Datasheet of Film Capacitor W42

Seller	
Approval	深圳市纬迪实业发展有限公司 工程部 承认书专用章
Date	2017-05-06
Ratify	Tao Wentao
Audit	Chen haiyong
Maker	Wen xin

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 Electonic Town, Zhenzhong Rd, Futian, Shenzhen, Guangdong, China.

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Resume of change record for datasheet

NO	Updated Date (Y/M/D)	Updated version	Updated content	Audit
1	2017-05-06	A/0	As-built	Chen Haiyong

Product Dimensions (unit : mm)

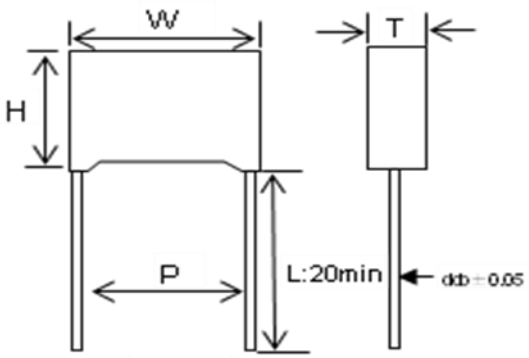


Fig.1

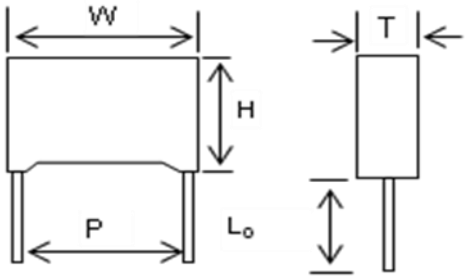


Fig.2

CUSTOMER'S PART NO. & WEIDY PART NO	CAP uF	R.V VAC	W ±0.5	H ±0.5	T ±0.5	P ±1.0	S ±0.5	dφ	L0 ±0.5	Fig
W42Q3104KM6L00C0W0	0.10	310	18.0	11.0	5.0	15.0	/	0.6	/	1
W42Q3224KM8L00B0W0	0.22	310	18.0	12.0	6.0	15.0	/	0.8	/	1
W42Q3474KM8L00D0W0	0.47	310	18.0	14.5	8.5	15.0	/	0.8	/	1

✧ 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	CBB81B	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	CBB21B	CBB20A	MKP25	CBB22	RCS	X2(E)
Code	W23	W24	W25	W26	W30	W31	W32	W33	W35	W36	W40	W41
Series	X2	Y2	X1	X1/440V	X1/760V	CL21B(E)	CBB21B(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	CBB13B	CBB62	RCP	CBB28	CL21(E)
Code	W65	W71	W72	W82	W84	W91	W92	W19	W62	W39	W28	W50
Series	CBB22(E)											
Code	W53											

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		120V	
3	1000V	1250V	1600V	2000V	2500V	3000V	4000V					1200V	
	P	Q	R	S	T	U	V	W	X	Y			
1	240V	300V	330V	440V	540V	600V							
2	275V	305V	350V	450V	550V								
3	280V	310V											

③ Rated capacitance value(Digit 6 to 8)

According to JIS

101=10x10^{1} pF=0.1nF 102=10x10^{2} pF=1.0nF= 0.001uF 103=10x10 ^{3}pF=10nF=0.01uF

104=10x10^{4} pF=100nF=0.1uF 105=10x10^{5} pF=1000nF=1uF 106=10x10^{6} 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)

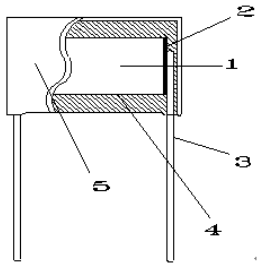
Lead	CP 0.5	CP 0.6	CP 0.7	CP 0.8	CU 1.0	CU 0.8	CU 0.7	CU 1.2	CU 1.0	CP 0.5	
code	5	6	7	8	1	9	4	A	C	2	

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

Code	Description
S	Straight lead , Cut lead L≤8MM
M	Straight lead , Cut lead 20MM > L > 8MM
L	Straight lead , Cut lead L≥20MM
W	Bend 90°
K	Bent lead L±0.5MM
Y	Bent lead L±0.3MM
T	Taping package

⑧ Internal use (Digit 13 ~ 18)

✧ Features

Product name	**Metallized Polypropylene Film Interference Suppression Capacitor (Class X2)**
Reference Standard	GB/T 2693 (IEC 60384-1) GB/T14472 (IEC 60384-14)
Construction	 1. Metallized polypropylene film 2. Metal spray 3. Lead wire 4. (UL94V-0) Flame retardant Epoxy resin coating 5. (UL94V-0) Flame retardant plastic box
Atmospheric conditions IEC 68-1	Standard atmospheric conditions (IEC 68-1-5.3) Temperature : 15℃ ~ 35℃ Humidity : 25% ~ 75% Air pressure : 86KPa ~ 106KPa Base condition: (IEC 68-1-5.1) Temperature : 20℃ Air pressure : 101.3KPa
Technology Specifications	Climatic category : 40/110/56 Capacitor series : X2 Operating Temperature : -40℃ ~ 110℃ Rated Voltage : 310VAC Capacitance Range : 0.001μF ~ 10.0μF Capacitance Tolerance : ±10% (K) Voltage Proof : Between two leads $4.3U_R$(DC) (5S) Voltage Applied Speed : 100V/S; Cut off current : 10mA Between Terminals to Case : 2120VAC Dissipation Factor : $0.0010\mu F \le C_R \le 0.47\mu F$ ≤0.1% (1kHz,20℃) $0.47\mu F < C_R \le 1.0\mu F$ ≤0.2% (1kHz,20℃) $1.0\mu F < C_R \leqslant 10\mu F$ ≤0.3% (1kHz,20℃) Insulation Resistance : ≥15000MΩ ; $C_R \leqslant 0.33\mu F$ ≥5000S ; $C_R > 0.33\mu F$ (20℃ , 100V,1min)
Terminal Strength IEC 68-2-21 GB 14472-4.3	Tension: Dia. (mm) / Tension 0.3 < d≤0.5 — 5N 0.5 < d≤0.8 — 10N 0.8 < d≤1.25 — 20N Bend: Dia. (mm) / Tension 0.3 < d≤0.5 — 2.5N 0.5 < d≤0.8 — 5N 0.8 < d≤1.25 — 10N Time duration : 10±1Sec. Bending for twice in two direction After above test, no visible damage.

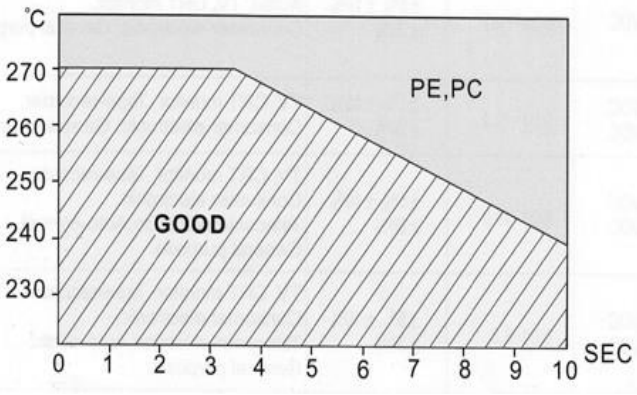
Solder ability IEC 68-2-20	Soldering temperature：235℃±5℃ Immersion duration：2.0s±0.5s Good Tinning		
Soldering heat IEC 68-2-20 GB 14472-4.4	Soldering temperature：260℃±5℃ Immersion duration：10s±1s Dip depth from the mounting surface 2+0/-0.5mm, using the thickness of 1.5mm ±0.5mm insulation shielding plate Capacitance change：Δ C/C ：≤ ± 5%		
Temperature Cycling IEC 68-2-14	Temperature:θ A = -40℃；θ B = +100℃ Time duration：30min ； Cycling times: five times Capacitance change：Δ C/C：≤ ± 5%		
Vibration IEC 68-2-6	Frequency：10～500Hz Time and direction: Each of the three directions for two hours, total duration about 6 hours Amplitude 0.75mm OR acceleration 98m/s2 （Taking the severity of lower） No visible damage and deterioration in appearance		
Bump IEC 68-2-29	Bump times：4000 次 Acceleration： 390m/s^2 Pulse duration：6ms No visible damage and deterioration in appearance		
Climatic Sequence	Dry heat IEC 68-2-2	Temperature：+110℃ Time duration：16hours	Final measurement No breakdown or flashover； No visible damage and deterioration in appearance and the marking shall be legible Capacitance change：Δ C/C：≤ ± 5% DF change：C_R≤1.0μF Δtan δ：≤ 0.8% C_R > 1.0μF Δtan δ：≤ 0.5% at 1 KHZ . Insulation Resistance ≥ 50% of the value before test
	Damp heat cycle	Test Db, Severity b, the first cycle	
	Cold IEC 68-2-1	Temperature：-40℃ Time duration：2hrs	
	Low Air pressure IEC 68-2-13	Temperature：15℃—35℃ Air Pressure：8.5KPa Time duration：1hr （apply UR at the last 1 minute.	

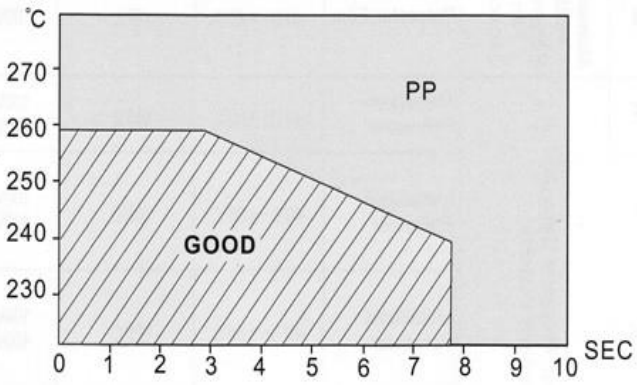
	Damp heat cycle IEC 68-2-30	Test Db, Severity b, the other cycles, apply UR for 1minute after the test finished.

Damp Heat Test IEC 68-2-3	Temperature：40℃±2℃ Humidity：93 +2/-3 % Time Duration：56days No visible damage and deterioration in appearance and the marking shall be legible Capacitance change：Δ C/C：≤ ± 5% DF Change:：C_R≤1.0μF Δtan δ：≤ 0.8% at 1 KHZ C_R > 1.0μF Δtan δ：≤ 0.5% at 1 KHZ Insulation Resistance： ≥ 50% of the value before test
Impulse Voltage	Voltage Setting：CR≤1.0μF UP = DC 2.5KV CR > 1.0μF UP = DC $2.5/\sqrt{C_R}$ KV Each capacitor applies same polar pulse for 24 times. The time interval between pulses should be less than 10s. The peak of pulse voltage is showed as above. If monitor reflects three continuous pulse waves which refer to self-healing breakup does not occur, we can stop applying pulse. The capacitor proves well. If there is no self-healing breakup for three times or more after capacitor is applied pulse for 24 times, the capacitor also proves well. But if the rated pulse wave occurs less than 3 times, the capacitor proves invalid. If wave occurs damped vibration, the peak value Upp should be less than 10% of peak pulse voltage. The capacitor should be no permanent breakup and flashover.
Durability	Temperature：+110℃ Voltage：1.25U_R(50Hz) Duration: 1000hrs, the voltage will be arise to 1000V (effective value) at intervals of 1 hour, duration 0.1s. The voltage should be applied to each capacitor though 47Ω ±5% resistance. No visible damage and deterioration in appearance and the marking shall be legible Capacitance change：Δ C/C：≤ ± 10% DF change：C_R≤1.0μF Δtan δ：≤ 0.8% at 1 KHZ C_R > 1.0μF Δtan δ：≤ 0.5% at 1 KHZ Insulation Resistance: ≥50% of the value before test

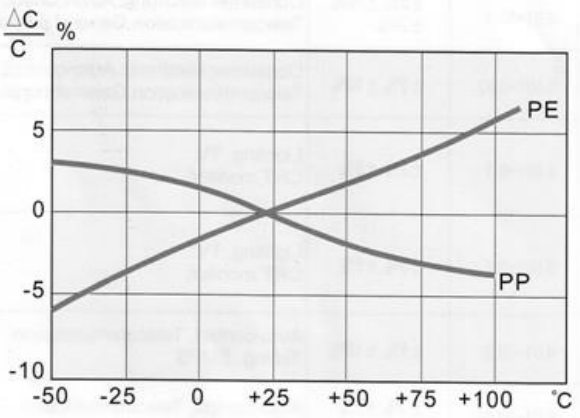
Charging & Discharging	Charging Times : 10000times Charging Voltage : $\sqrt{2}\,U_R$ Vd.c. Charging time : 0.5s Discharging time : 0.5s Charging resistance : $220/C_R\,\Omega$ or limit charging current on 1A C_R: rated capacitance (μF) Discharging resistance : $R=\frac{\sqrt{2}U_R}{C_R\times\frac{dU}{dt}}(\Omega)$ dU/dt(V/us) : 100V/μs Capacitance change : Δ C/C : ≤ ± 10% DF change : C_R≤1μF: ≤0.8% (10kHz) C_R>1μF: ≤0.5% (1kHz) Insulation Resistance: ≥50% of the value before test
Flame Resistance Test	Flame Resistance Class: B Flame Applying Times: 1 time Flame Applying Time: 250<V(mm^3)≤500 10s 500<V(mm^3)≤1750 20s V(mm^3)>1750 30s Burning time for rest flame: 30s Burn dropping or dropped hot part can not fire face tissues. No requirement of charge measurement.
Pyrophorisity Test	U=U_R Ui=2.5kV $^{+7}_{0}$ % Each sample should bear one storage capacitor for 20 times. Discharging storage charge for tested capacitor to Ui voltage. The interval between discharging should be 5S. During the test, U is applied on two terminal of capacitor and keep for 2 min at the last discharge unless melting fuse make the circuit open. Gauze which wind on capacitor should be not burned by flame. No requirement of current measurement.

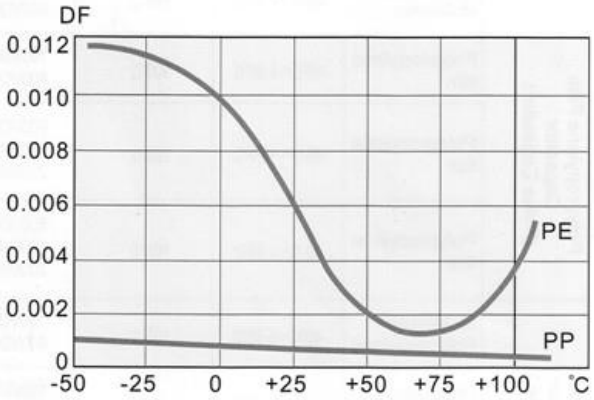
✧ Soldering Temperature VS Time

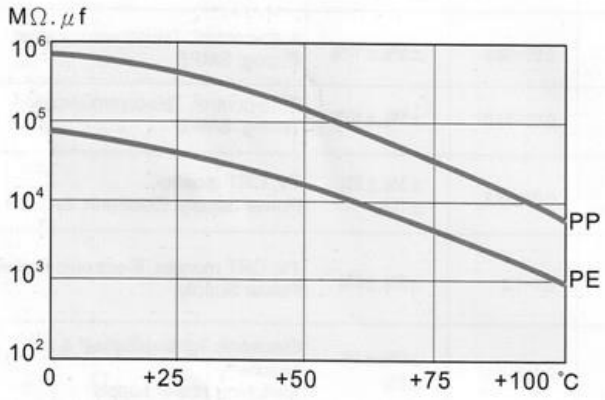




✧ **Temperature Characteristics**





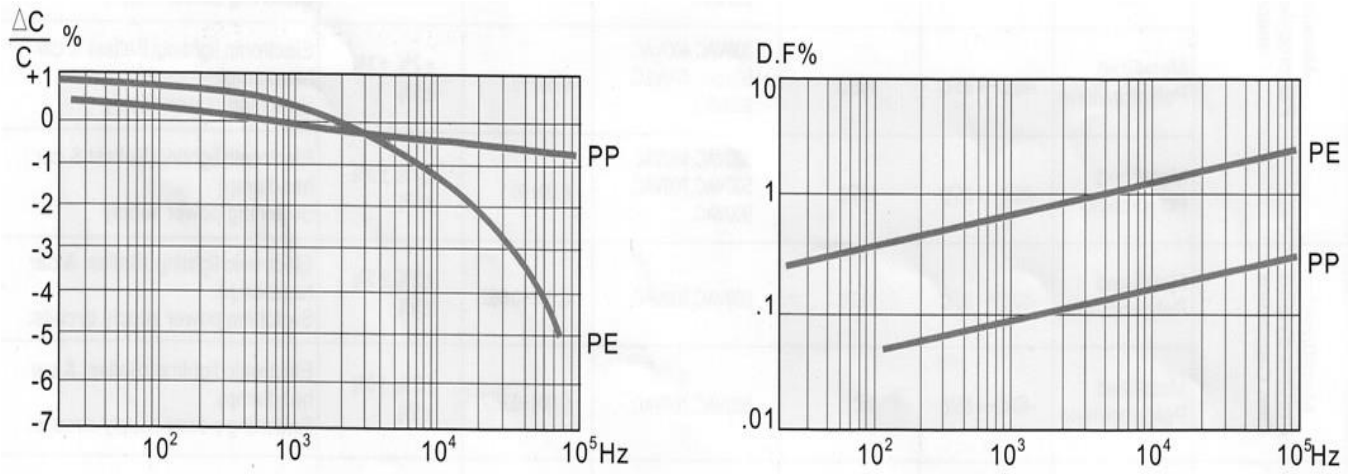


PP：聚丙烯薄膜（Polypropylene Film）

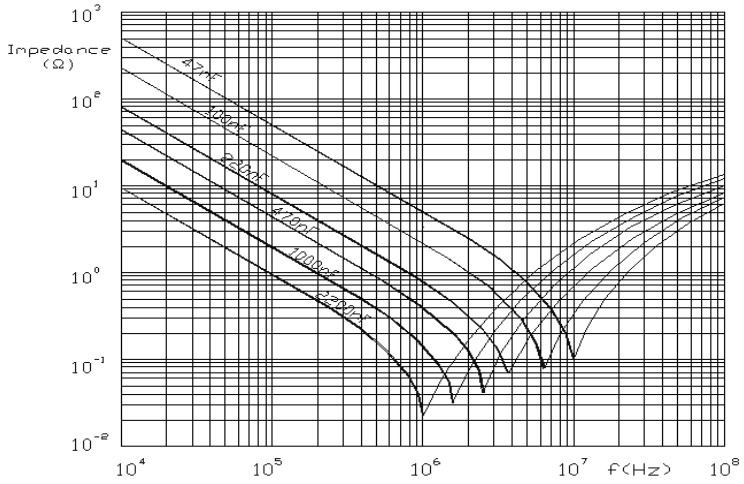
PE：聚酯薄膜（Polyester Film）

✧

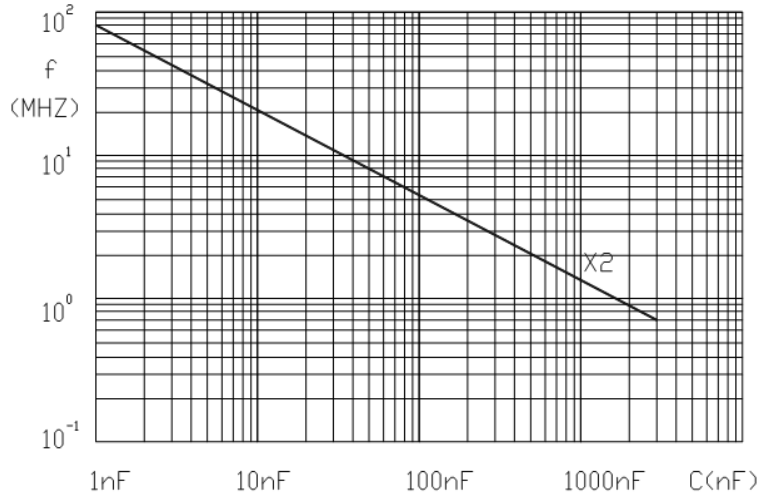
✧ Frequency Characteristics



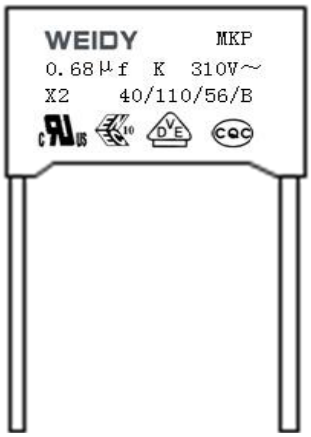
✧ Impedance and frequency curve



✧ Resonance Frequency and Capacitance Curve



✧ Marking Specification



Content	Description	Content	Description
WEIDY	Logo	40/110/56	Climate Catagory
MKP	Type		ENEN-VDE Approval
0.68 μ F	Capacitance		CQC approval
K	Capacitance Tolerance		UL, CUL Approval
X2	Serise	B	Flame Resistance Class
310V~	Rated Voltage		

✧Taping Drawing&Dimensions

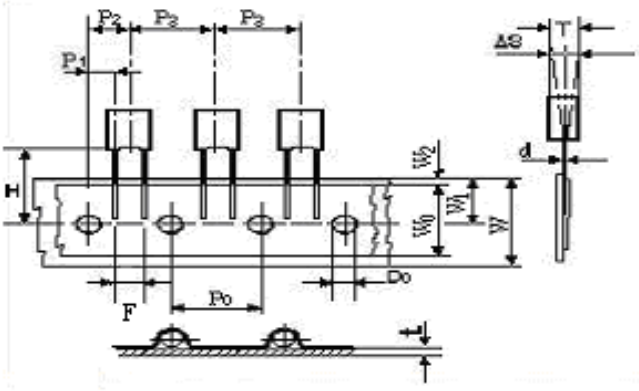


Fig.1

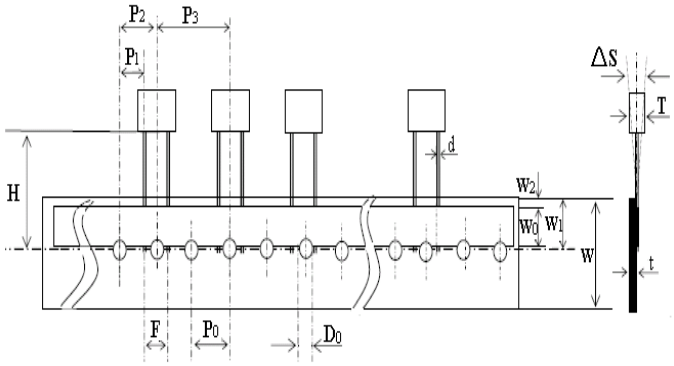
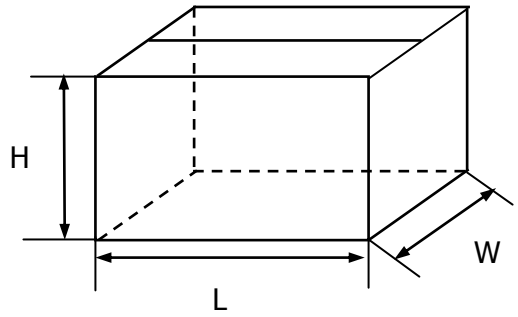


Fig.2

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	P3	12.7	12.7	25.4	25.4	±1.0	Tape width	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	Jack position	W1	9.0	9.0	9.0	9.0	±0.5
Leads position	P1	3.85	2.6	7.7	5.2	±0.7	Bending height	H0	16	16	16	16	±0.5
Pitch for forming type	F	5.0	7.5	10.0	15.0	±0.5	Taping Height	H	18.5	18.5	18.5	18.5	±0.5
Body position	P2	6.35	6.35	12.7	12.7	±1.3	Dia of hole	D0	4.0	4.0	4.0	4.0	±0.3
Product Inclination	Δ S	0	0	0	0	±0.2	Taping thickiness	t	0.7	0.7	0.7	0.7	±0.2

✧ Carton Size

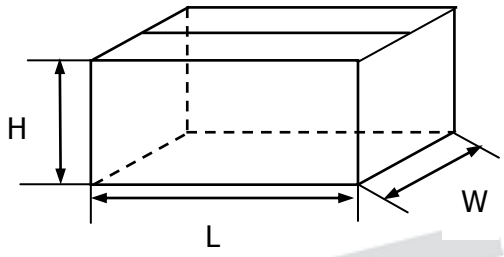


Out packing box for bulk

L: 480mm

W: 320mm

H: 280mm

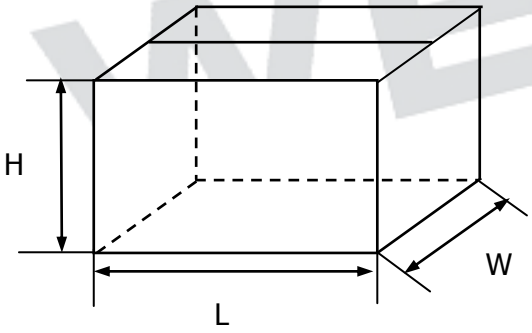


Inner packing box for bulk

L: 280mm

W: 225mm

H: 120mm

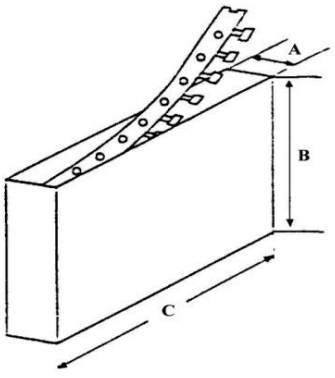


Out packaging box for taping

L: 640mm

W: 360mm

H: 290mm



Inner packing box for ammo-pack

A: 50mm

B: 320mm

C: 330mm