

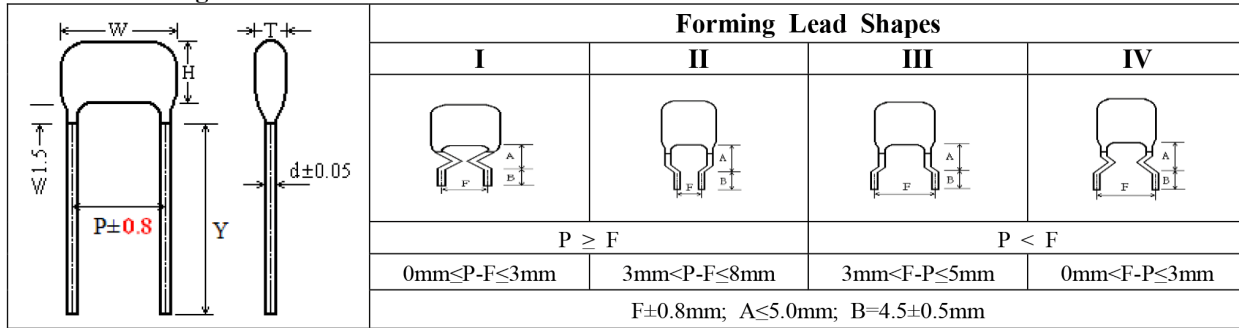


SPECIFICATION FOR APPROVAL

File No.: Q/FRK 0.GS.E.C21-E09

Product Name	Metallized polyester film capacitor
Product Type	C21(CL21 Series)
Product Code	
Customer	
Customer Code	
Issue Date	2014-10

SURGE COMPONENTS, INC.
95 E. JEFRYN BLVD.,
DEER PARK, NY 11729
TEL: 631-595-1818
WWW.SURGECOMPONENTS.COM

Metallized polyester film capacitor (Dipped)
■ Outline Drawing

■ Features

- Metallized polyester film, non-inductive wound construction
- Wide capacitance range, small size and light weight
- Long life due to self-healing effect
- Flame retardation epoxy resin powder coated

■ Typical Applications

- Suitable for blocking, by-pass and coupling of DC and signals to VHF range
- Widely used in filter and low pulse circuits

■ Specifications

Reference Standard	GB/T 7332 (IEC 60384-2)					
Climatic Category	55/105/21					
Rated temperature	85°C					
Operating temperature range	-55°C~105°C (+85°C to +105°C: decreasing factor 1.25% per °C for U _R)					
Rated Voltage	50/63V, 100V, 250V, 400V, 630V, 1 000V, 1 250V					
Capacitance Range	0.010μF ~ 10.0μF					
Capacitance Tolerance	±5%(J), ±10%(K), ±20%(M)					
Voltage Proof	1.6U _R (5s)					
Dissipation Factor	≤1.0% (20°C, 1kHz)					
Insulation Resistance	U _R ≤ 100V	≥3 750MΩ, C _N ≤ 0.33μF; ≥1 250s, C _N > 0.33μF			(20°C, 10V, 1min)	
	U _R > 100V	≥30 000MΩ, C _N ≤ 0.33μF; ≥10 000s, C _N > 0.33μF			(20°C, 100V, 1min)	
Maximum Pulse Rise Time(dV/dt) If the working voltage(U) is lower than the rated voltage(U _R),the capacitor can be worked at a higher dV/dt. In this case, the maximum allowed dV/dt is obtain by multiplying the right value with U _R /U.	U _R (V)	dV/dt (V/μs) for Pattern III				
		P=7.5	P=10.0	P=15.0	P=22.5	P=27.5
	50/63	7.5	6	3	2	--
	100	15	9	5	3	--
	250	30	20	12	8	5
	400	40	30	20	10	7
	630	--	40	25	12	10
	1 000	70	60	30	15	12
1 250	80	70	40	18	14	

■ Part number system

The 18 digits part number is formed as follow:

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

C	2	1															
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- Digit 1 to 3 Series code
 C21= CL21
- Digit 4 to 5 DC rated voltage
 1H=50V 1J=63V 2A=100V
 2E=250V 2G=400V 2J=630V
 3A=1000V 3B=1250V
- Digit 6 to 8 Rated capacitance value
 For example: 103=10×10³pF=0.01μF
- Digit 9 Capacitance tolerance
 J=±5%,K=±10%, M=±20%
- Digit 10 Pitch
 3=7.5mm 4=10.0mm 5=12.5mm
 6=15.0mm 8=20.0mm 9=22.5mm
 A=25.0mm B=27.5mm C=30.0mm
- Digit 11 Internal use
 A= Pattern III
- Digit 12 to 15 Lead form and packaging code
- Digit 16 to 18 Internal use

Table 1 Lead form and packaging code

Digit 12		Digit 13		Digit 14		Digit 15	
code	explanation	code	explanation	code	explanation	code	explanation
A	ammo-pack	2	F=5.0mm	1	kinked	A	each cap. between two consecutive holes P3=12.7mm,H=20.0mm (For pitch=5.0/7.5mm)
		3	F=7.5mm			E	
4	F=10.0mm	0	B=4.5mm (the length of B)			0	B Length tolerance ±0.5mm
6	F=15.0mm						
F	lead kinked	2	F=5.0mm	0	B=4.5mm (the length of B)	0	B Length tolerance ±0.5mm
Y	straight lead “Y” in the figure above	3	F=7.5mm				
		4	F=10.0mm				
		6	F=15.0mm				
		code	explanation	0	Length tolerance ±0.5mm		
		45	lead length 4.5mm				
		35	lead length 3.5mm				
		32	lead length 3.2mm				

Digit12-15 code “C000” means standard lead length (20mm ~ 30mm)

■ Dimensions (mm)

Small size

50Vdc (30Vac)/63Vdc (40Vac) #							100 Vdc (63Vac)							250Vdc(160Vac)						
C _N (μF)	W max	H max	T max	P	d	Part number	C _N (μF)	W max	H max	T max	P	d	Part number	C _N (μF)	W max	H max	T max	P	d	Part number
0.39	9.80	7.0	4.0	7.5	0.6	C211J394-3B****+++	0.27	9.80	7.0	4.0	7.5	0.6	C212A274-3B****+++	0.033	9.80	6.7	3.7	7.5	0.6	C212E333-3B****+++
0.47	9.80	7.7	4.1	7.5	0.6	C211J474-3B****+++	0.33	9.80	7.7	4.1	7.5	0.6	C212A334-3B****+++	0.039	9.80	6.9	3.9	7.5	0.6	C212E393-3B****+++
0.56	9.80	8.0	4.4	7.5	0.6	C211J564-3B****+++	0.39	9.80	8.0	4.3	7.5	0.6	C212A394-3B****+++	0.047	9.80	7.1	4.1	7.5	0.6	C212E473-3B****+++
0.68	9.80	8.3	4.7	7.5	0.6	C211J684-3B****+++	0.47	9.80	8.3	4.6	7.5	0.6	C212A474-3B****+++	0.056	9.80	7.4	4.4	7.5	0.6	C212E563-3B****+++
0.82	9.80	8.7	5.1	7.5	0.6	C211J824-3B****+++	0.56	9.80	8.6	5.0	7.5	0.6	C212A564-3B****+++	0.068	9.80	6.7	3.7	7.5	0.6	C212E683-3B****+++
1.0	12.3	8.4	4.8	10.0	0.6	C211J105-4B****+++	0.68	9.80	9.0	5.4	7.5	0.6	C212A684-3B****+++	0.082	9.80	7.0	4.0	7.5	0.6	C212E823-3B****+++
1.2	12.3	8.8	5.1	10.0	0.6	C211J125-4B****+++	0.82	12.3	8.7	5.0	10.0	0.6	C212A824-4B****+++	0.10	9.80	7.7	4.0	7.5	0.6	C212E104-3B****+++
1.5	12.3	9.3	5.6	10.0	0.6	C211J155-4B****+++	1.0	12.3	9.1	5.5	10.0	0.6	C212A105-4B****+++	0.12	9.80	7.9	4.3	7.5	0.6	C212E124-3B****+++
1.8	12.3	9.7	6.1	10.0	0.6	C211J185-4B****+++	1.2	12.3	9.5	5.9	10.0	0.6	C212A125-4B****+++	0.15	9.80	8.3	4.7	7.5	0.6	C212E154-3B****+++
2.2	17.5	9.6	5.9	15.0	0.6	C211J225-6B****+++	1.5	12.3	10.1	6.5	10.0	0.6	C212A155-4B****+++	0.18	9.80	8.6	5.0	7.5	0.6	C212E184-3B****+++
2.7	17.5	10.0	6.4	15.0	0.6	C211J275-6B****+++	1.8	17.5	11.4	5.7	15.0	0.6	C212A185-6B****+++	0.22	12.3	8.4	4.7	10.0	0.6	C212E224-4B****+++
3.3	17.5	10.6	6.9	15.0	0.6	C211J335-6B****+++	2.2	17.5	11.9	6.1	15.0	0.6	C212A225-6B****+++	0.27	12.3	8.8	5.1	10.0	0.6	C212E274-4B****+++
3.9	17.5	11.6	7.5	15.0	0.8	C211J395-6B****+++	2.7	17.5	12.4	6.7	15.0	0.6	C212A275-6B****+++	0.33	12.3	9.7	5.3	10.0	0.6	C212E334-4B****+++
4.7	25.2	11.9	6.2	22.5	0.8	C211J475-9B****+++	3.3	17.5	14.0	6.8	15.0	0.6	C212A335-6B****+++	0.39	17.5	9.6	5.1	15.0	0.6	C212E394-6B****+++
5.6	25.2	12.4	6.7	22.5	0.8	C211J565-9B****+++	3.9	17.5	14.6	7.3	15.0	0.8	C212A395-6B****+++	0.47	17.5	9.9	5.5	15.0	0.6	C212E474-6B****+++
6.8	25.2	13.0	7.3	22.5	0.8	C211J685-9B****+++	4.7	25.2	13.9	6.6	22.5	0.8	C212A475-9B****+++	0.56	17.5	10.8	5.6	15.0	0.6	C212E564-6B****+++
8.2	25.2	13.6	8.4	22.5	0.8	C211J825-9B****+++	5.6	25.2	14.4	7.2	22.5	0.8	C212A565-9B****+++	0.68	17.5	11.3	6.1	15.0	0.6	C212E684-6B****+++
10.0	25.2	14.4	9.2	22.5	0.8	C211J106-9B****+++	6.8	25.2	15.1	8.3	22.5	0.8	C212A685-9B****+++	0.82	17.5	12.3	6.6	15.0	0.6	C212E824-6B****+++
							8.2	25.2	16.9	8.5	22.5	0.8	C212A825-9B****+++	1.0	17.5	12.9	7.2	15.0	0.6	C212E105-6B****+++
							10.0	25.2	17.7	9.4	22.5	0.8	C212A106-9B****+++	1.2	17.5	13.5	7.8	15.0	0.8	C212E125-6B****+++
														1.5	17.5	15.3	8.5	15.0	0.8	C212E155-6B****+++
														1.8	17.5	16.0	9.2	15.0	0.8	C212E185-6B****+++
														2.2	25.2	15.2	8.4	22.5	0.8	C212E225-9B****+++
														2.7	25.2	15.5	8.7	22.5	0.8	C212E275-9B****+++
														3.3	25.2	16.9	10.1	22.5	0.8	C212E335-9B****+++
														3.9	25.2	18.6	10.3	22.5	0.8	C212E395-9B****+++
														4.7	25.2	19.6	11.3	22.5	0.8	C212E475-9B****+++
														5.6	30.2	19.3	10.9	27.5	0.8	C212E565-BB****+++
														6.8	30.2	20.4	12.1	27.5	0.8	C212E685-BB****+++
														8.2	30.2	21.6	13.2	27.5	0.8	C212E825-BB****+++
														10.0	30.2	23.0	14.6	27.5	0.8	C212E106-BB****+++

Note: 1. “-”=capacitance tolerance code, M=±20%,K=±10%,J=±5%

2. “****”=lead form and packing code (refer to table 1)

3. “#”when the rated voltage is 50Vdc,the digit 4-5 is 1H.

■ Dimensions(mm)

Small size

400Vdc (200Vac)							630Vdc(220Vac)@						
C _N (μF)	W _{max}	H _{max}	T _{max}	P	d	Part number	C _N (μF)	W _{max}	H _{max}	T _{max}	P	d	Part number
0.039	9.80	7.5	4.4	7.5	0.6	C212G393-3B****+++	0.010	9.80	6.8	3.8	7.5	0.6	C212J103-3B****+++
0.047	9.80	8.2	4.5	7.5	0.6	C212G473-3B****+++	0.012	9.80	7.4	3.8	7.5	0.6	C212J123-3B****+++
0.056	9.80	8.5	4.8	7.5	0.6	C212G563-3B****+++	0.015	9.80	7.7	4.1	7.5	0.6	C212J153-3B****+++
0.068	12.3	8.2	4.5	10.0	0.6	C212G683-4B****+++	0.018	9.80	7.9	4.3	7.5	0.6	C212J183-3B****+++
0.082	12.3	8.5	4.8	10.0	0.6	C212G823-4B****+++	0.022	9.80	8.2	4.6	7.5	0.6	C212J223-3B****+++
0.10	12.3	9.4	5.0	10.0	0.6	C212G104-4B****+++	0.027	9.80	8.6	5.0	7.5	0.6	C212J273-3B****+++
0.12	12.3	9.8	5.3	10.0	0.6	C212G124-4B****+++	0.033	12.3	8.3	4.7	10.0	0.6	C212J333-4B****+++
0.15	17.5	9.6	5.2	15.0	0.6	C212G154-6B****+++	0.039	12.3	8.6	4.9	10.0	0.6	C212J393-4B****+++
0.18	17.5	9.9	5.5	15.0	0.6	C212G184-6B****+++	0.047	12.3	9.0	5.3	10.0	0.6	C212J473-4B****+++
0.22	17.5	10.4	5.9	15.0	0.6	C212G224-6B****+++	0.056	12.3	9.3	5.7	10.0	0.6	C212J563-4B****+++
0.27	17.5	10.9	6.4	15.0	0.6	C212G274-6B****+++	0.068	12.3	9.8	6.1	10.0	0.6	C212J683-4B****+++
0.33	17.5	11.9	6.7	15.0	0.6	C212G334-6B****+++	0.082	12.3	10.3	6.6	10.0	0.6	C212J823-4B****+++
0.39	17.5	12.9	7.2	15.0	0.8	C212G394-6B****+++	0.10	17.5	10.9	5.7	15.0	0.6	C212J104-6B****+++
0.47	17.5	13.5	8.3	15.0	0.8	C212G474-6B****+++	0.12	17.5	11.3	6.1	15.0	0.6	C212J124-6B****+++
0.56	17.5	14.1	8.9	15.0	0.8	C212G564-6B****+++	0.15	17.5	11.9	6.6	15.0	0.6	C212J154-6B****+++
0.68	17.5	14.9	9.7	15.0	0.8	C212G684-6B****+++	0.18	17.5	12.9	7.2	15.0	0.8	C212J184-6B****+++
0.82	17.5	15.7	10.5	15.0	0.8	C212G824-6B****+++	0.22	17.5	13.5	8.3	15.0	0.8	C212J224-6B****+++
1.0	25.2	16.6	8.2	22.5	0.8	C212G105-9B****+++	0.27	17.5	14.3	9.0	15.0	0.8	C212J274-6B****+++
1.2	25.2	17.3	9.0	22.5	0.8	C212G125-9B****+++	0.33	17.5	15.1	9.8	15.0	0.8	C212J334-6B****+++
1.5	25.2	18.3	9.9	22.5	0.8	C212G155-9B****+++	0.39	17.5	15.8	10.6	15.0	0.8	C212J394-6B****+++
1.8	30.2	18.1	9.7	27.5	0.8	C212G185-BB****+++	0.47	25.2	15.6	8.8	22.5	0.8	C212J474-9B****+++
2.2	30.2	20.0	10.1	27.5	0.8	C212G225-BB****+++	0.56	25.2	16.3	9.5	22.5	0.8	C212J564-9B****+++
2.7	30.2	21.1	11.2	27.5	0.8	C212G275-BB****+++	0.68	25.2	17.2	10.4	22.5	0.8	C212J684-9B****+++
3.3	30.2	22.3	12.4	27.5	0.8	C212G335-BB****+++	0.82	25.2	18.1	11.3	22.5	0.8	C212J824-9B****+++
3.5	30.2	22.7	12.8	27.5	0.8	C212G355-BB****+++	1.0	30.2	18.9	10.5	27.5	0.8	C212J105-BB****+++
3.9	30.2	23.5	13.5	27.5	0.8	C212G395-BB****+++	1.2	30.2	19.8	11.5	27.5	0.8	C212J125-BB****+++
4.7	30.2	24.8	14.9	27.5	0.8	C212G475-BB****+++	1.5	30.2	21.2	12.8	27.5	0.8	C212J155-BB****+++
							1.8	30.2	22.4	14.0	27.5	0.8	C212J185-BB****+++
							2.2	30.2	23.9	15.5	27.5	0.8	C212J225-BB****+++

Note: 1. “-”=capacitance tolerance code, M=±20%,K=±10%,J=±5%

2. “****”=lead form and packing code (refer to table 1)

3. “@” Not suitable for across-the-line applications.Pls refer to Interference Suppression Capacitors.

■ Dimensions(mm)

Pattern III

50Vdc (30Vac)/63Vdc (40Vac) #							100 Vdc (63Vac)							250Vdc(160Vac)						
C _N (μF)	W max	H max	T max	P	d	Part number	C _N (μF)	W max	H max	T max	P	d	Part number	C _N (μF)	W max	H max	T max	P	d	Part number
0.12	9.8	7.0	4.0	7.5	0.6	C211J124-3A****++	0.12	9.8	7.0	4.0	7.5	0.6	C212A124-3A****++	0.010	9.8	6.5	3.5	7.5	0.6	C212E103-3A****++
0.15	9.8	7.8	4.1	7.5	0.6	C211J154-3A****++	0.15	9.8	7.8	4.1	7.5	0.6	C212A154-3A****++	0.012	9.8	6.7	3.7	7.5	0.6	C212E123-3A****++
0.18	9.8	7.5	3.9	7.5	0.6	C211J184-3A****++	0.18	9.8	7.5	3.9	7.5	0.6	C212A184-3A****++	0.015	9.8	7.4	3.8	7.5	0.6	C212E153-3A****++
0.22	9.8	7.8	4.1	7.5	0.6	C211J224-3A****++	0.22	9.8	7.8	4.1	7.5	0.6	C212A224-3A****++	0.018	9.8	7.6	4.0	7.5	0.6	C212E183-3A****++
0.27	9.8	8.1	4.5	7.5	0.6	C211J274-3A****++	0.27	9.8	8.1	4.5	7.5	0.6	C212A274-3A****++	0.022	9.8	7.4	3.8	7.5	0.6	C212E223-3A****++
0.33	9.8	7.7	4.1	7.5	0.6	C211J334-3A****++	0.33	9.8	8.5	4.8	7.5	0.6	C212A334-3A****++	0.027	9.8	7.7	4.1	7.5	0.6	C212E273-3A****++
0.39	9.8	8.0	4.3	7.5	0.6	C211J394-3A****++	0.39	9.8	8.8	5.2	7.5	0.6	C212A394-3A****++	0.033	9.8	7.3	3.7	7.5	0.6	C212E333-3A****++
0.47	9.8	8.3	4.6	7.5	0.6	C211J474-3A****++	0.47	9.8	9.2	5.6	7.5	0.6	C212A474-3A****++	0.039	9.8	7.5	3.9	7.5	0.6	C212E393-3A****++
0.56	9.8	8.6	5.0	7.5	0.6	C211J564-3A****++	0.56	12.3	8.8	5.2	10.0	0.6	C212A564-4A****++	0.047	9.8	7.8	4.1	7.5	0.6	C212E473-3A****++
0.68	9.8	9.0	5.4	7.5	0.6	C211J684-3A****++	0.68	12.3	9.3	5.6	10.0	0.6	C212A684-4A****++	0.056	9.8	8.0	4.4	7.5	0.6	C212E563-3A****++
0.82	12.3	8.6	5.0	10.0	0.6	C211J824-4A****++	0.82	12.3	9.7	6.1	10.0	0.6	C212A824-4A****++	0.068	9.8	7.5	3.9	7.5	0.6	C212E683-3A****++
1.0	12.3	9.0	5.4	10.0	0.6	C211J105-4A****++	1.0	12.3	10.3	6.6	10.0	0.6	C212A105-4A****++	0.082	9.8	7.8	4.1	7.5	0.6	C212E823-3A****++
1.2	12.3	9.5	5.9	10.0	0.6	C211J125-4A****++	1.2	12.3	10.9	7.2	10.0	0.6	C212A125-4A****++	0.10	9.8	8.1	4.4	7.5	0.6	C212E104-3A****++
1.5	12.3	10.1	6.5	10.0	0.6	C211J155-4A****++	1.5	12.3	11.6	8.0	10.0	0.6	C212A155-4A****++	0.12	9.8	8.4	4.8	7.5	0.6	C212E124-3A****++
1.8	12.3	10.7	7.1	10.0	0.6	C211J185-4A****++	1.8	17.5	13.6	6.3	15.0	0.6	C212A185-6A****++	0.15	9.8	8.8	5.2	7.5	0.6	C212E154-3A****++
2.2	17.5	11.4	6.1	15.0	0.6	C211J225-6A****++	2.2	17.5	14.2	6.9	15.0	0.8	C212A225-6A****++	0.18	12.3	8.9	4.5	10.0	0.6	C212E184-4A****++
2.7	17.5	11.9	6.7	15.0	0.6	C211J275-6A****++	2.7	17.5	14.9	7.6	15.0	0.8	C212A275-6A****++	0.22	12.3	9.3	4.8	10.0	0.6	C212E224-4A****++
3.3	17.5	12.5	7.3	15.0	0.6	C211J335-6A****++	3.3	17.5	15.7	8.4	15.0	0.8	C212A335-6A****++	0.27	12.3	9.7	5.3	10.0	0.6	C212E274-4A****++
3.9	17.5	13.6	7.9	15.0	0.8	C211J395-6A****++	3.9	17.5	16.4	9.1	15.0	0.8	C212A395-6A****++	0.33	12.3	10.7	5.5	10.0	0.6	C212E334-4A****++
4.7	25.2	14.4	7.6	22.5	0.8	C211J475-9A****++	4.7	25.2	17.0	8.1	22.5	0.8	C212A475-9A****++	0.39	17.5	10.4	5.2	15.0	0.6	C212E394-6A****++
5.6	25.2	14.9	7.7	22.5	0.8	C211J565-9A****++	5.6	25.2	17.7	8.8	22.5	0.8	C212A565-9A****++	0.47	17.5	10.8	5.6	15.0	0.6	C212E474-6A****++
6.8	25.2	15.6	8.3	22.5	0.8	C211J685-9A****++	6.8	25.2	18.5	10.2	22.5	0.8	C212A685-9A****++	0.56	17.5	12.3	5.5	15.0	0.6	C212E564-6A****++
8.2	25.2	16.4	9.6	22.5	0.8	C211J825-9A****++	8.2	25.2	19.5	11.1	22.5	0.8	C212A825-9A****++	0.68	17.5	12.8	6.0	15.0	0.6	C212E684-6A****++
10.0	25.2	17.2	10.5	22.5	0.8	C211J106-9A****++	10.0	25.2	21.5	11.6	22.5	0.8	C212A106-9A****++	0.82	17.5	13.8	6.5	15.0	0.6	C212E824-6A****++
														1.0	17.5	14.4	7.1	15.0	0.6	C212E105-6A****++
														1.2	17.5	15.0	7.7	15.0	0.8	C212E125-6A****++
														1.5	17.5	15.9	9.1	15.0	0.8	C212E155-6A****++
														1.8	17.5	16.2	9.9	15.0	0.8	C212E185-6A****++
														2.2	25.2	15.6	8.8	22.5	0.8	C212E225-9A****++
														2.7	25.2	16.5	9.7	22.5	0.8	C212E275-9A****++
														3.3	25.2	17.4	10.6	22.5	0.8	C212E335-9A****++
														3.9	25.2	19.2	10.9	22.5	0.8	C212E395-9A****++
														4.7	25.2	20.3	11.9	22.5	0.8	C212E475-9A****++
														5.6	30.2	20.4	12.1	27.5	0.8	C212E565-BA****++
														6.8	30.2	21.6	13.3	27.5	0.8	C212E685-BA****++
														8.2	30.2	22.9	14.5	27.5	0.8	C212E825-BA****++
														10.0	30.2	24.4	16.0	27.5	0.8	C212E106-BA****++

- Note: 1. “-”=capacitance tolerance code, M=±20%,K=±10%,J=±5%
 2. “****”=lead form and packing code (refer to table 1)
 3. “#”when the rated voltage is 50Vdc,the digit 4-5 is 1H.

■ Dimensions(mm)
Pattern III

400Vdc(200Vac)							630Vdc(220Vac)@						
C _N (μF)	W _{max}	H _{max}	T _{max}	P	d	Part number	C _N (μF)	W _{max}	H _{max}	T _{max}	P	d	Part number
0.010	9.8	6.9	3.9	7.5	0.6	C212G103-3A****+++	0.010	12.3	7.4	3.8	10.0	0.6	C212J103-4A****+++
0.012	9.8	7.1	4.1	7.5	0.6	C212G123-3A****+++	0.012	12.3	7.6	4.0	10.0	0.6	C212J123-4A****+++
0.015	9.8	7.5	4.4	7.5	0.6	C212G153-3A****+++	0.015	12.3	7.7	4.0	10.0	0.6	C212J153-4A****+++
0.018	9.8	7.3	3.7	7.5	0.6	C212G183-3A****+++	0.018	12.3	7.9	4.2	10.0	0.6	C212J183-4A****+++
0.022	9.8	7.5	3.9	7.5	0.6	C212G223-3A****+++	0.022	12.3	8.2	4.5	10.0	0.6	C212J223-4A****+++
0.027	9.8	7.8	4.2	7.5	0.6	C212G273-3A****+++	0.027	12.3	8.5	4.9	10.0	0.6	C212J273-4A****+++
0.033	9.8	8.1	4.5	7.5	0.6	C212G333-3A****+++	0.033	12.3	8.9	5.2	10.0	0.6	C212J333-4A****+++
0.039	9.8	8.2	4.6	7.5	0.6	C212G393-3A****+++	0.039	12.3	9.2	5.6	10.0	0.6	C212J393-4A****+++
0.047	9.8	8.6	4.9	7.5	0.6	C212G473-3A****+++	0.047	12.3	9.7	6.0	10.0	0.6	C212J473-4A****+++
0.056	12.3	8.8	4.3	10.0	0.6	C212G563-4A****+++	0.056	12.3	10.1	6.5	10.0	0.6	C212J563-4A****+++
0.068	12.3	9.1	4.7	10.0	0.6	C212G683-4A****+++	0.068	12.3	10.7	7.0	10.0	0.6	C212J683-4A****+++
0.082	12.3	9.4	5.0	10.0	0.6	C212G823-4A****+++	0.082	12.3	11.3	7.6	10.0	0.6	C212J823-4A****+++
0.10	12.3	9.9	5.4	10.0	0.6	C212G104-4A****+++	0.10	17.5	11.5	6.3	15.0	0.6	C212J104-6A****+++
0.12	12.3	10.3	5.9	10.0	0.6	C212G124-4A****+++	0.12	17.5	12.0	6.8	15.0	0.6	C212J124-6A****+++
0.15	17.5	10.6	5.4	15.0	0.6	C212G154-6A****+++	0.15	17.5	12.7	7.5	15.0	0.8	C212J154-6A****+++
0.18	17.5	11.0	5.8	15.0	0.6	C212G184-6A****+++	0.18	17.5	13.8	8.1	15.0	0.8	C212J184-6A****+++
0.22	17.5	11.5	6.3	15.0	0.6	C212G224-6A****+++	0.22	17.5	14.5	9.3	15.0	0.8	C212J224-6A****+++
0.27	17.5	12.0	6.8	15.0	0.6	C212G274-6A****+++	0.27	17.5	15.4	10.2	15.0	0.8	C212J274-6A****+++
0.33	17.5	12.7	7.4	15.0	0.6	C212G334-6A****+++	0.33	17.5	16.3	11.1	15.0	0.8	C212J334-6A****+++
0.39	17.5	13.7	8.0	15.0	0.8	C212G394-6A****+++	0.39	17.5	17.2	12.0	15.0	0.8	C212J394-6A****+++
0.47	17.5	14.4	9.2	15.0	0.8	C212G474-6A****+++	0.47	25.2	16.4	9.7	22.5	0.8	C212J474-9A****+++
0.56	17.5	15.1	9.9	15.0	0.8	C212G564-6A****+++	0.56	25.2	17.2	10.5	22.5	0.8	C212J564-9A****+++
0.68	17.5	16.0	10.8	15.0	0.8	C212G684-6A****+++	0.68	25.2	18.2	11.4	22.5	0.8	C212J684-9A****+++
0.82	17.5	17.0	11.8	15.0	0.8	C212G824-6A****+++	0.82	25.2	19.3	12.5	22.5	0.8	C212J824-9A****+++
1.0	25.2	17.5	9.1	22.5	0.8	C212G105-9A****+++	1.0	30.2	19.9	11.6	27.5	0.8	C212J105-BA****+++
1.2	25.2	18.3	9.9	22.5	0.8	C212G125-9A****+++	1.2	30.2	22.0	12.6	27.5	0.8	C212J125-BA****+++
1.5	25.2	19.4	11.0	22.5	0.8	C212G155-9A****+++	1.5	30.2	22.5	14.1	27.5	0.8	C212J155-BA****+++
1.8	30.2	19.1	10.8	27.5	0.8	C212G185-BA****+++	1.8	30.2	23.8	15.5	27.5	0.8	C212J185-BA****+++
2.2	30.2	21.2	11.3	27.5	0.8	C212G225-BA****+++	2.2	30.2	25.5	17.1	27.5	0.8	C212J225-BA****+++
2.7	30.2	22.4	12.5	27.5	0.8	C212G275-BA****+++							
3.3	30.2	23.8	13.9	27.5	0.8	C212G335-BA****+++							
3.9	30.2	25.1	15.1	27.5	0.8	C212G395-BA****+++							
4.7	30.2	26.6	16.7	27.5	0.8	C212G475-BA****+++							

- Note:** 1. “-”=capacitance tolerance code, M=±20%,K=±10%,J=±5%
 2. “****”=lead form and packing code (refer to table 1)
 3. “@” Not suitable for across-the-line applications.Pls refer to Interference Suppression Capacitors.

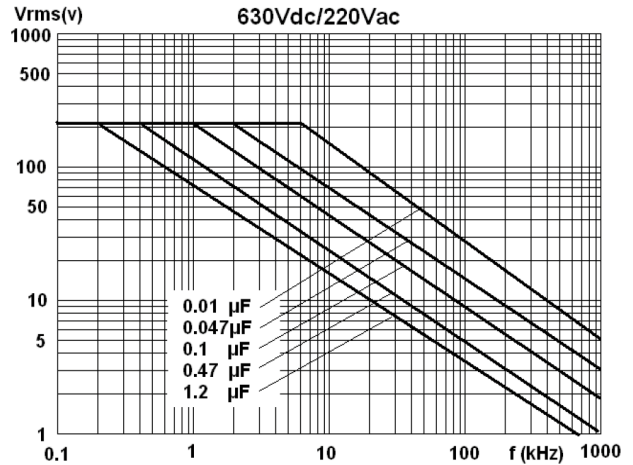
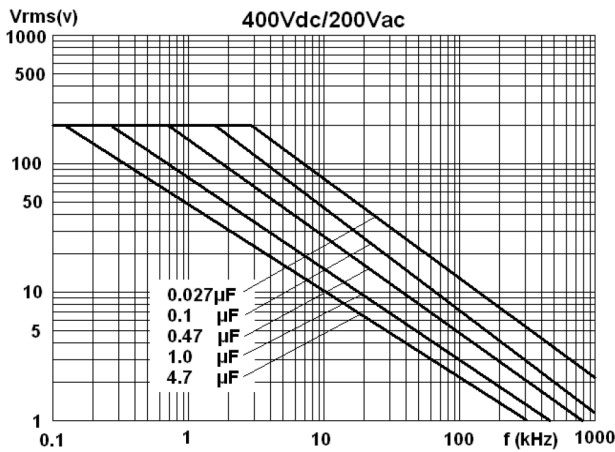
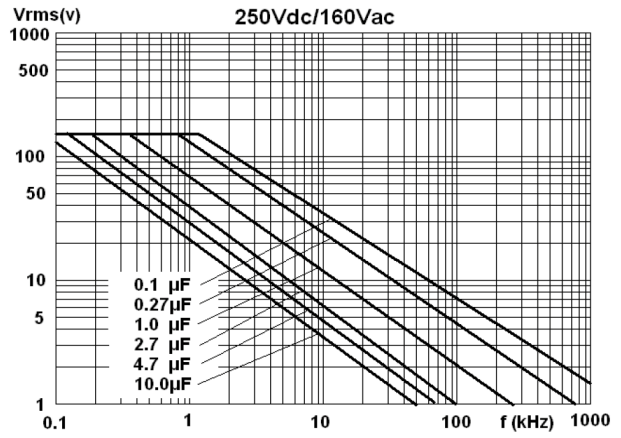
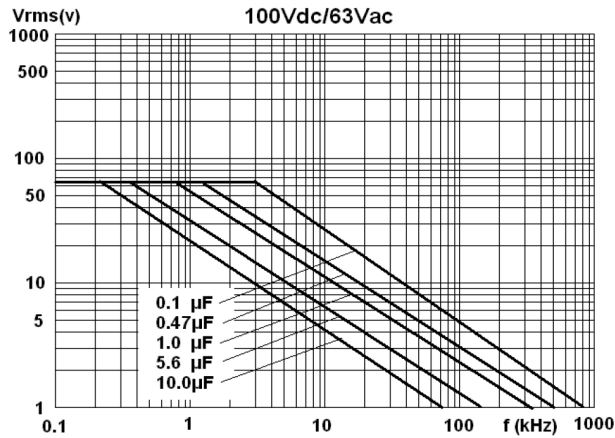
■ Dimensions(mm)

Pattern III

1 000Vdc(250Vac)@							1 250Vdc(250Vac)@						
C _N (μF)	W _{max}	H _{max}	T _{max}	P	d	Part number	C _N (μF)	W _{max}	H _{max}	T _{max}	P	d	Part number
0.0010	9.8	8.5	4.0	7.5	0.6	C213A102-3A*****	0.0010	9.8	8.5	4.0	7.5	0.6	C213B102-3A*****
0.0012	9.8	8.7	4.3	7.5	0.6	C213A122-3A*****	0.0012	9.8	8.7	4.3	7.5	0.6	C213B122-3A*****
0.0015	9.8	8.5	4.1	7.5	0.6	C213A152-3A*****	0.0015	9.8	8.5	4.1	7.5	0.6	C213B152-3A*****
0.0018	9.8	8.7	4.3	7.5	0.6	C213A182-3A*****	0.0018	9.8	8.7	4.3	7.5	0.6	C213B182-3A*****
0.0022	9.8	8.5	4.1	7.5	0.6	C213A222-3A*****	0.0022	9.8	8.5	4.1	7.5	0.6	C213B222-3A*****
0.0027	9.8	8.8	4.4	7.5	0.6	C213A272-3A*****	0.0027	9.8	8.8	4.4	7.5	0.6	C213B272-3A*****
0.0033	9.8	8.7	4.3	7.5	0.6	C213A332-3A*****	0.0033	9.8	9.1	4.7	7.5	0.6	C213B332-3A*****
0.0039	9.8	8.9	4.5	7.5	0.6	C213A392-3A*****	0.0039	9.8	9.4	5.0	7.5	0.6	C213B392-3A*****
0.0047	9.8	9.3	4.8	7.5	0.6	C213A472-3A*****	0.0047	12.3	8.7	4.2	10.0	0.6	C213B472-4A*****
0.0056	12.3	8.5	4.1	10.0	0.6	C213A562-4A*****	0.0056	12.3	8.9	4.5	10.0	0.6	C213B562-4A*****
0.0068	12.3	8.8	4.4	10.0	0.6	C213A682-4A*****	0.0068	12.3	9.2	4.8	10.0	0.6	C213B682-4A*****
0.0082	12.3	9.1	4.7	10.0	0.6	C213A822-4A*****	0.0082	17.5	9.0	4.6	15.0	0.6	C213B822-6A*****
0.010	12.3	9.4	5.0	10.0	0.6	C213A103-4A*****	0.010	17.5	9.4	5.0	15.0	0.6	C213B103-6A*****
0.012	12.3	9.8	5.4	10.0	0.6	C213A123-4A*****	0.012	17.5	9.1	4.7	15.0	0.6	C213B123-6A*****
0.015	12.3	10.8	5.6	10.0	0.6	C213A153-4A*****	0.015	17.5	9.5	5.1	15.0	0.6	C213B153-6A*****
0.018	12.3	11.3	6.1	10.0	0.6	C213A183-4A*****	0.018	17.5	9.9	5.4	15.0	0.6	C213B183-6A*****
0.022	12.3	11.9	6.7	10.0	0.6	C213A223-4A*****	0.022	17.5	10.3	5.9	15.0	0.6	C213B223-6A*****
0.027	17.5	11.8	5.0	15.0	0.6	C213A273-6A*****	0.027	25.2	9.7	5.2	22.5	0.6	C213B273-9A*****
0.033	17.5	12.3	5.5	15.0	0.6	C213A333-6A*****	0.033	25.2	10.1	5.7	22.5	0.6	C213B333-9A*****
0.039	17.5	12.7	5.9	15.0	0.6	C213A393-6A*****	0.039	25.2	10.5	6.1	22.5	0.8	C213B393-9A*****
0.047	17.5	13.2	6.5	15.0	0.8	C213A473-6A*****	0.047	25.2	11.0	6.6	22.5	0.8	C213B473-9A*****
0.056	17.5	13.8	7.0	15.0	0.8	C213A563-6A*****	0.056	30.2	11.4	6.2	27.5	0.8	C213B563-BA*****
0.068	17.5	14.5	7.7	15.0	0.8	C213A683-6A*****	0.068	30.2	12.0	6.7	27.5	0.8	C213B683-BA*****
0.082	17.5	15.2	8.5	15.0	0.8	C213A823-6A*****	0.082	30.2	12.6	7.3	27.5	0.8	C213B823-BA*****
0.10	17.5	16.6	9.7	15.0	0.8	C213A104-6A*****	0.10	30.2	14.8	7.8	27.5	0.8	C213B104-BA*****
0.12	25.2	15.3	8.3	22.5	0.8	C213A124-9A*****	0.12	30.2	15.4	8.5	27.5	0.8	C213B124-BA*****
0.15	25.2	16.2	9.2	22.5	0.8	C213A154-9A*****	0.15	30.2	16.4	9.4	27.5	0.8	C213B154-BA*****
0.18	25.2	17.1	10.1	22.5	0.8	C213A184-9A*****	0.18	30.2	18.3	9.7	27.5	0.8	C213B184-BA*****
0.22	25.2	18.1	11.1	22.5	0.8	C213A224-9A*****	0.22	30.2	19.3	10.7	27.5	0.8	C213B224-BA*****
0.27	25.2	20.2	11.7	22.5	0.8	C213A274-9A*****							
0.33	30.2	20.1	11.6	27.5	0.8	C213A334-BA*****							
0.39	30.2	21.2	12.6	27.5	0.8	C213A394-BA*****							

- Note: 1. “-”=capacitance tolerance code, M=±20%,K=±10%,J=±5%
 2. “*****”=lead form and packing code (refer to table 1)
 3. “@” Not suitable for across-the-line applications.Pls refer to Interference Suppression Capacitors.

■ MAX. VOLTAGE(Vr.m.s) VERSUS FREQUENCY



Note: sinusoidal wave-form, environment temperature $\leq 85^{\circ}\text{C}$, internal temperature rise $\Delta T = 15^{\circ}\text{C}$, p (pitch) in mm.

■ Test Method And Performance

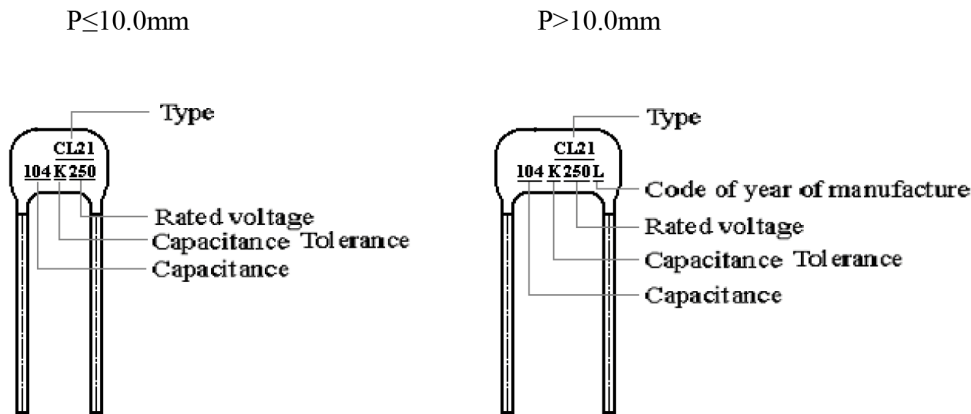
No.	Item	Performance	Test method (IEC60384-2)
1	Solderability	Good quality of tinning	Solder temperature: 245°C±5°C Immersion time: 2.0s±0.5s
2	Initial measurement	Capacitance Tgδ: 1kHz, C>1.0μF 10kHz, C≤1.0μF	
	Terminal strength	There shall be no visible damage	Ref. item 4.3 Tension: 0.6≤φd≤0.8mm, 10N φd=1.0mm, 20N Bend: 0.6≤φd≤0.8mm, 5N φd=1.0mm, 10N The terminals shall be bent 2 times in each direction.
	Resistance to solder heat	There shall be no visible damage	Solder temperature: 260°C±5°C Immersion time: 10s±1s
	Final measurement	ΔC/C ≤±2%(relative to the initial value) Increase of tgδ: ≤0.005 (10kHz, C≤1.0μF) ≤0.003 (1kHz, C>1.0μF)	
3	Initial measurement	Capacitance Tgδ: 1kHz, C>1.0μF 10kHz, C≤1.0μF	
	Rapid change of temperature	There shall be no evidence of deterioration.	θ _A =-55°C, θ _B =+85°C 5 cycles, Duration: t=30min
	Vibration	There shall be no evidence of deterioration.	Amplitude 0.75mm or acceleration 98m/s ² (whichever is the smaller severity), f: 10Hz to 500Hz. Three directions, 2h for each direction, total 6h.
	Bump	There shall be no evidence of deterioration.	4 000 times, Acceleration: 390m/s ² , Pulse duration, 6ms
	Final measurement	ΔC/C ≤±5%(relative to the initial value) Increase of tgδ: ≤0.003 (10kHz, C≤1.0μF) ≤0.002 (1kHz, C>1.0μF) IR: ≥ 50% of the rated value	
4	climate sequence	Initial measurement	Capacitance Tgδ: 1kHz, C>1.0μF 10kHz, C≤1.0μF
		Dry heat	+85°C, 16h
		Damp heat, Cyclic	Test Db, Severity: b, the first cycle
		Cold	-55°C, 2h
		Low air pressure	There shall be no permanent breakdown, flashover or other harmful deformation when applying U _R at the last 1 minute. 15°C~35°C, 8.5kPa, 1h,
		Damp heat, cyclic other	Test Db, Severity b, the other cycles, Applying U _R for 1 minute after the test finished.

No.	Item		Performance	Test method (IEC60384-2)
4	climate sequence (continue)	Final measurement	There shall be no evidence of deterioration and the marking shall be legible. $\Delta C/C \leq \pm 5\%$ (relative to the initial value) Increase of $\text{tg}\delta$: ≤ 0.005 (10kHz, $C \leq 1.0\mu\text{F}$) ≤ 0.003 (1kHz, $C > 1.0\mu\text{F}$) IR: $\geq 50\%$ of the rated value	
5	Damp heat steady state		There shall be no evidence of deterioration and the marking shall be legible. $\Delta C/C \leq \pm 5\%$ (relative to the initial value) Increase of $\text{tg}\delta \leq 0.005$ IR: $\geq 50\%$ of the rated value	Temperature: $40^\circ\text{C} \pm 2^\circ\text{C}$ Humidity: $93 \pm 2\% \text{RH}$ Duration: 21 days
6	Endurance		$\Delta C/C \leq \pm 8\%$ (relative to the initial value) Increase of $\text{tg}\delta$: ≤ 0.003 (10kHz, $C \leq 1.0\mu\text{F}$) ≤ 0.002 (1kHz, $C > 1.0\mu\text{F}$) IR: $\geq 50\%$ of the rated value	Temperature: $+85^\circ\text{C}$ Voltage: $1.25 \times U_R$ Duration: 2 000h
7	Charging and discharging		$\Delta C/C \leq \pm 5\%$ (relative to the initial value) Increase of $\text{tg}\delta$: ≤ 0.003 (10kHz, $C \leq 1.0\mu\text{F}$) ≤ 0.002 (1kHz, $C > 1.0\mu\text{F}$) IR: $\geq 50\%$ of the rated value	Times: 10 000 Duration of charging: 0.5s Duration of discharging: 0.5s Charging voltage: rated voltage Charging resistance: $220/C_N(\Omega)$ Discharging resistance: $R = 10/C_N(\Omega)$ or 20Ω (whichever is the greater) C_N : rated capacitance (μF)

■ **Quality ensuring test (before shipment):**

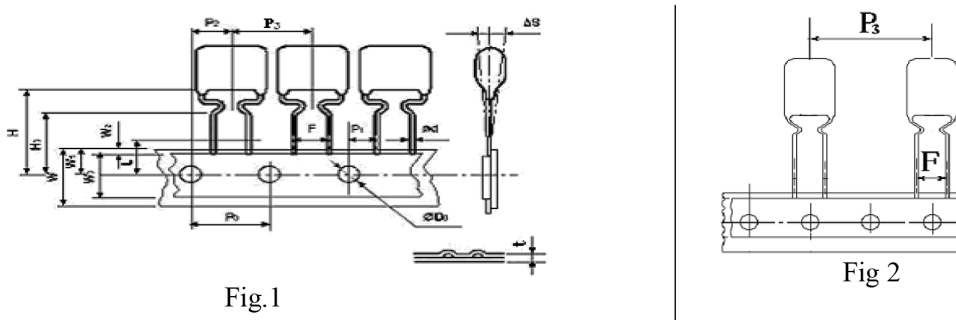
Inspection item (each batch)	Inspection level (GB 2828)	
	IL	AQL
Appearance inspection	S-4	1.5%
Dimensions		
Capacitance	II	0.65%
Tangent of the loss angle		
Dielectric strength		
Insulation resistance		
Solderability	S-3	2.5%

■ Marking



■ Taping for dipped-type capacitor

▲ Outline Drawing



▲ Taping Dimensions(mm)

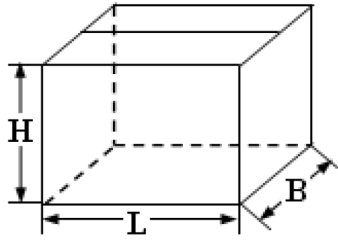
Technology index title	Code	Dimensions (mm)				Tolerance
		P=5.0	P=7.5	P=10.0	P=15.0	
Taping type	—	Fig 1	Fig 1	Fig 2	Fig 2	—
Part number Digit12-15	Ammo-pack	A21A	A31A	A41E	A61E	
Taping pitch	P ₃	12.7	12.7	25.4	25.4	±1.0
Feed hole pitch	P ₀	12.7	12.7	12.7	12.7	±0.3
Center of wire	P ₁	3.85	2.60	7.7	5.2	±0.7
Center of body	P ₂	6.35	6.35	12.7	12.7	±1.3
Pitch of taping wire	F**	5.0	7.5	10.0	15.0	+0.8 -0.2
Component alignment	ΔS	0	0	0	0	±2.0
Height of crangle from tape center	H	20.0	20.0	20.0	20.0	±1.0
Height of component from tape center	H ₀	16.0	16.0	16.0	16.0	±0.5
Carrier tape width	W	18.0	18.0	18.0	18.0	+1.0 -0.5
Hold down tape width	W ₀	10min	10min	10min	10min	—
Hole position	W ₁	9.0	9.0	9.0	9.0	+0.75 -0.5
Hold down tape position	W ₂	3max	3max	3max	3max	—
Feed hole dia.	D ₀	4.0	4.0	4.0	4.0	±0.3
Tape thickness	t	0.7	0.7	0.7	0.7	±0.2

Note: * P₀=15mm is also available;

** F can be other lead spacing;

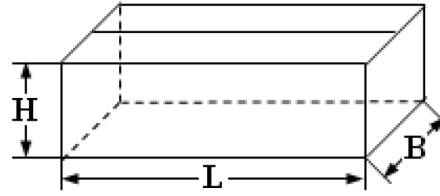
■ Packing box sizes(mm)

1. Out packing box for bulk



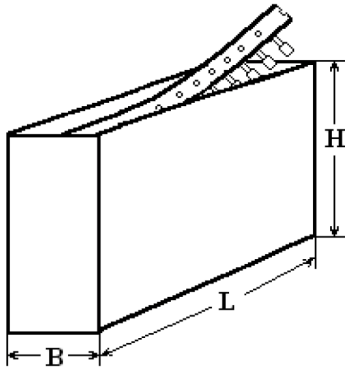
L:375±5
B:375±5
H:265±5

2. Inner packing box for bulk



L:355±3
B:175±3
H:118±3

3. Box sizes for Ammo-pack



L:330±3
B:48±3
H:260±3