

WEIDY®

NO.

APS-1608-003

Version

A/0

Date

2016-8-1

Page

1 of 12

High-voltage metalized polypropylene film/foil capacitor

Datasheet for film capacitor W14

Customer

PART NO	Specification Type	CUSTOMER'S PART NO.
W143C182JM8TGBA00C	CBB81-1600V-182J-P15	

Seller

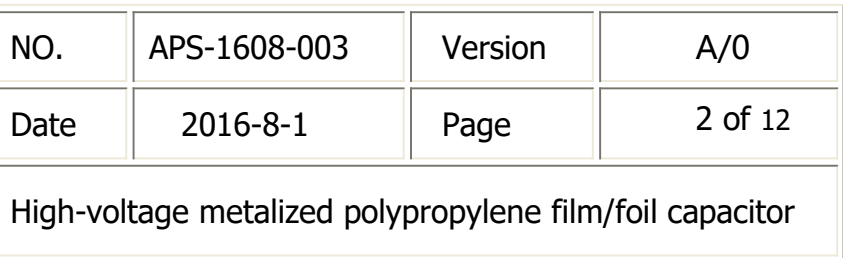
Approval	
Date	2/26/2025
Ratify	Haiyong Chen
Audit	Jingzhao Deng
Maker	Lili Li

Buyer

Approval	
Date	
Ratify	
Title	
Remark	Pls send copy to us after approval

Company Information

Company name: Shenzhen Weidy Industrial Development Co.,Ltd
Company Address : 5/F, New Asia Electronic Town, Zhenzhong Rd, Futian, Shenzhen, Guangdong, China.
TEL:0755-82811688 FAX: 0755-82812688 <http://www.weidy.net>
Factory Address: No8,Songyin Rd., Pingshan Community, Tangxia

[illegible]

Part number system

For example:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
①			②			③		④	⑤	⑥	⑦					⑧	

① Series code(Digit 1 to 3)

Series	CH11	CL11	CBB11	CBB13	CBB81	CBB81 B	WDQB	WDQC	PSR	CL20T	CL21	CL21X
Code	W10	W11	W12	W13	W14	W15	W16	W17	W18	W20	W21	W22
Series	CL21B	CL23B	CL25	CL20A	CBB20T	CBB21	CBB21 B	CBB20 A	MKP25	CBB22	MKPR S	MKPE (X2(E))
Code	W23	W24	W25	W26	W30	W31	W32	W33	W38	W36	W40	W41
Series	MKP (X2)	MKP63 (Y2)	MKP64 (X1)	MKP65 (X1/440V)	MKP66 (X1/760V)	CL21B (E)	CBB21 B(E)	CBB21 (E)	CLN51	CBS52	CBB60	CBB61
Code	W42	W43	W44	W45	W46	W47	W48	W49	W51	W52	W60	W61
Series	CBB65	CBB71	CBB72	MMKP82	MMKP84	CLN21	C92	CBB13 B	CBB62	RCP	CBB28	CL21 (E)
Code	W65	W71	W72	W82	W84	W91	W92	W19	W62	W39	W28	W50
Series	CBB22 (E)	X1Y2	CL21S	CBB21S	MKP23	MKPR						
Code	W53	W54	W27	W37	W29	W63						

② Rated Voltage(Digit 4~5) (Remark: number and then letter indicate DC, letter and then number indicate AC)

	A	B	C	D	E	F	G	H	J	K	L	M	N
1			16V	20V	25V			50V	63V	80V			
2	100V	125V	160V	200V	250V		400V	500V	630V	800V	230V	120V	150V
3	1000V	1250V	1600V	2000V	2500V	3000V	4000V			850V		1200V	1500V
	P	Q	R	S	T	U	V	W	X	Y			
1	240V	300V	330V	440V	540V	600V	700V	1100V	900V				
2	275V	305V	350V	450V	550V	690V	760V	1300V					
3	280V	310V		480V	520V			1700V					

③ Rated capacitance value(Digit 6 to 8)

According to JIS

101=10x10¹ pF=0.1nF

102=10x10² pF=1.0nF= 0.001uF

103=10x10³ pF=10nF=0.01uF

104=10x10⁴ pF=100nF=0.1uF

105=10x10⁵ pF=1000nF=1uF

106=10x10⁶ 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)

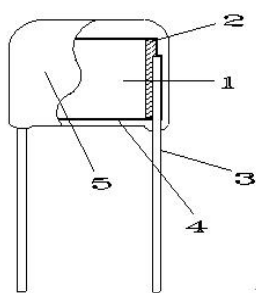
Lead	CP 0.5	CP 0.6	CP 0.7	CP 0.8	CU 1.0	CU 0.8	CU 0.7	CU 1.2	CP 1.0	
code	5	6	7	8	1	9	4	A	C	

⑦ Package type and code of Lead Configuration(12)

Code	Remarks
S	Straight leads, lead Cut ($L \leq 8\text{mm}$)
M	Straight leads, lead Cut ($20\text{mm} > L > 8\text{mm}$)
L	Straight leads, lead Cut ($L \geq 20\text{mm}$)
W	Leads bent into 90 Degree
K	Forming lead(tolerance of lead length $\pm 0.5\text{mm}$)
Y	Forming lead(tolerance of lead length $\pm 0.3\text{mm}$)
T	Taping packing

⑧ Internal use (Digit 13 ~ 18)

✧ Features

Product name	高压金属化聚丙烯膜电容器（浸渍型）				
Reference Standard	GB/T 2693 (IEC 60384-1) GB/T14579 (IEC 60384-17)				
Construction	 1. Metallized Polypropylene Film 2. Metal spray 3. Pin wire 4. Internal epoxy resin 5. Flame retardant Epoxy resin coating(UL94V-0)				
Atmospheric conditions IEC 68-1	Standard atmospheric conditions (IEC 68-1-5.3) Base condition (IEC 68-1-5.1) Temperature : 15℃ ~ 35℃ Temperature: 20℃ Humidity: 25% ~ 75% Atmospheric pressure: 101.3KPa Atmospheric pressure: 86KPa ~ 106KPa				
Technology Specifications	Climatic category: 40/105/21 Rated temperature: 85℃ Operating Temperature Range: -40℃ ~ 105℃ (+85℃ to 105℃: decreasing factor 1.25% per °C for U_R (dc)) Rated Voltage: 400V、630V、800V、1000/1250V、1600V、2000V、2500V Capacitance Range: 0.001μF ~ 0.22μF Capacitance Tolerance: ±5% (J) ; ±10% (K) Voltage Proof: 1.75 U_R (5s) Voltage Applied Speed: 100V/S; Cut off current: 5mA Dissipation Factor: ≤0.1% (20℃, 1KHz) Insulation Resistance: ≥50000MΩ				
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		
Soldering heat IEC 68-2-20	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: $\Delta C/C : \leq \pm(2\%+2PF)$ of the value before test. DF change $\tan\delta : \leq$ rated value at 1 KHZ .		
Temperature Cycling IEC 68-2-14	Temperature: $\theta A = -40^{\circ}C$; $\theta B = +105^{\circ}C$ Time duration: 30min ; Cycle times: 5 times; Capacitance change: $\Delta C/C : \leq \pm 3\%$ DF change: $\tan\delta : \Delta \tan \delta : \leq 0.2\%$ at 1 KHZ . Insulation resistance: $\geq 50\%$ of the first testing value		
Vibration IEC 68-2-6	Frequency: 10 ~ 500Hz Direction and Duration: Per direction 2hrs, Total 6hrs; Amplitude 0.75mm or acceleration 98m/s ² (Taking the severity of lower) No visible damage and deterioration in appearance		
Bump IEC 68-2-29	Bump times: 4000 times Acceleration: 390m/s ² Pulse duration: 6ms No visible damage and deterioration in appearance		
Climatic Sequence	Dry heat IEC 68-2-2	Temperature: +105°C Duration: 16h	Final measurement No breakdown or flashover; No visible damage and deterioration in appearance and the marking shall be legible Capacitance change: $\Delta C/C : \leq \pm(2\%+2PF)$ DF change: $\tan\delta : \leq$ Rated value or 1.4 times of the value before test at 1 KHZ . Insulation Resistance: $\geq 50\%$ of the value before test
	Damp heat cycle	Test Db, Severity b, the first cycle	
	Cold IEC 68-2-1	Temperature: -40°C duration: 2h	
	Low Air pressure IEC 68-2-13	Temperature: 15°C—35°C Pressure: 8.5KPa Duration: 1h apply U_R at the last 1 minute.	
	Damp heat cycle IEC 68-2-30	Test Db, Severity b, the other cycles, apply U_R for 1 minute after the test finished.	

**Damp Heat
Test**
IEC 68-2-3

Temperature: 40°C±2°C

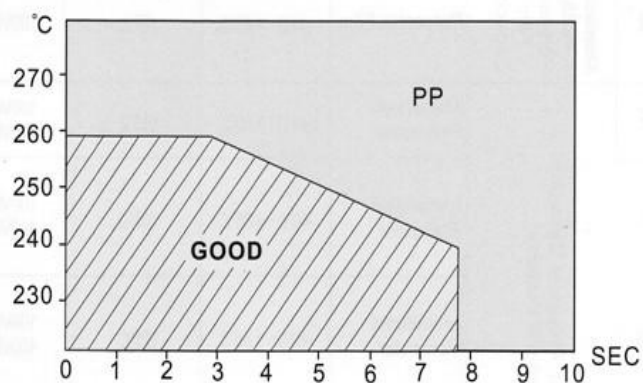
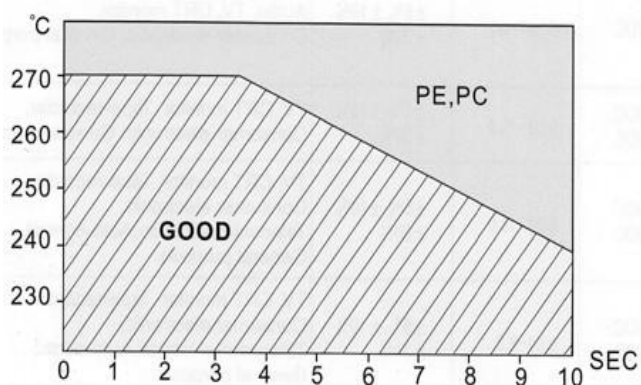
Humidity: 93 +2/-3 %

Duration: 21 days

No visible damage and deterioration in appearance and the marking shall be legible

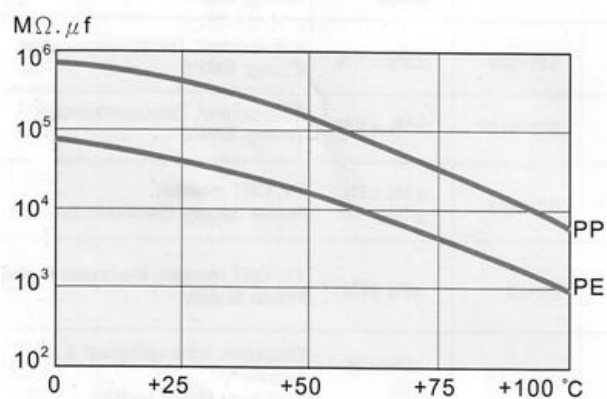
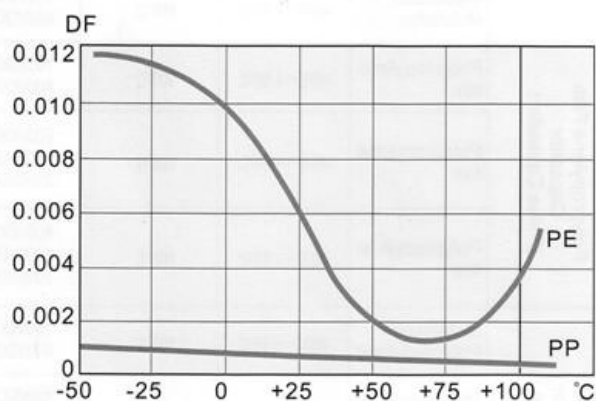
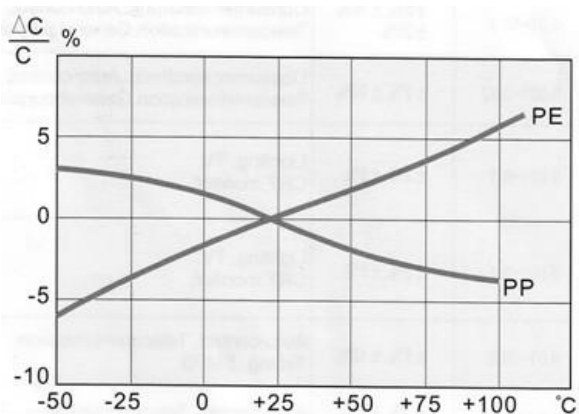
Capacitance change: $\Delta C/C : \leq \pm 5\%$ DF Change: $\Delta \tan \delta : \leq 0.2\%$ at 1 KHZ .Insulation Resistance: $\geq 50\%$ of the value before test

✧ Soldering Temperature VS Time





Temperature Characteristics

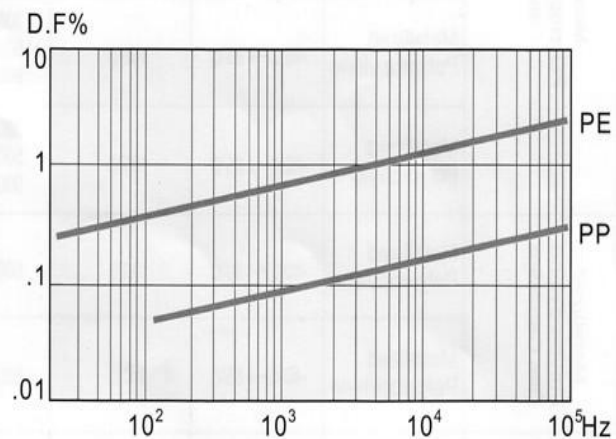
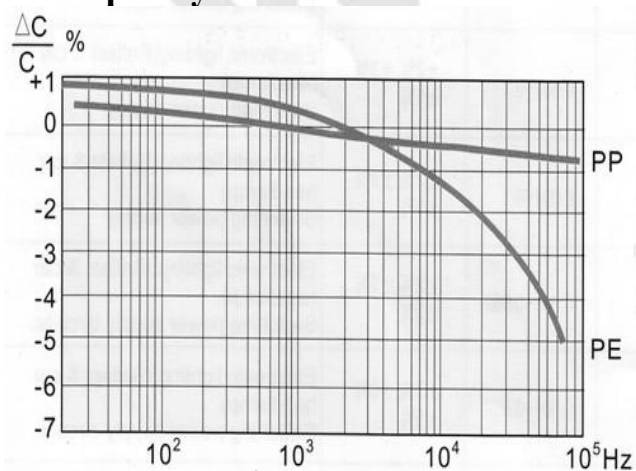


PP: 聚丙烯薄膜 (Polypropylene Film)

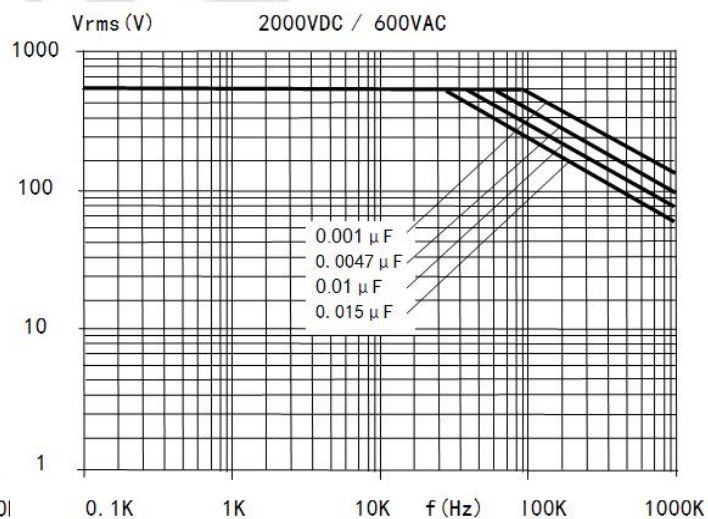
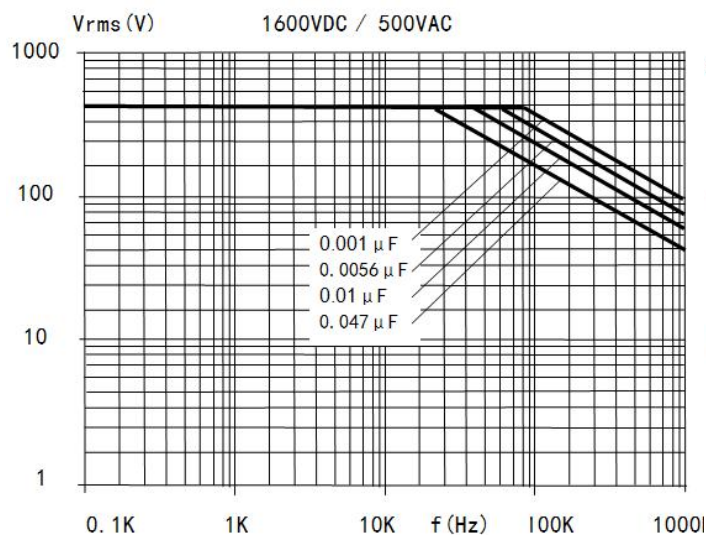
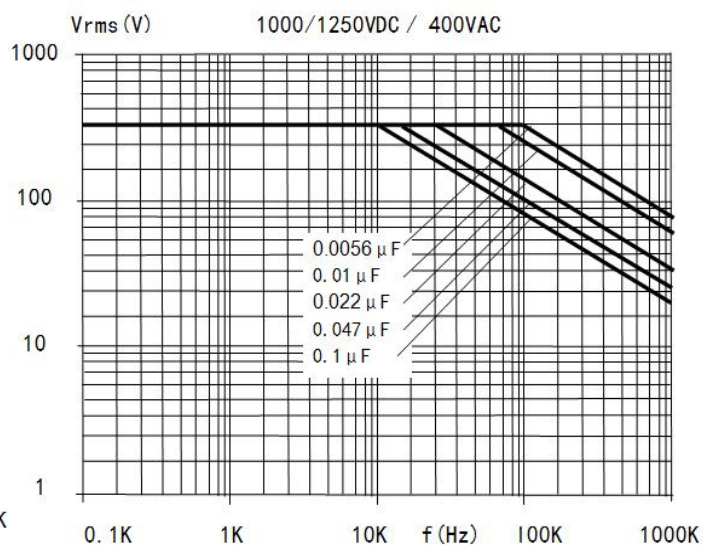
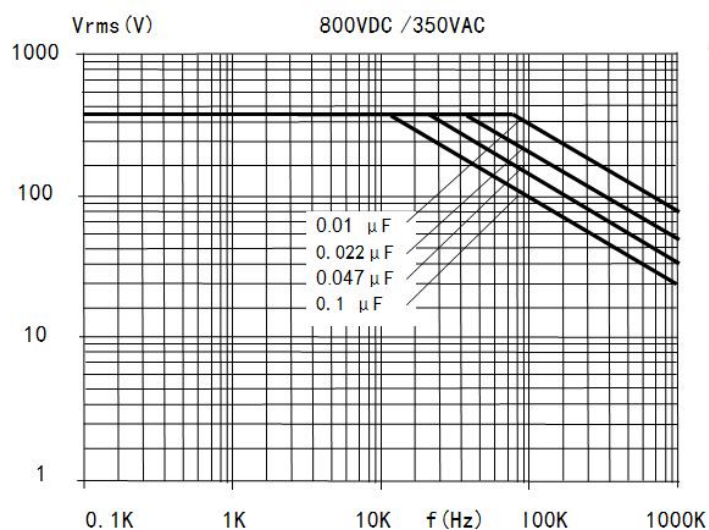
PE: 聚酯薄膜 (Polyester Film)



Frequency Characteristics

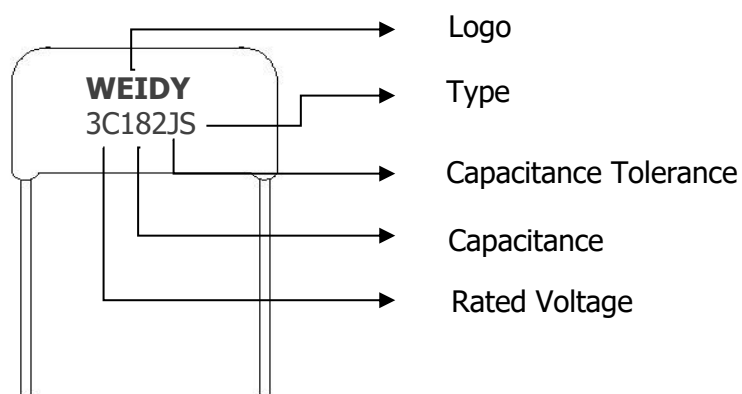


✧ Permissible AC Voltage VS Frequency Curve



Remark: Sine wave, Environmental temperature ≤ 85°C

✧ Marking Specification



✧ Taping Drawing&Dimensions

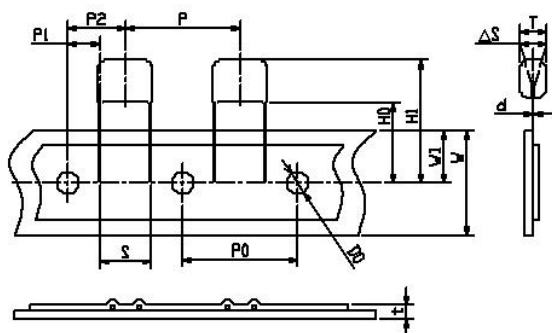


Fig.1

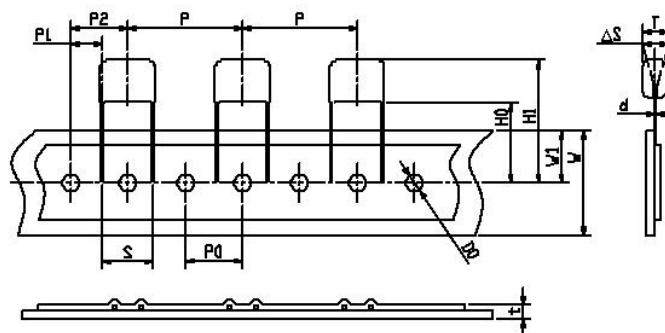
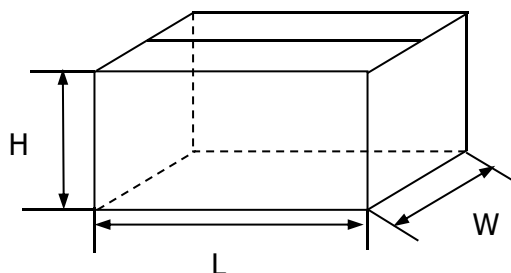


Fig.2

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		Fig1	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	3.85	2.6	7.7	5.2	±0.7	Leads position	H0	18.5	18.5	18.5	18.5	±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	6.35	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	ΔS	0	0	0	0	±0.2	Tape thickness	t	0.7	0.7	0.7	0.7	±0.2

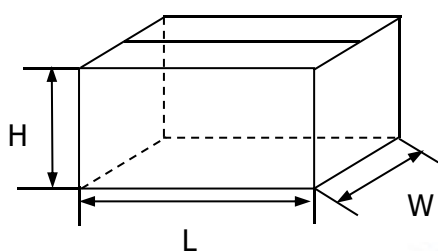
✧ Carton Size

**Out packaging box for bulk**

L: 480mm

W: 320mm

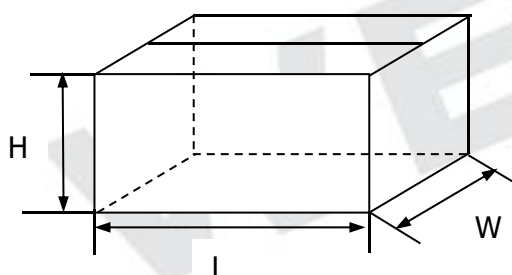
H: 280mm

**Inner packing box for bulk**

L: 280mm

W: 225mm

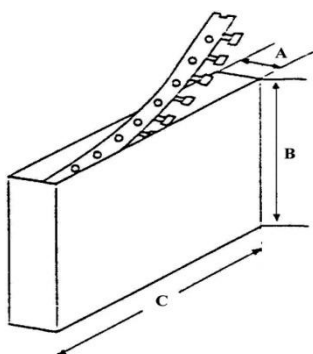
H: 120mm

**Out packaging box for taping**

L: 640mm

W: 360mm

H: 290mm

**Inner packing box for taping**

A: 50mm

B: 320mm

C: 330mm