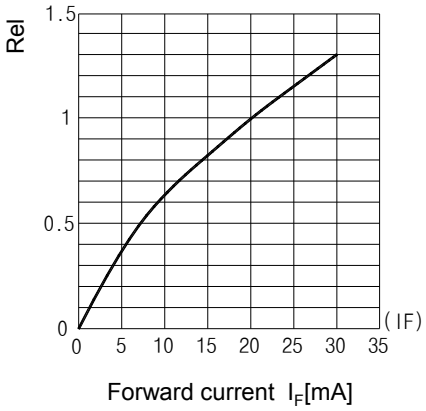


9. Characteristic Graphs

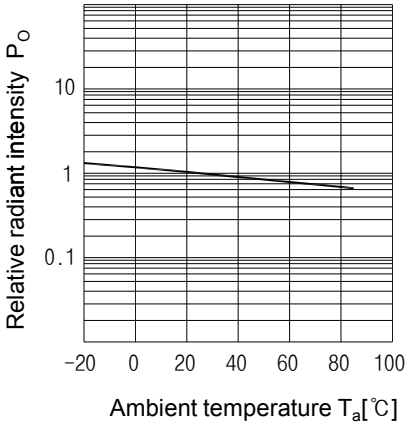
Forward current vs. Ambient temperature



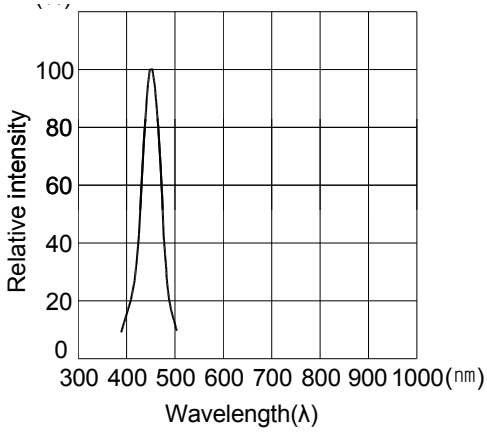
Luminous Intensity vs. Forward current



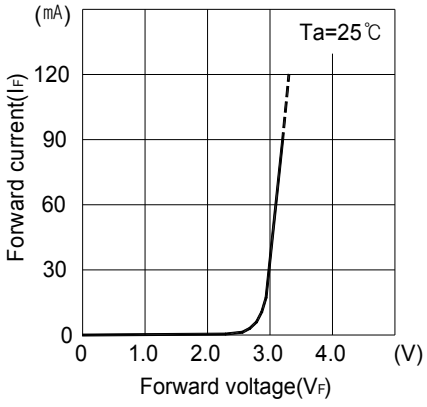
Relative luminous intensity vs. Ambient temperature



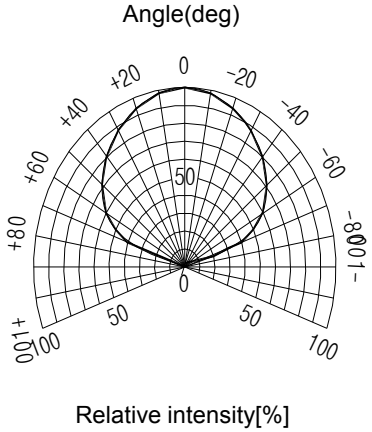
Relative intensity vs. Wavelength



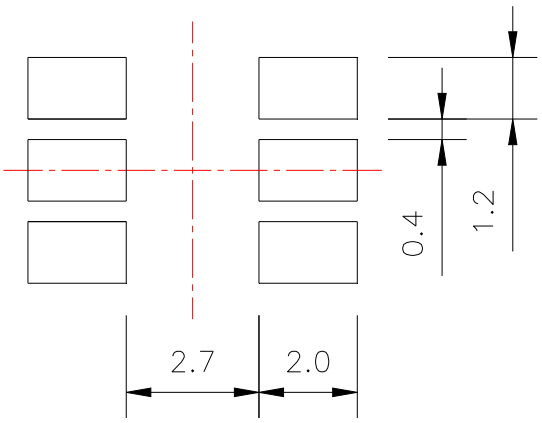
Forward current vs. Forward voltage



Viewing Pattern

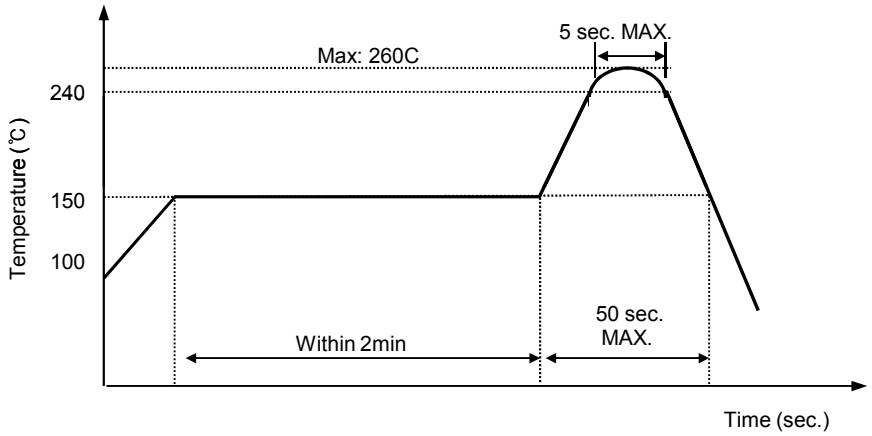


10. Recommended Soldering Pattern



Unit : [mm]

11. Reflow Soldering Profile



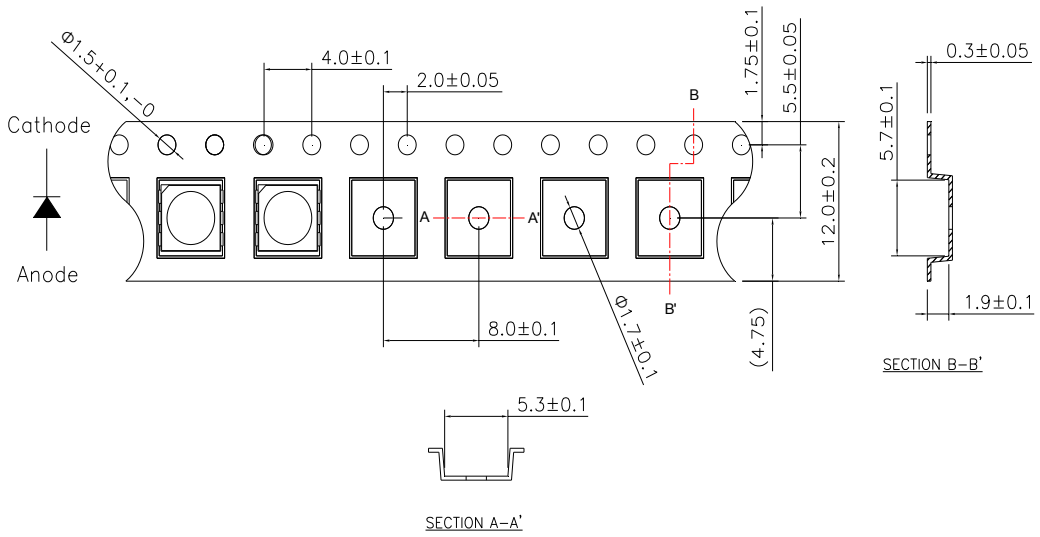
12. Manual Soldering Codition

For manual soldring, you have to complete soldering within 3 seconds under 260℃.
(The temperature at tip of solder iron).

13. Tape and Reel Specifications

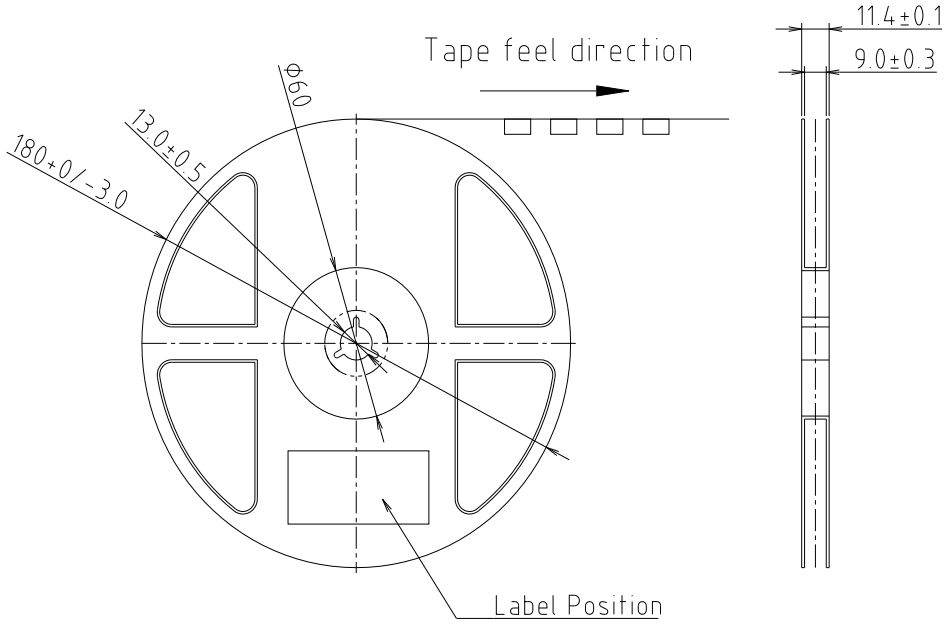
◆ Tape

UNIT : [mm]



◆ Reel

UNIT : [mm]

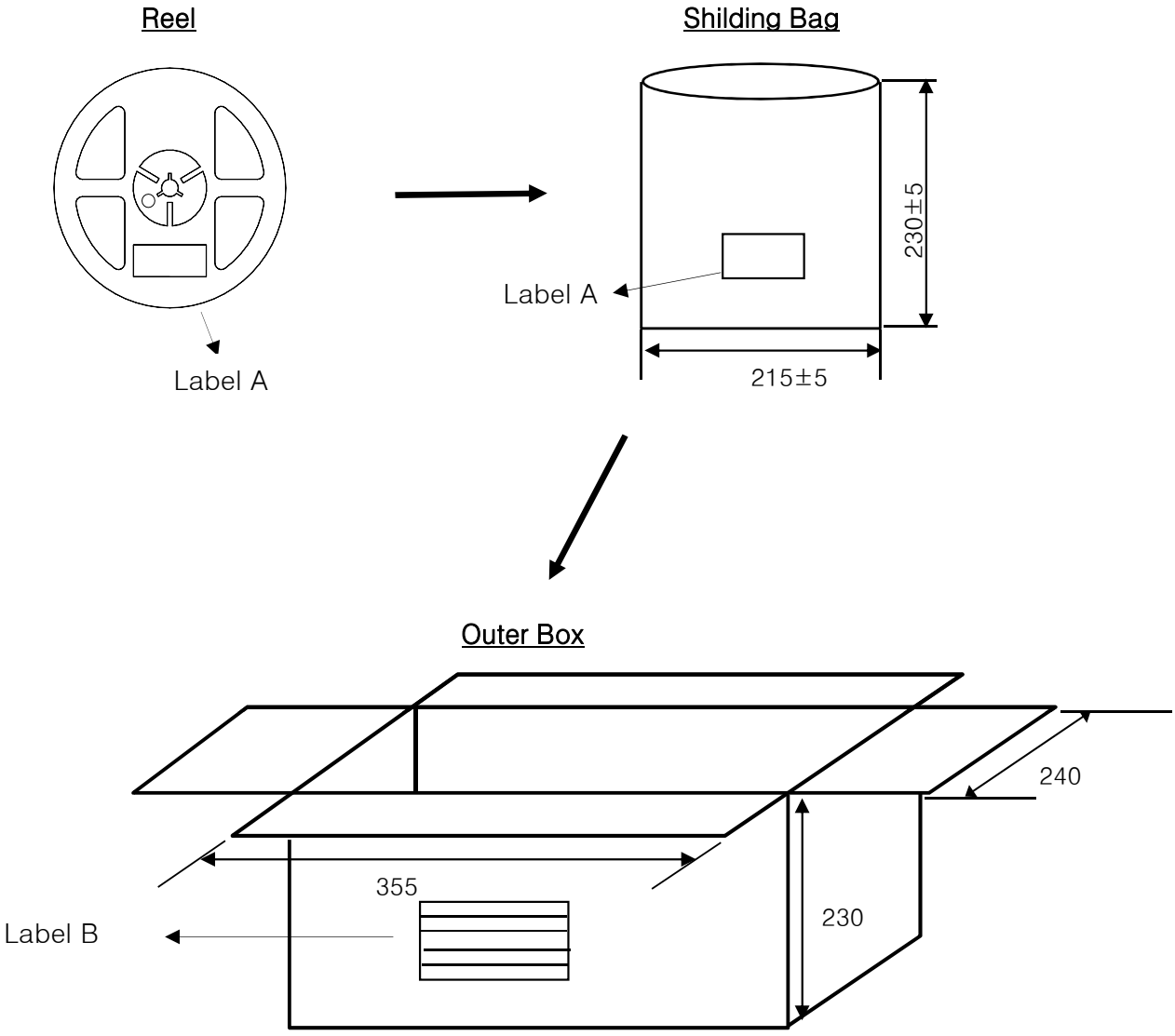


◆ Quantity : 1,000pcs/Reel

◆ Cover Tape Adhesion : 0.1 ~ 0.7N for 45° pulling up.

14. Packing Specifications

UNIT : [mm]

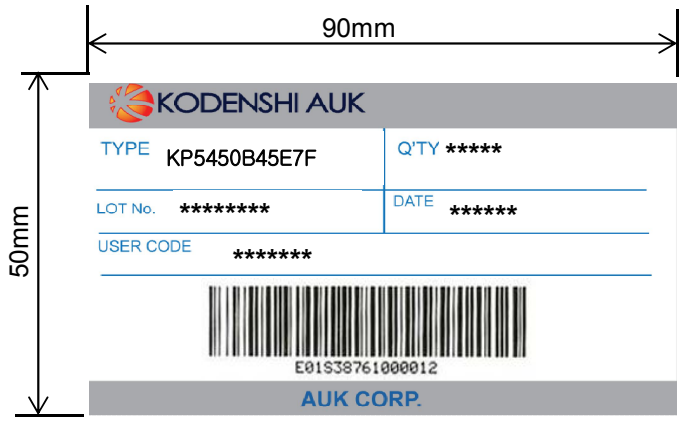


◆ Specifications of Carrier Tape, Reel and Shilding Bag

Item	Carrier Tape	Reel	Shilding Bag	
			Outside	Inside
Surface Conductivity	$1x10^{4}$ ~$1x10^{6}$	$1x10^{8}$	$1x10^{10}$ ~$1x10^{12}$	$1x10^{11}$~$1x10^{13}$

15. Label

◆ Label A



◆ Label B

16. Cautions

◆ Cautions in Usage

■ Store and use where there is no exterior force that will cause change in shape.

■ Store and use where there is no Hydrogen Sulfide gas, or any other corrosive gas.

■ Once the package is opened, the products should be used within 3 days.
Otherwise, they should be kept in a damp proof box with descanting agent.
Considering the tape life, we suggest our customers to use our products
within a year(from production date)

■ If opened more than 3 days in an atmosphere 5 ℃ ~35 ℃, RH 60%,
they should be treated at 60 ℃ ±5 ℃ for 15 hrs.

■ Solder the lead pin under conditions of the absolute maximum rating chart and do not apply force on the solder pin after soldering.

◆ Guarantee Period and Scope

■ Period
One year after delivery to the desired place.

■ Scope
Replacement of products will be done if any problems lie in our company's products.
However, we are not liable for your damage due to lack of caution.

◆ Others

■ Any doubts concerning this specification should be discussed fully by both parties.