





**③ Rated capacitance value(Digit 6 to 8)**

According to JIS

101=10x10<sup>1</sup> pF=0.1nF      102=10x10<sup>2</sup> pF=1.0nF= 0.001uF      103=10x10<sup>3</sup> pF=10nF=0.01uF  
 104=10x10<sup>4</sup> pF=100nF=0.1uF      105=10x10<sup>5</sup> pF=1000nF=1uF      106=10x10<sup>6</sup> pF=10000nF=10uF  
 107 =100uF      108 =1000uF      109 =10000uF

**④ Capacitance tolerance ( Digit 9 )**

Tolerance	± 1%	± 2%	± 3%	± 5%	±10%	±15%	± 20%	0~+10%	0~-10%		
Code	F	G	H	J	K	L	M	T	P		

**⑤ Pitch/ Length of Axial products ( Digit 10 )**

Pitch	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	10.0	12.5	15.0	20.0
Code	A	B	C	D	E	F	G	H	J	K	L	M	N
Pitch	22.0	22.5	25.0	27.0	27.5	30.0	31.0	32	37	26	8		
Code	P	Q	R	S	T	U	V	W	X	Y	1		
Pitch	15	19	21	27	32	37	42	46	24	50	56		
Code	1	2	3	4	5	6	7	8	9	A	B		

\*When the products are axial products, it stands for the length of the products

**⑥ Lead ( Digit 11 )**

Lead	CP 0.5	CP 0.6	CP 0.7	CP 0.8	CU 1.0	CU 0.8							
code	5	6	7	8	1	9							

**⑦ Package type and code of Lead Configuration(12)**

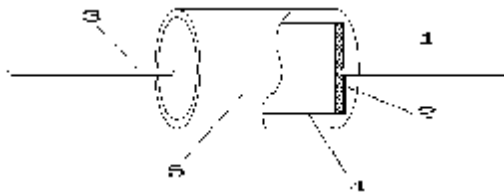
Code	Description
S	Straight lead, Cut lead
K	Bent lead
T	Taping package

**⑧ Internal use ( Digit 13 ~ 18 )**

**Metallized Polypropylene Film Capacitor (dipped)**

Reference Standard  
 GB/T 2693 (IEC 60384-1)  
 GB/T10190 (IEC 60384-16)

Construction



1. Metallized Polypropylene Film
2. Metal spray
3. Pin wire
4. Flame retardant epoxy resin
5. Insulating tape

Atmospheric conditions  
 IEC 68-1

Standard atmospheric conditions ( IEC 68-1-5.3 ) Base condition ( IEC 68-1-5.1 )  
 Temperature : 15°C ~ 35°C  
 Humidity : 25% ~ 75%  
 Atmospheric pressure : 101.3KPa  
 Atmospheric pressure : 86KPa ~ 106KPa

Technology Specifications

Climatic category : 40/85/21  
 Upper temperature : 105°C  
 Operating Temperature Range : -40°C ~ 105°C  
 ( +85°C to 105°C: decreasing factor 1.25% per °C for  $V_R$ (dc) )  
 Rated Voltage : 100V、160V、200V、250V、400V、630V、1000V、1250V  
 Capacitance Range : 0.001μF~15.0μF  
 Capacitance Tolerance : ±5% ( J ) ; ±10% ( K )  
 Voltage Proof : 1.6 $U_R$  ( 5s )  
 Dissipation Factor : ≤0.1% ( 20°C , 1KHz )  
 Insulation Resistance : ≥50000MΩ ;  $C_R$  ≤0.33μF  
 ≥15000S ;  $C_R$  > 0.33μF ( 20°C , 100V,1min )

Terminal Strength  
 IEC 68-2-21

Tension	Dia. ( mm )	Tension	Bend	Dia. ( mm )	Load
	0.3 < d ≤ 0.5	5N		0.3 < d ≤ 0.5	2.5N
	0.5 < d ≤ 0.8	10N		0.5 < d ≤ 0.8	5N
	0.8 < d ≤ 1.25	20N		0.8 < d ≤ 1.25	10N

Time duration : 10±1second  
 After above test, no visible damage.

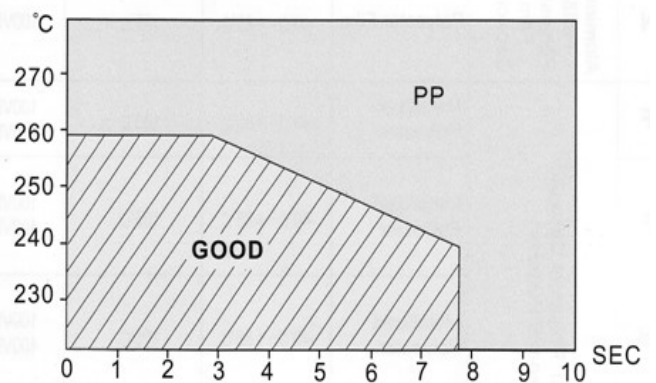
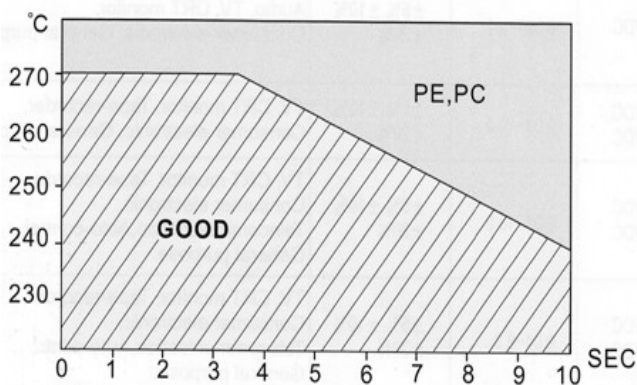
Solder ability  
 IEC 68-2-20

Soldering temperature : 235°C ± 5°C  
 Immersion duration : 2.0s ± 0.5s  
 Good Tinning

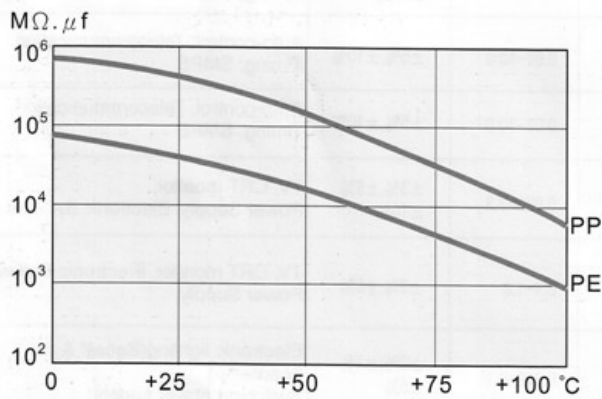
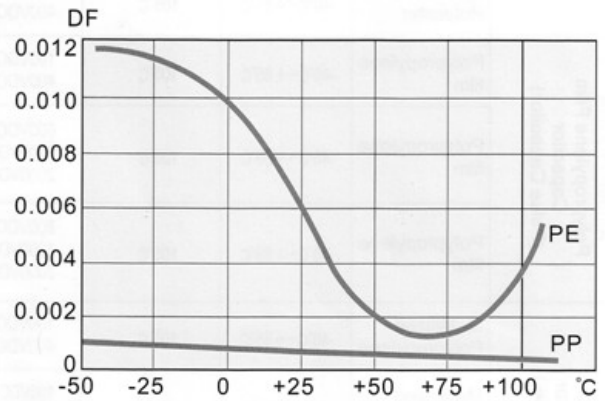
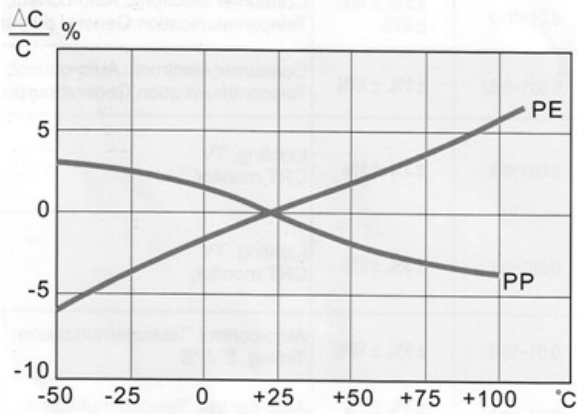
<p>Soldering heat IEC 68-2-20</p>	<p>Soldering temperature : 260°C ± 5°C Immersion duration : 10s ± 1s Dip depth from the mounting surface 2+0/-0.5mm, using the thickness of 1.5mm ± 0.5mm insulation shielding plate Capacitance change : <math>\Delta C/C : \leq \pm(2\%+2PF)</math> of the value before test. DF change <math>\tan \delta : \leq</math> rated value at 1 KHZ .</p>		
<p>Temperature Cycling IEC 68-2-14</p>	<p>Temperature: <math>\theta A = -40^{\circ}C</math> ; <math>\theta B = +105^{\circ}C</math> Time duration : 30min ; Cycle times : 5 times ; Capacitance change : <math>\Delta C/C : \leq \pm 3\%</math> DF change: <math>\tan \delta : \Delta \tan \delta : \leq 0.2\%</math> at 1 KHZ . Insulation resistance : <math>\geq 50\%</math> of the first testing value</p>		
<p>Vibration IEC 68-2-6</p>	<p>Frequency : 10 ~ 500Hz Direction and Duration: Per direction 2hrs , Total 6hrs ; Amplitude 0.75mm OR acceleration 98m/s<sup>2</sup> ( Taking the severity of lower ) No visible damage and deterioration in appearance</p>		
<p>Bump IEC 68-2-29</p>	<p>Bump times : 4000 times Acceleration : 390m/s<sup>2</sup> Pulse duration : 6ms No visible damage and deterioration in appearance</p>		
<p>Climatic Sequence</p>	<p>Dry heat IEC 68-2-2</p>	<p>Temperature : +105°C Duration : 16h</p>	<p>Final measurement No breakdown or flashover ; No visible damage and deterioration in appearance and the marking shall be legible Capacitance change : <math>\Delta C/C : \leq \pm(2\%+2PF)</math> DF change : <math>\tan \delta : \leq</math> Rated value or 1.4 times of the value before test at 1 KHZ . Insulation Resistance : <math>\geq 50\%</math> of the value before test</p>
<p>Damp heat cycle</p>	<p>Test Db, Severity b, the first cycle</p>		
<p>Cold IEC 68-2-1</p>	<p>Temperature : -40°C duration : 2h</p>		
<p>Low Air pressure IEC 68-2-13</p>	<p>Temperature : 15°C—35°C Pressure : 8.5KPa Duration : 1h apply UR at the last 1 minute.</p>		
<p>Damp heat cycle IEC 68-2-30</p>	<p>Test Db, Severity b, the other cycles, apply UR for 1minute after the test finished.</p>		

<p>Damp Heat Test IEC 68-2-3</p>	<p>Temperature : <math>40^{\circ}\text{C} \pm 2^{\circ}\text{C}</math>  Humidity : <math>93 \pm 2/-3 \%</math>  Duration : 21 days  No visible damage and deterioration in appearance and the marking shall be legible  Capacitance change : <math>\Delta C/C : \leq \pm 5\%</math>  DF Change : <math>\Delta \tan \delta : \leq 0.2\%</math> at 1 KHZ .  Insulation Resistance: <math>\geq 50\%</math> of the value before test</p>
<p>Durability</p>	<p>Temperature : <math>+85^{\circ}\text{C}</math>  Voltage : 500v  Time duration : 1000h  No visible damage and deterioration in appearance and the marking shall be legible  Capacitance change : <math>\Delta C/C : \leq \pm 5\%</math>  DF change : <math>\Delta \tan \delta : \leq 0.2\%</math> at 1 KHZ .  Insulation Resistance: <math>\geq 50\%</math> of the value before test</p>
<p>Charge and Discharge</p>	<p>Charging times : 10000 次  Charging Voltage : <math>U_R</math>  Charging time : 0.5s  Discharging time : 0.5s  Charging Resistance : <math>220/C_R \Omega</math> <math>C_R</math>: Capacitance ( <math>\mu\text{F}</math> )  Discharging Resistance : <math>R=10/C_R</math> or <math>20 \Omega</math> , the bigger one <math>C_R</math>: Capacitance ( <math>\mu\text{F}</math> )  Capacitance Change : <math>\Delta C/C : \leq \pm 5\%</math>  Dissipation Change : <math>\Delta \tan \delta : \leq 0.3\%</math> at 1 KHZ .  Insulation Resistance: <math>\geq 50\%</math> of the value before test</p>

## 2 Soldering Temperature VS Time



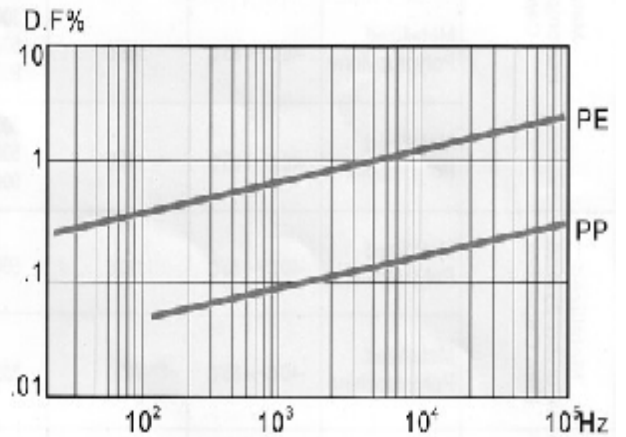
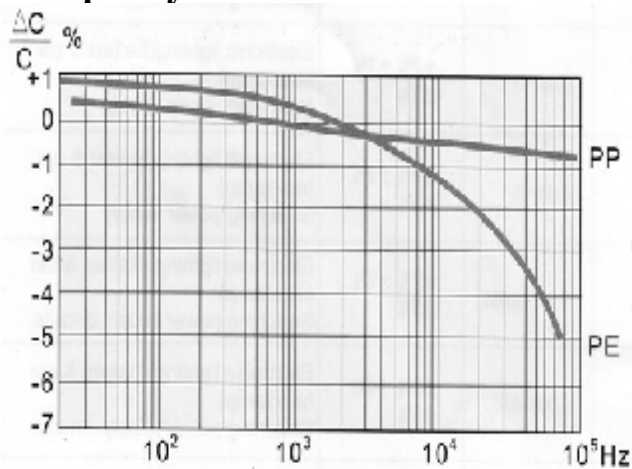
## 2 Temperature Characteristics



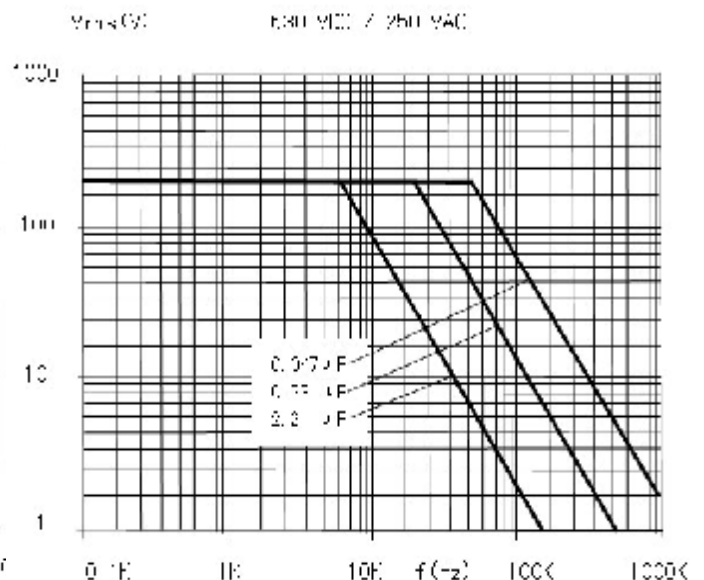
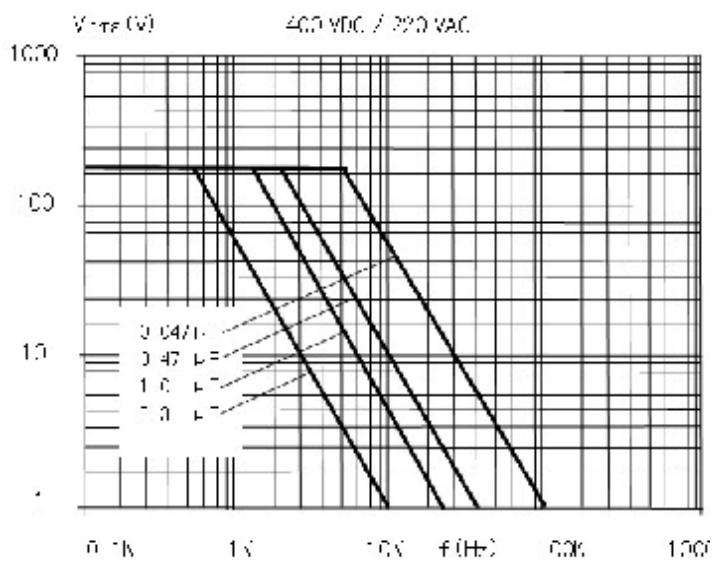
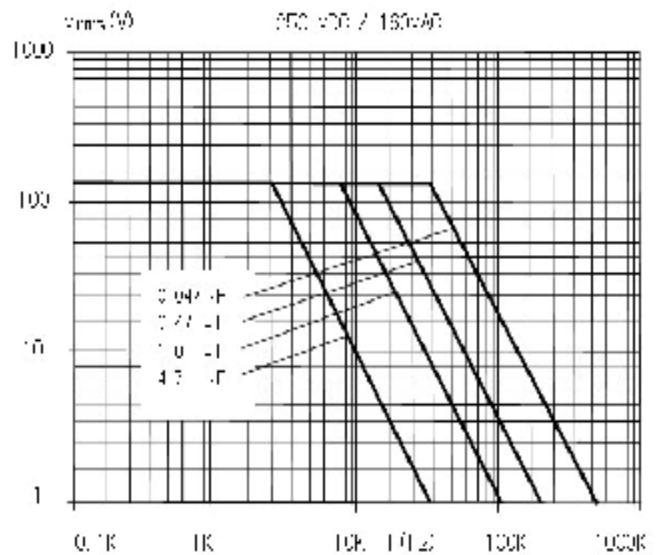
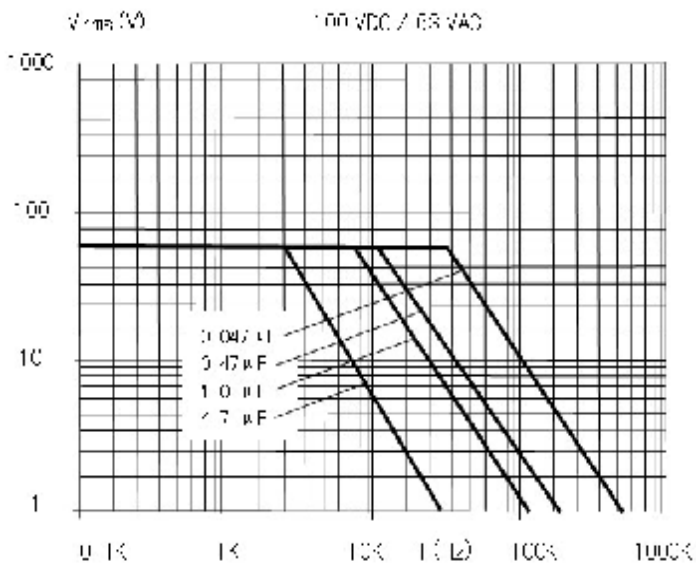
PP: 聚丙烯薄膜 (Polypropylene Film)

PE: 聚酯薄膜 (Polyester Film)

## 2 Frequency Characteristics



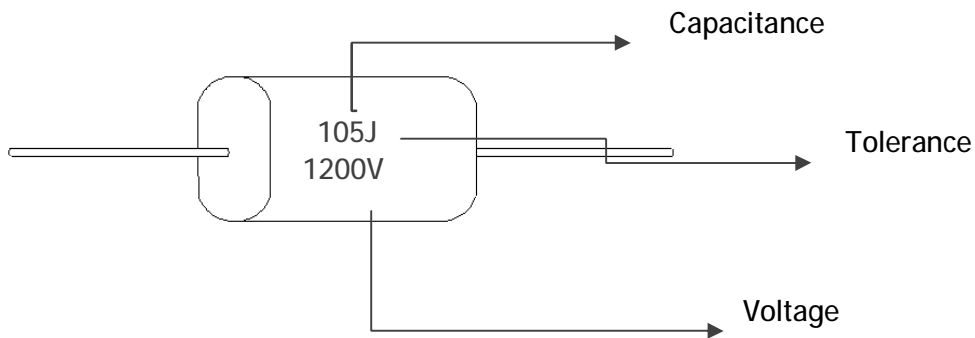
## 2 Permissible AC Voltage VS Frequency Curve



Remark : Sine wave , Environmental temperature  $\leq 85^{\circ}\text{C}$



## 2 Marking Specification



## 2 Taping Drawing&Dimensions

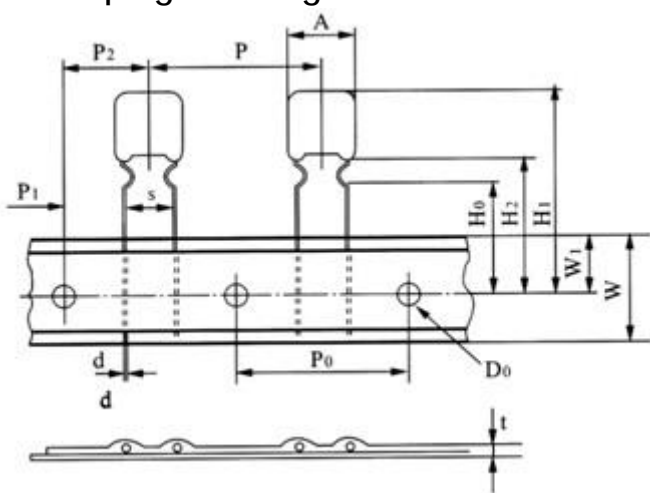


Fig.1

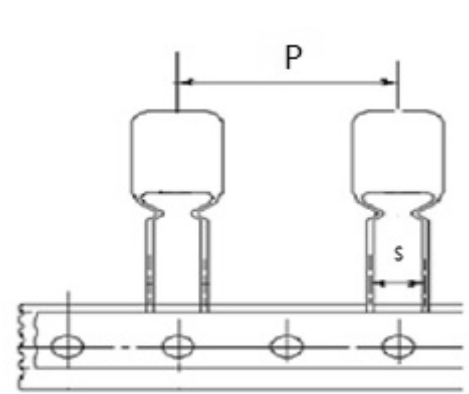
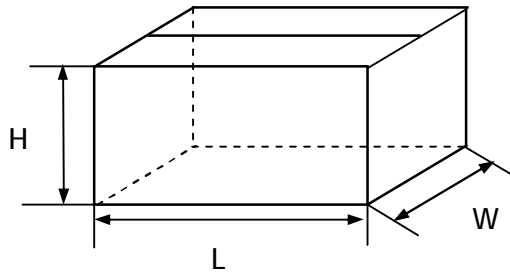


Fig.2

Technique Data	Code	Size ( mm )					Technique Data	Code	Size ( mm )				
		P=5	P=7.5	P=10	P=15	Tolerance			P=5	P=7.5	P=10	P=15	Tolerance
Taping Type		Fig 1	Fig1	Fig2	Fig2		Taping Type		Fig1	Fig1	Fig2	Fig2	
Section distance	P	12.7	12.7	25.4	25.4	±1.0	Section distance	W	18.0	18.0	18.0	18.0	±0.5
Distance between two hole	P0	12.7	12.7	12.7	12.7	±0.3	Distance between two hole	W1	9.0	9.0	9.0	9.0	±0.5
Leads position	P1	3.8 5	2.6	7.7	5.2	±0.7	Leads position	H0	16	16	16	16	±0.5
Pitch for forming type	S	5.0	7.5	10.0	15.0	±0.5	Pitch for forming type	H1	39	39	39	39	max
Body position	P2	6.3 5	6.35	12.7	12.7	±1.3	Dia. Of the hole	D0	4.0	4.0	4.0	4.0	±0.3
Product Inclination	Δ h	0	0	0	0	±0.2	Tape thickness	t	0.7	0.7	0.7	0.7	±0.2

## 2 Carton Size

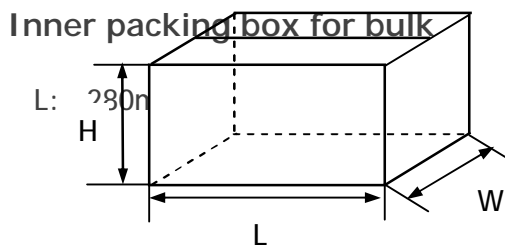


### Out packaging box for bulk

L: 480mm

W: 320mm

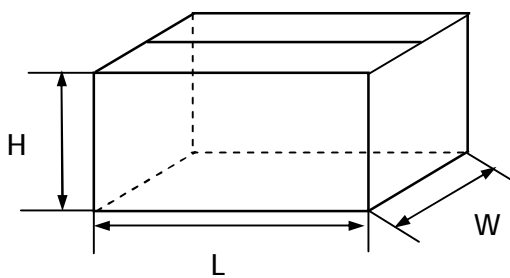
H: 280mm



### Inner packing box for bulk

W: 225mm

H: 120mm

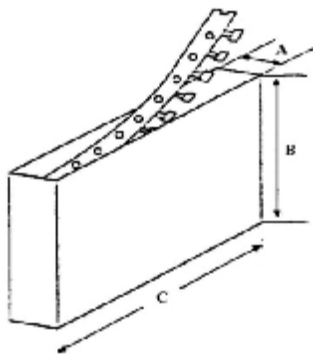


### Out packaging box for taping

L: 640mm

W: 360mm

H: 290mm



### Inner packing box for taping

A: 50mm

B: 320mm

C: 330mm