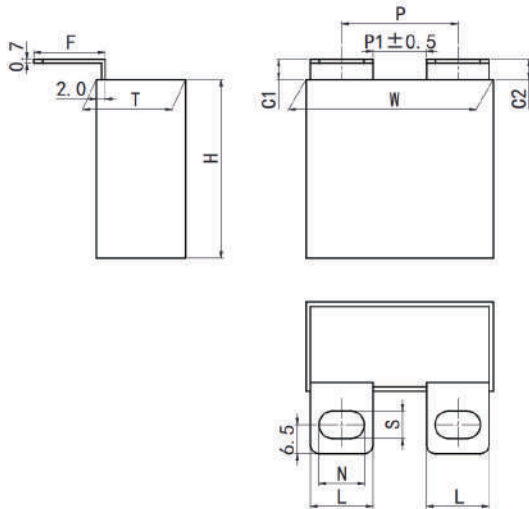




C38

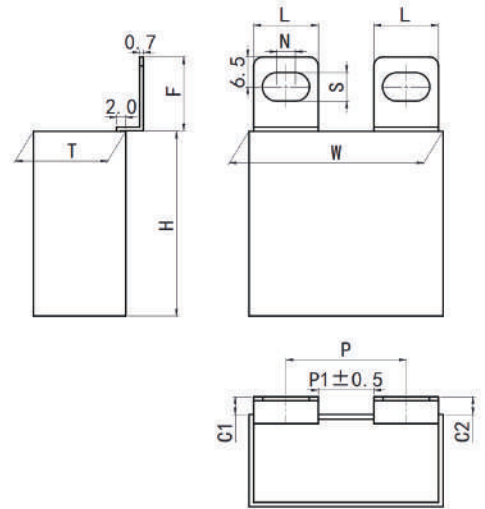
Snubber capacitor for IGBT(Lug terminals)

Outline Drawing

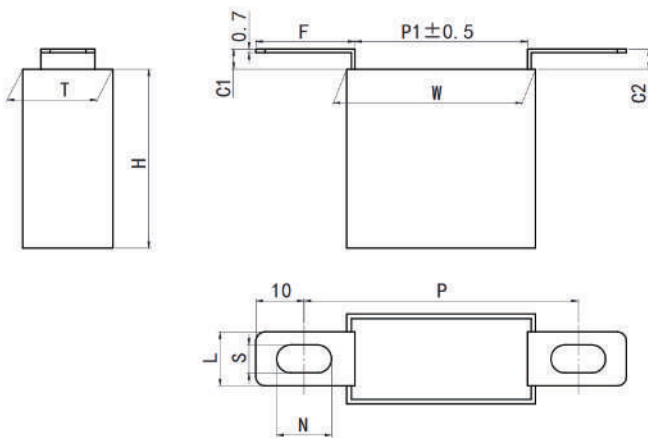


$L \times F \times N \times S = 14.0 \times 16.0 \times 10.2 \times 6.2$

Style 1



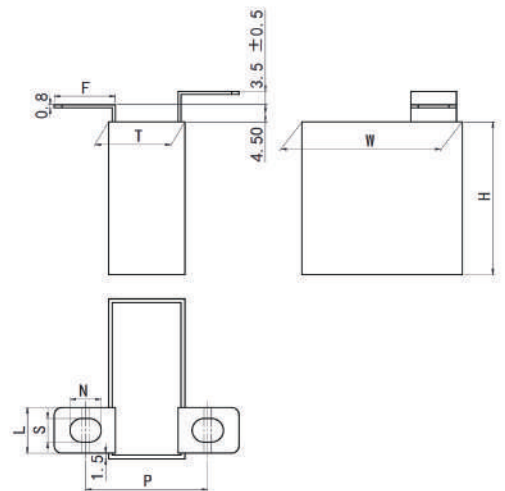
Style 2



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

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

Style 3



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

Style 4

Features

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



■ Specifications

Reference Standard	GB/T 17702 (IEC 61071)	
Climatic Category	40/85/56	
Operating temperature range (Max. temperature of case surface)	-40°C~85°C	
Rated Voltage	630Vdc ~ 3 000Vdc	
Capacitance Range	0.047μF ~ 9.0μF	
Capacitance Tolerance	±5% (J), ±10% (K)	
Voltage Proof	1.6U _N (10s)	
Dissipation Factor	≤5 × 10 ⁻⁴ (20°C, 1kHz)	
Insulation Resistance	IR ≥ 100 000MΩ, C _N ≤ 0.33μF	(20°C, 100Vdc, 1min)
	IR × C _N ≥ 30 000s, C _N > 0.33μF	
Expected lifetime	100 000h @ 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

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Digit 4 to 5 D.C. rated voltage

2J=630V 1V=700V 1W=850V

3A=1 000V 3L=1 200V 3C=1 600V

7M=1 700V 3D=2 000V 3E= 2 500V

4Q=3 000V

Digit 6 to 8 Rated capacitance value

for example: 105=10 × 10⁵pF=1.0μF

Digit 9 Capacitance tolerance

J=±5%, K=±10%

Digit 10 Distance of hole for fixing

Referring to table 1.2

Digit 11 Internal use

Digit 12 to 15 Terminals code

Referring to table 2



C38

■ Table 1.1 Selecting for distance of hole for fixing

mm

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

■ Table 1.2 Selecting for distance of hole for fixing

mm

D.C. rated voltage	Style of solder slice	Thickness of case T	Distance of hole for fixing		The distance of solder slice P1
			P	Code	
630Vdc ~ 3 000Vdc	Style 4	19	30 ~ 34	F	15
25		36 ~ 40	G	21	
30		41 ~ 45	H	26	

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

■ Table 2 Terminals code

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	2	14.0×22.0×11.2×6.2	T≥20
			3	Style 3		6	12.0×22.0×11.2×6.2
			4	Style 4	0	16.0×12.0×8.2×6.2	—

Dimensions of C1 and C2 are adjustable on request.



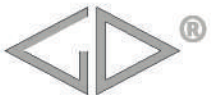
Technical data(mm)

630Vdc/700Vdc(420Vac)*

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
0.68	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)	İ (A)	ESR @100kHz (mΩ)	L _s (nH)	I _{max} 100kHz@70°C (A)	Part number
0.47	37.0	25.0	15.0	1 200	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***



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Technical data(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***



Technical data(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***



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Technical data(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, J=±5%, K=±10%.
 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.