



SPECIFICATION FOR APPROVAL

File No.: Q/FRK 0.GS.E.C38-C13

Product Name Snubber capacitor for IGBT (Lug terminals)
Product Type: C38
Product Code
Customer
Customer Code
Issue Date 2024-06

Xiamen Faratronic Co. Ltd.			Approved by Customer
Drafted	Checked	Approved	
			



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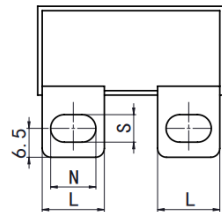
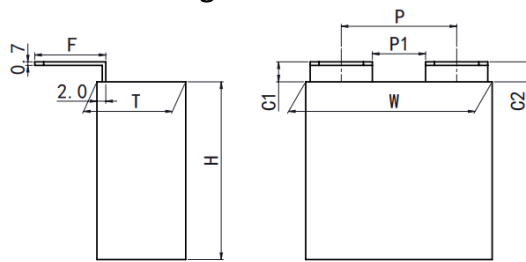
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Version history

Current version	Date	Author	Change description

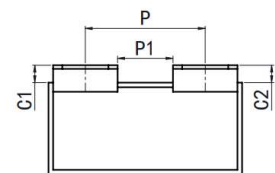
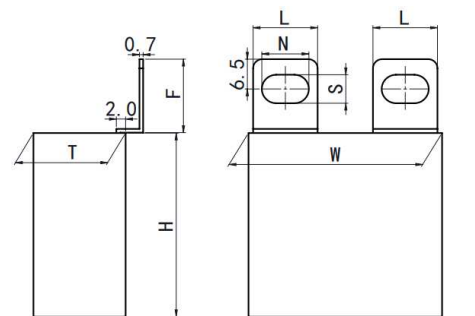
Snubber capacitor for IGBT (Lug terminals)

■ Outline Drawing

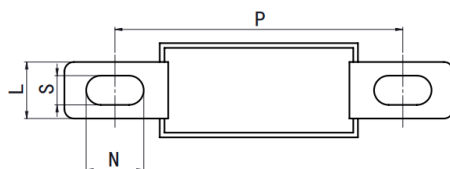
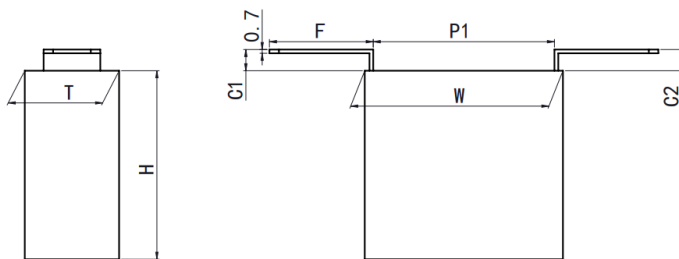


$L \times F \times N \times S = 14.0 \times 16.0 \times 10.2 \times 6.2$

Style 1



Style 2

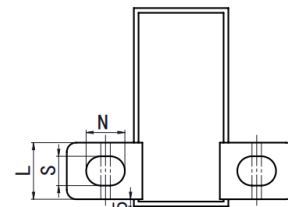
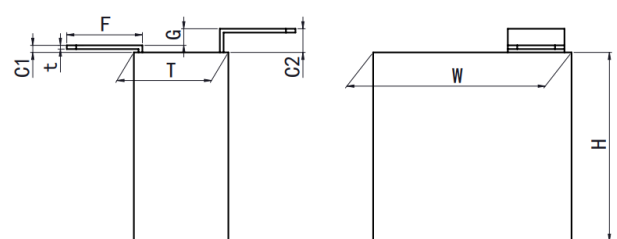


$L \times F \times N \times S = 14.0 \times 22.0 \times 11.2 \times 6.2$

or

$L \times F \times N \times S = 12.0 \times 22.0 \times 11.2 \times 6.2$

Style 3



$L \times F \times N \times S = 12.0 \times 16.0 \times 8.2 \times 6.2$

$G = 3.5$

Style 4

■ Features

- Widely used in high voltage, high frequency circuit
- Low loss and small inherent temperature rise
- Excellent active and passive flame resistant circuit
- Especially designed as snubber capacitor for IGBT

■ Safety Approvals

●		UL	UL 810 (construction only), Max . 5000Vdc, 90°C File No. : E256238, CCN: CZDS2
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■ Specifications

Reference Standard	GB/T17702, IEC 61071
Climatic Category	40/85/56
Operating temperature range (Max.temperature of case surface)	-40°C ~105°C (+85°C to +105°C: decreasing factor 1.35% per °C for U _R)
Rated Voltage	630Vdc~3 000Vdc
Capacitance Range	0.047μF~9.0μF
Capacitance Tolerance	J(±5%), K (±10%)
Voltage Proof	1.6U _N (10s)
Dissipation Factor	≤5×10 ⁻⁴ (1kHz, 20°C)
Insulation Resistance	IR≥100 000MΩ C _N ≤0.33μF IR × C _N ≥30 000s C _N >0.33μF (20°C, 100V, 1min)
Expected lifetime	≥100 000hrs @ U _N , Θ _{hs} =70°C

■ Part number system

The 15 digits part number is formed as follow:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
C	3	8												

Digit 1 to 3 Series code

C38

Digit 4 to 5 D.C. rated voltage

2J=630V, 1V=700V, 1W=850V, 3A=1000V, 3L=1200V,
7M=1700V, 3C=1600V, 3D=2000V, 3E=2500V, 4Q=3000V

Digit 6 to 8 Rated capacitance value

For example: 105=10×10⁵ pF= 1.0μF

Digit 9 Capacitance tolerance

J=±5%, K=±10%

Digit 10 Distance tolerances

Refer to table 1

Digit 11 Internal use

Digit 12 Width of case

1=37mm 2=42mm 3=57mm

Digit 13 to 15 Terminals code

Refer to table 2

Table 1.1 Selection for distance of hole for fixing

unit: mm

D.C. rated voltage	Style of solder slice	Width of case	Distance of hole fixing		Distance between solder slices
		W	P	Code	P1
630Vdc 700Vdc 850Vdc 1 000Vdc	Style 1 or Style 2	37/42	17~25	B	7
			22~30	C	12
		57	30~38	D	20
			35~43	E	25
	Style 3	37	52~62	K	33
		42	57~67	L	38
		57	70~80	7	51
1 200Vdc 1 600Vdc 1 700Vdc 2 000Vdc 2 500Vdc 3 000Vdc	Style 1 or Style 2	37/42	16~24	1	6
			21~29	2	11
		57	31~39	3	21
			36~44	4	26
	Style 3	37	51~61	5	32
		42	56~66	6	37
		57	71~81	J	52

Table 1.2 Selecting for distance of hole for fixing.

unit: mm

D.C. rated voltage	Style of solder slice	Thickness of case	Distance of hole for fixing		The distance of solder slice
		T	P	Code	P1
630Vdc ~ 3000Vdc	Style 4	19	30~34	F	15
		25	36~40	G	21
		30	41~45	H	26

Note: Whether or not the forth style of solder slice is valid, must be designed on request of customer.

Table 2 Terminals code

unit: mm

Digit 13			Digit 14		Digit 15		Note (Case dimension of T)
Height for C			Style of solder slice		Size of solder slice		
Code	C1	C2	Code	Style	Code	L×F×N×S	
0	(C1=C2)<3		1	Style 1	1	14.0×16.0×10.2×6.2	
1	C1=C2=6		2	Style 2			
			3	Style 3	2	14.0×22.0×11.2×6.2	
					6	12.0×22.0×11.2×6.2	

Note: The size of C1 and C2 can be discussed according to customer's needs.

■ Dimensions (mm)

630Vdc/700Vdc(420Vac)*									
C _N (μF)	W ±1.0	H ±1.0	T ±1.0	dV/dt (V/μs)	Î (A)	ESR @100kHz (mΩ)	L _s (nH)	I _{max} 100kHz@70°C (A)	Part number
0.68	37.0	25.0	15.0	900	612	5.0	23	9	C381V684-*01***
1.0	37.0	30.0	16.0	900	900	5.0	23	12	C381V105-*01***
1.2	37.0	30.0	16.0	900	1 080	4.5	23	14	C381V125-*01***
1.5	37.0	34.0	20.0	900	1 350	4.5	23	17	C381V155-*01***
1.8	37.0	34.0	20.0	900	1 620	4.5	23	18	C381V185-*01***
2.0	42.0	40.0	20.0	600	1 200	4.0	29	18	C381V205-*02***
2.2	42.0	40.0	20.0	600	1 320	4.0	29	18.5	C381V225-*02***
2.5	42.0	40.0	20.0	600	1 500	4.0	29	19	C381V255-*02***
3.0	42.0	44.0	24.0	600	1 800	4.0	29	20	C381V305-*02***
3.3	42.0	44.0	24.0	600	1 980	3.5	29	20	C381V335-*02***
4.0	42.0	44.0	24.0	600	2 400	3.5	29	21	C381V405-*02***
4.7	42.0	45.0	30.0	600	2 820	3.5	29	23	C381V475-*02***
5.0	42.0	45.0	30.0	600	3 000	3.0	29	23.5	C381V505-*02***
6.0	42.0	43.0	42.0	600	3 600	3.0	29	25	C381V605-*02***
6.5	42.0	43.0	42.0	600	3 900	3.0	29	26	C381V655-*02***
6.5	57.0	45.0	30.0	360	2 340	2.5	33	24	C381V655-*03***
7.0	57.0	45.0	30.0	360	2 520	2.5	33	25	C381V705-*03***
8.0	57.0	50.0	35.0	360	2 880	2.5	33	27	C381V805-*03***
9.0	57.0	50.0	35.0	360	3 240	2.5	33	29	C381V905-*03***

850Vdc(450Vac)									
C _N (μF)	W ±1.0	H ±1.0	T ±1.0	dV/dt (V/μs)	Î (A)	ESR @100kHz (mΩ)	L _s (nH)	I _{max} 100kHz@70°C (A)	Part number
0.47	37.0	25.0	15.0	1 200	564	5.0	23	9	C381W474-*01***
0.68	37.0	30.0	16.0	1 200	816	5.0	23	12	C381W684-*01***
1.0	37.0	34.0	20.0	1 200	1 200	5.0	23	14	C381W105-*01***
1.2	37.0	34.0	20.0	1 200	1 440	5.0	23	16	C381W125-*01***
1.5	37.0	34.0	20.0	1 200	1 800	5.0	23	18	C381W155-*01***
1.5	42.0	40.0	20.0	750	1 125	4.5	29	18.5	C381W155-*02***
2.0	42.0	40.0	20.0	750	1 500	4.5	29	19	C381W205-*02***
2.2	42.0	40.0	20.0	750	1 650	4.5	29	19.5	C381W225-*02***
2.5	42.0	44.0	24.0	750	1 875	4.5	29	20	C381W255-*02***
3.0	42.0	44.0	24.0	750	2 250	4.5	29	21	C381W305-*02***
3.3	42.0	45.0	30.0	750	2 475	4.5	29	21.5	C381W335-*02***
4.0	42.0	43.0	42.0	750	3 000	4.5	29	22	C381W405-*02***
4.0	57.0	45.0	30.0	450	1 800	4.0	33	23	C381W405-*03***
4.7	57.0	45.0	30.0	450	2 115	4.0	33	24.5	C381W475-*03***
5.0	57.0	45.0	30.0	450	2 250	4.0	33	25	C381W505-*03***
6.0	57.0	50.0	35.0	450	2 700	4.0	33	26	C381W605-*03***
6.5	57.0	50.0	35.0	450	2 925	4.0	33	27	C381W655-*03***

■ Dimensions (mm)

1 000Vdc(500Vac)									
C _N (μF)	W ±1.0	H ±1.0	T ±1.0	dV/dt (V/μs)	İ (A)	ESR @100kHz (mΩ)	L _s (nH)	I _{max} 100kHz@70°C (A)	Part number
0.47	37.0	25.0	15.0	1 300	611	5.0	23	9	C383A474-*01***
0.68	37.0	30.0	16.0	1 300	884	5.0	23	10.5	C383A684-*01***
0.82	37.0	30.0	16.0	1 300	1 066	5.0	23	12	C383A824-*01***
1.0	37.0	34.0	20.0	1 300	1 300	4.5	23	15	C383A105-*01***
1.2	37.0	34.0	20.0	1 300	1 560	4.5	23	17	C383A125-*01***
1.2	42.0	40.0	20.0	850	1 020	4.5	29	16	C383A125-*02***
1.5	42.0	40.0	20.0	850	1 275	4.5	29	16	C383A155-*02***
2	42.0	44.0	24.0	850	1 700	4.5	29	17	C383A205-*02***
2.2	42.0	44.0	24.0	850	1 870	4.0	29	20	C383A225-*02***
2.5	42.0	45.0	30.0	850	2 125	4.0	29	21	C383A255-*02***
3.0	42.0	45.0	30.0	850	2 550	4.0	29	21.5	C383A305-*02***
3.3	42.0	43.0	42.0	850	2 805	4.0	29	22	C383A335-*02***
3.3	57.0	45.0	30.0	500	1 650	4.0	33	20	C383A335-*03***
4.0	57.0	45.0	30.0	500	2 000	4.0	33	21	C383A405-*03***
4.7	57.0	50.0	35.0	500	2 350	4.0	33	22	C383A475-*03***
5.0	57.0	50.0	35.0	500	2 500	4.0	33	23	C383A505-*03***

1 200Vdc(600Vac)									
C _N (μF)	W ±1.0	H ±1.0	T ±1.0	dV/dt (V/μs)	İ (A)	ESR @100kHz (mΩ)	L _s (nH)	I _{max} 100kHz@70°C (A)	Part number
0.33	37.0	25.0	15.0	1500	495	4.5	23	9	C383L334-*01***
0.47	37.0	30.0	16.0	1500	705	4.5	23	11	C383L474-*01***
0.68	37.0	34.0	20.0	1500	1 020	4.5	23	12.5	C383L684-*01***
0.75	37.0	34.0	20.0	1500	1 125	4.5	23	13	C383L754-*01***
0.82	42.0	40.0	20.0	950	779	4.0	29	14.5	C383L824-*02***
1.0	42.0	40.0	20.0	950	950	4.0	29	16	C383L105-*02***
1.2	42.0	44.0	24.0	950	1 140	4.0	29	19	C383L125-*02***
1.5	42.0	44.0	24.0	950	1 425	4.0	29	19.5	C383L155-*02***
2.0	42.0	45.0	30.0	950	1 900	4.0	29	20	C383L205-*02***
2.2	42.0	43.0	42.0	950	2 090	4.0	29	21	C383L225-*02***
2.5	42.0	43.0	42.0	950	2 375	4.0	29	22	C383L255-*02***
2.2	57.0	45.0	30.0	600	1 320	3.8	33	20	C383L225-*03***
2.5	57.0	45.0	30.0	600	1 500	3.8	33	21	C383L255-*03***
3.0	57.0	45.0	30.0	600	1 800	3.8	33	22	C383L305-*03***
3.3	57.0	50.0	35.0	600	1 980	3.8	33	23	C383L335-*03***
4.0	57.0	50.0	35.0	600	2 400	3.8	33	24	C383L405-*03***

■ Dimensions (mm)

1 600Vdc(650Vac)									
C _N (μF)	W ±1.0	H ±1.0	T ±1.0	dV/dt (V/μs)	Î (A)	ESR @100kHz (mΩ)	L _s (nH)	I _{max} 100kHz@70°C (A)	Part number
0.22	37.0	25.0	15.0	1 900	418	6.0	23	8	C383C224*01***
0.33	37.0	30.0	16.0	1 900	627	6.0	23	10	C383C334*01***
0.39	37.0	34.0	20.0	1 900	741	5.5	23	12	C383C394*01***
0.47	37.0	34.0	20.0	1 900	893	5.5	23	14	C383C474*01***
0.68	42.0	40.0	20.0	1 250	850	4.0	29	16	C383C684*02***
0.82	42.0	44.0	24.0	1 250	1 025	4.0	29	19	C383C824*02***
1.0	42.0	45.0	30.0	1 250	1 250	4.0	29	19.5	C383C105*02***
1.2	42.0	45.0	30.0	1 250	1 500	4.0	29	20	C383C125*02***
1.5	42.0	43.0	42.0	1 250	1 875	4.0	29	21	C383C155*02***
1.5	57.0	45.0	30.0	750	1 125	3.5	33	22	C383C155*03***
2.0	57.0	50.0	35.0	750	1 500	3.5	33	24	C383C205*03***

1 700Vdc (675Vac)									
C _N (μF)	W ±1.0	H ±1.0	T ±1.0	dV/dt (V/μs)	Î (A)	ESR @100kHz (mΩ)	L _s (nH)	I _{max} 100kHz@70°C (A)	Part number
0.15	37.0	25.0	15.0	2 000	300	7.0	23	7	C387M154*01***
0.22	37.0	30.0	16.0	2 000	440	6.0	23	9	C387M224*01***
0.33	37.0	34.0	20.0	2 000	660	5.5	23	11.5	C387M334*01***
0.39	37.0	34.0	20.0	2 000	780	5.5	23	13	C387M394*01***
0.47	42.0	36.0	24.0	1 260	592	4.0	29	14	C387M474*02***
0.56	42.0	36.0	24.0	1 260	706	4.0	29	15.5	C387M564*02***
0.68	42.0	44.0	24.0	1 260	857	3.5	29	18	C387M684*02***
0.82	42.0	44.0	24.0	1 260	1 033	3.5	29	19	C387M824*02***
1.0	42.0	45.0	30.0	1 260	1 260	3.5	29	20	C387M105*02***
1.2	42.0	43.0	42.0	1 260	1 512	3.5	29	21	C387M125*02***
1.0	57.0	45.0	25.0	780	780	3.5	33	18	C387M105*03***
1.2	57.0	43.5	29.5	780	936	3.5	33	19	C387M125*03***
1.5	57.0	50.0	35.0	780	1 170	3.0	33	22	C387M155*03***
2.0	57.0	50.0	35.0	780	1 560	3.0	33	24	C387M205*03***
3.0	57.0	55.0	45.0	780	2 340	3.0	33	28	C387M305*03***

2 000Vdc(700Vac)									
C _N (μF)	W ±1.0	H ±1.0	T ±1.0	dV/dt (V/μs)	Î (A)	ESR @100kHz (mΩ)	L _s (nH)	I _{max} 100kHz@70°C (A)	Part number
0.10	37.0	25.0	15.0	2 241	224	8.0	23	7	C383D104*01***
0.15	37.0	25.0	15.0	2 241	336	8.0	23	8.5	C383D154*01***
0.22	37.0	30.0	16.0	2 241	493	6.0	23	10	C383D224*01***
0.33	37.0	34.0	20.0	2 241	740	6.0	23	13	C383D334*01***
0.47	42.0	40.0	20.0	1 300	611	4.0	29	15.5	C383D474*02***
0.56	42.0	44.0	24.0	1 300	728	4.0	29	18	C383D564*02***
0.68	42.0	44.0	24.0	1 300	884	3.5	29	18.5	C383D684*02***
0.82	42.0	45.0	30.0	1 300	1 066	3.5	29	19	C383D824*02***
1.0	42.0	43.0	42.0	1 300	1 300	3.5	29	21	C383D105*02***
1.0	57.0	45.0	30.0	850	850	4.0	33	24	C383D105*03***
1.2	57.0	45.0	30.0	850	1 020	4.0	33	23	C383D125*03***
1.5	57.0	50.0	35.0	850	1 275	4.0	33	24	C383D155*03***

■ Dimensions (mm)

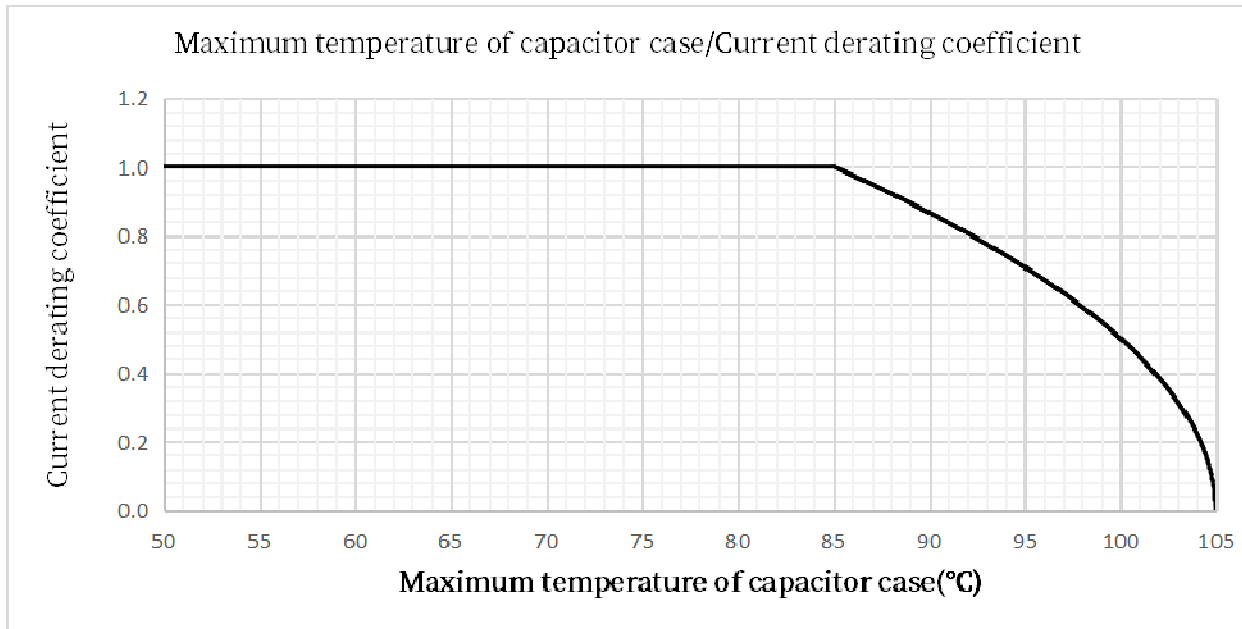
2 500Vdc(725Vac)									
C _N (μF)	W ±1.0	H ±1.0	T ±1.0	dV/dt (V/μs)	Î (A)	ESR @100kHz (mΩ)	L _s (nH)	I _{max} 100kHz@70°C (A)	Part number
0.068	37.0	25.0	15.0	3 230	220	8.5	23	6.5	C383E683-01***
0.10	37.0	30.0	16.0	3 230	323	8.5	23	8	C383E104-01***
0.15	37.0	34.0	20.0	3 230	485	8.0	23	11	C383E154-01***
0.18	37.0	34.0	20.0	3 230	581	7.5	23	12.5	C383E184-01***
0.22	42.0	40.0	20.0	2 100	462	4.0	29	14	C383E224-02***
0.33	42.0	44.0	24.0	2 100	693	4.0	29	15.5	C383E334-02***
0.47	42.0	45.0	30.0	2 100	987	3.5	29	18	C383E474-02***
0.68	42.0	43.0	42.0	2 100	1 428	3.5	29	18.5	C383E684-02***
0.68	57.0	45.0	30.0	1 200	816	3.5	33	19	C383E684-03***
1.0	57.0	50.0	35.0	1 200	1 200	3.5	33	19.5	C383E105-03***

3 000Vdc(750Vac)									
C _N (μF)	W ±1.0	H ±1.0	T ±1.0	dV/dt (V/μs)	Î (A)	ESR @100kHz (mΩ)	L _s (nH)	I _{max} 100kHz@70°C (A)	Part number
0.047	37.0	25.0	15.0	3 361	158	8.5	23	7.5	C384Q473-01***
0.068	37.0	30.0	16.0	3 361	229	8.0	23	9	C384Q683-01***
0.10	37.0	34.0	20.0	3 361	336	7.5	23	10.5	C384Q104-01***
0.15	37.0	34.0	20.0	3 361	504	7.0	23	12	C384Q154-01***
0.22	42.0	40.0	20.0	2 050	451	5.0	29	13	C384Q224-02***
0.33	42.0	45.0	30.0	2 050	677	4.5	29	16.5	C384Q334-02***
0.47	42.0	43.0	42.0	2 050	964	4.0	29	18	C384Q474-02***
0.47	57.0	45.0	30.0	1 200	564	4.0	33	18.5	C384Q474-03***
0.68	57.0	50.0	35.0	1 200	816	4.0	33	19	C384Q684-03***
0.82	57.0	50.0	35.0	1 200	984	3.5	33	20	C384Q824-03***

- Note: 1. “+” =capacitance tolerance code K=±10%, J=±5%
 2. “*” = Pitch(refer to table 1)
 3. “***” =terminal form code(refer to table 2)
 4. “#” when the rated voltage is 630VDC,the digit 4~5 is 2J.
 5. “I_{max}” at 100kHz, Θ_{amb}=70°C, Θ_{case}=85°C.
 6. “ESR”、“L_s” are typical values

■ Current derating for film capacitors with altitude and temperature

- Altitude derating: When the altitude exceeds 4000m, the current derates by 3% for every 500m increase.
- Current derating curve with temperature:



Note:

- ▲ When the maximum temperature of capacitor case is lower than 85°C, the current coefficient is 1.
- ▲ When the temperature of the capacitor case rises, the derating shall be according to the above current derating coefficient.

■ Test Method And Performance

No.	Item	Performance	Testing Method IEC 61071
1	5.14.2 External inspection	Legible marking and finish as specified Dimensions: see specific drawing	Check for finish, marking and overall dimensions
	Initial measurements	Capacitance at 1kHz $\text{tg}\delta$ at 10kHz, $C \leq 1.0\mu\text{F}$ $\text{tg}\delta$ at 1kHz, $C > 1.0\mu\text{F}$	
	5.14.1.1 Robustness of terminations	There shall be no visible damage	Tensile U_{a1} Load: 40N Duration 2s to 3s
	5.14.1.6 Resistance to soldering heat	There shall be no visible damage.	Solder temperature: $260^\circ\text{C} \pm 5^\circ\text{C}$ Immersion time: $10\text{s} \pm 1\text{s}$
	Final measurements	$ \Delta C/C \leq 0.5\%$ (relative to the initial value) Increase of $\text{tg}\delta$: ≤ 0.005	
2	Initial measurements	Capacitance at 1kHz $\text{tg}\delta$ at 10kHz, $C \leq 1.0\mu\text{F}$ $\text{tg}\delta$ at 1kHz, $C > 1.0\mu\text{F}$	
	5.14.3.1 Vibration (when capacitor weight $> 3\text{g}$, the capacitor body needs to be fixed)	There shall be no evidence damage	$f=10\text{ Hz to }55\text{Hz}$ $a=\pm 0.35\text{mm}$ Test duration per axis = 10 frequency cycles (3 axes offset from each other by 90°C), 1 octave/min, the total times are 135min for 3 axes.
	5.14.3.1 Impacts (when capacitor weight $> 3\text{g}$, the capacitor body needs to be fixed)	There shall be no evidence damage	4 000times, Acceleration: 390m/s^2 Pulse duration: 6ms
	Final measurements	$ \Delta C/C \leq 0.5\%$ (relative to the initial value) Increase of $\text{tg}\delta$: ≤ 0.002	
3	Initial measurements	Capacitance at 1kHz $\text{tg}\delta$ at 10kHz, $C \leq 1.0\mu\text{F}$ $\text{tg}\delta$ at 1kHz, $C > 1.0\mu\text{F}$	
	5.9 Surge discharge test		Test voltage: $1.1U_{\text{NDC}}$ Number of discharges: 5 Time lapse every 2 min (10min total) Within 5 min after the surge discharge test, the capacitor shall be subjected to a voltage test between terminals: $1.5U_{\text{NDC}}$, 60s
	Final measurements	$ \Delta C/C \leq 1.0\%$ (relative to the initial value) $\text{tg}\delta$: $\leq 1.2 \times \text{tg}\delta_0$ (the initial $\text{tg}\delta$) + 0.0001	

No.	Item	Performance	Testing Method IEC 61071
4	Initial measurements	Capacitance at 1kHz tgδ at 10kHz, C≤1.0μF tgδ at 1kHz, C>1.0μF	
	5.11 Self-healing		Voltage: 1.5U _{NDC} Duration: 10s If fewer than five clearing occur during this time, the voltage shall be increased slowly until five clearings have occurred since the start of the test or until the voltage has reached 2.5U _{NDC} If fewer than five clearings have occurred when the voltage has reached 2.5U _{NDC} , for a time of 10s, the test shall be finished.
		$ \Delta C/C \leq 0.5\%$ (relative to the initial value) tgδ: $\leq 1.1 \times \text{tg}\delta_0$ (the initial tgδ) + 0.0001	
5	Initial measurements	Capacitance at 1kHz tgδ at 10kHz, C≤1.0μF tgδ at 1kHz, C>1.0μF	
	5.13.1 Change of temperature	There shall be no evidence of deterioration	Test: Na θ _A =-40°C, θ _B =+85°C 5 cycles, Duration: t=30min
	Final measurements	$ \Delta C/C \leq 2.0\%$ (relative to the initial value) Increase of tgδ: ≤0.002	
6	Initial measurements	Capacitance at 1kHz tgδ at 10kHz, C≤1.0μF tgδ at 1kHz, C>1.0μF	
	5.13.2 Damp heat, steady state	There shall be no evidence of deterioration.	Temperature: 40°C ±2°C Humidity: 93±3 %RH Duration: 56 days
	5.5.1 Voltage test between terminals	There shall be no permanent puncturing or flashover.	1.6U _{NDC} , 60s
	5.6.1 Voltage test between terminals and case	There shall be no permanent puncturing or flashover.	2 000VAC, 10s
	Final measurements	$ \Delta C/C \leq 2.0\%$ (relative to the initial value) Increase of tgδ: ≤0.002	
7	Initial measurements	Capacitance at 1kHz tgδ at 10kHz, C≤1.0μF tgδ at 1kHz, C>1.0μF	
	5.10.1 Thermal stability test	Throughout the last 6h, the temperature of the case near of the top rise shall not increase by more than 1°C	Temperature: ambient temperature Test current: 1.1I _{rms} Test frequency: 10kHz Test time: 48h During the last 6h, the temperature of the case near of the top rise shall be measured per 1.5h.
	Final measurements	$ \Delta C/C \leq 2.0\%$ (relative to the initial value) Increase of tgδ: ≤0.002	

No.	Item	Performance	Testing Method IEC 61071
8	Initial measurements	Capacitance at 1kHz tgδ at 10kHz, C≤1.0μF tgδ at 1kHz, C>1.0μF	
	5.15 Endurance		Measuring procedure: (1) 1.3U _{NDC} , 85°C, 500h (2) Charging and discharging: Times: 1 000 dv/dt: according to the technical data (3) 1.3U _{NDC} , 85°C, 500h
	Final measurements	Δ C/C ≤ 3.0%(relative to the initial value) Increase of tgδ:≤0.003	

■ Marking (For example)

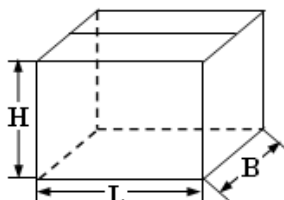
 C38
 105K 1200
 P30001

Marking Introduction:

	Brand	C38	Type
1200	Rated voltage	105K	Rated capacitance and Tolerance
P30001	Product traceability information	—	—

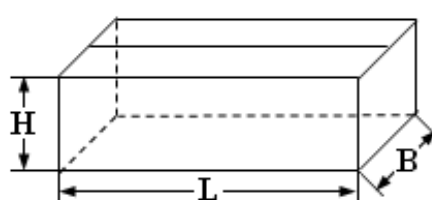
■ Packing box sizes(mm)(example)

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

■ Storage conditions

▲ It must be noted that the solderability of the terminals may be deteriorated when stored in an atmosphere filled with moisture, dust, or a reactive oxidizing gas.(hydrogen chloride, hydrogen sulfide, sulfuric acid,etc.)

▲ It shouldn't be located in particularly high temperature and high humidity, it must submit to the following conditions(unchanging primal package):

Temperature: -40°C to 35°C

Humidity: Average per year $\leq 70\%RH$;

For 30 full days randomly distributed throughout the year $\leq 80\%RH$

Storage time for tinned lead wire: (from the date marked on the capacitor's body or the label glued to the package) :

Bulk(packed with plastic bag): ≤ 24 months ;

Taping and line up: ≤ 12 months