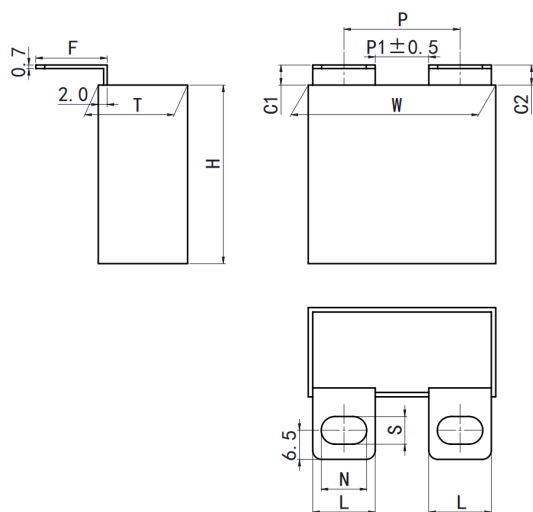


C38

# IGBT 吸收电容器 (接线片) Snubber capacitor for IGBT(Lug terminals)

## 外形图 Outline Drawing



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

图 1 (Style 1)

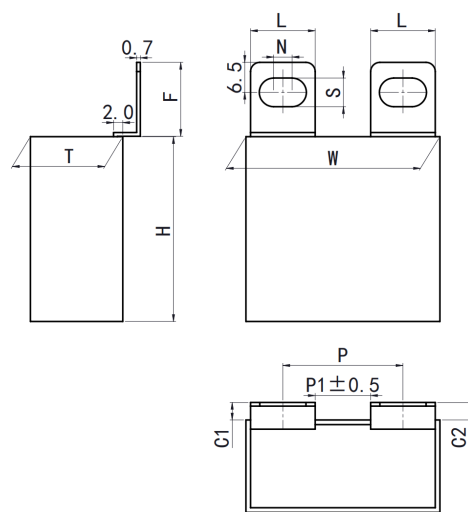
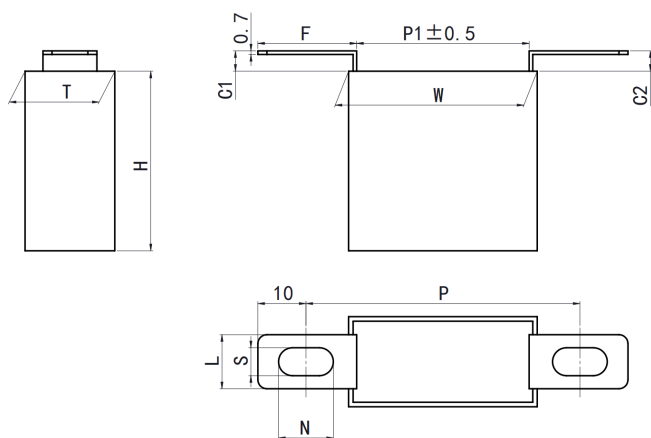
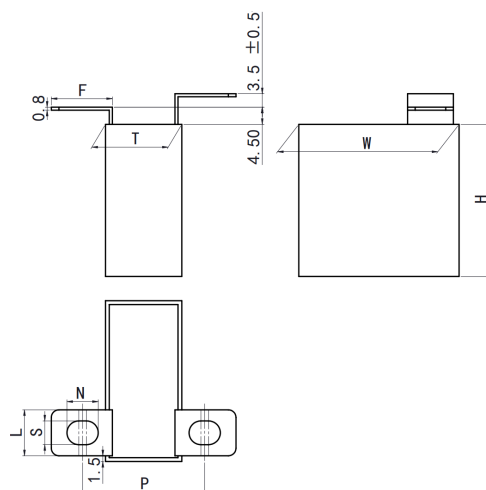


图 2 (Style 2)



$L \times F \times N \times S = 14.0 \times 22.0 \times 11.2 \times 6.2$   
or  
 $L \times F \times N \times S = 12.0 \times 22.0 \times 11.2 \times 6.2$

图 3 (Style 3)



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

图 4 (Style 4)


### 特点

- 广泛应用于高压高频脉冲电路中
- 损耗小, 内部温升小
- 优异的阻燃性能
- 适合作为 IGBT 的吸收电容

### 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

### 安全认证 Safety Approvals

●		UL (美国)	UL 810 (construction only), Max. 5 000Vdc, 90°C 证书号 (File No.): E256238, CCN: CZDS2
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## ■ 技术要求 Specifications

引用标准 Reference Standard	GB/T 17702 (IEC 61071)	
气候类别 Climatic Category	40/85/56	
工作温度范围(外壳最高温度点) Operating temperature range (Max. temperature of case surface)	-40°C~85°C	
额定电压 Rated Voltage	630Vdc ~ 3 000Vdc	
电容范围 Capacitance Range	0.047μF ~ 9.0μF	
电容偏差 Capacitance Tolerance	±5% (J), ±10% (K)	
耐电压 Voltage Proof	1.6U <sub>N</sub> (10s)	
损耗角正切 Dissipation Factor	≤5×10 <sup>-4</sup> (20°C, 1kHz)	
绝缘电阻 Insulation Resistance	IR≥100 000MΩ, C <sub>N</sub> ≤0.33μF	(20°C, 100Vdc, 1min)
	IR×C <sub>N</sub> ≥30 000s, C <sub>N</sub> >0.33μF	
预期寿命 Expected lifetime	100 000h @ U <sub>N</sub> , θ <sub>hs</sub> =70°C	

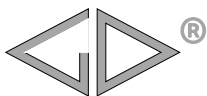
## ■ 产品编码说明 Part number system

### ■ 15 位产品代码如下:

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												

第 1~3 位	型号代码	Digit 1 to 3	Series code
	C38		C38
第 4~5 位	直流额定电压	Digit 4 to 5	D.C. rated voltage
	2J=630V    1V=700V    1W=850V		2J=630V    1V=700V    1W=850V
	3A=1 000V    3L=1 200V    3C=1 600V		3A=1 000V    3L=1 200V    3C=1 600V
	7M=1 700V    3D=2 000V    3E= 2 500V		7M=1 700V    3D=2 000V    3E= 2 500V
	4Q=3 000V		4Q=3 000V
第 6~8 位	标称容量	Digit 6 to 8	Rated capacitance value
	举例: 105=10×10 <sup>5</sup> pF=1.0μF		for example: 105=10×10 <sup>5</sup> pF=1.0μF
第 9 位	容量偏差	Digit 9	Capacitance tolerance
	J=±5%, K=±10%		J=±5%, K=±10%
第 10 位	安装孔距 P	Digit 10	Distance of hole for fixing
	见表 1.2		Referring to table 1.2
第 11 位	内部特征码	Digit 11	Internal use
第 12~15 位	引出端代码	Digit 12 to 15	Terminals code
	见表 2		Referring to table 2



# C38

■ Table 1.1 安装孔距的选择 Selecting for distance of hole for fixing 单位: mm

额定电压 D.C. rated voltage	焊片的引出方式 Style of solder slice	外壳宽度 Width of case	安装孔距 Distance of hole for fixing		焊片间距 The distance of solder slice	
		W	P	Code	P1	
630Vdc 700Vdc 850Vdc 1 000Vdc	图 1(Style 1) 或 图 2(Style 2)	37/42	17 ~ 25	B	7	
			22 ~ 30	C	12	
	图 3(Style 3)	57	30 ~ 38	D	20	
			35 ~ 43	E	25	
	图 3(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	图 1(Style 1) 或 图 2(Style 2)	37/42	16 ~ 24	1	6	
			21 ~ 29	2	11	
	图 2(Style 2)	57	31 ~ 39	3	21	
			36 ~ 44	4	26	
	图 3(Style 3)	37	51 ~ 61	5	32	
			42	56 ~ 66	6	37
			57	71 ~ 81	J	52

■ Table 1.2 安装孔距的选择 Selecting for distance of hole for fixing 单位: mm

额定电压 D.C. rated voltage	焊片的引出方式 Style of solder slice	外壳厚度 Thickness of case	安装孔距 Distance of hole for fixing		焊片间距 The distance of solder slice
		T	P	Code	P1
630Vdc ~ 3 000Vdc	图 4(Style 4)	19	30 ~ 34	F	15
25		36 ~ 40	G	21	
30		41 ~ 45	H	26	

注: 图 4 引出方式适用的具体规格, 需根据客户要求设计才能确定。

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

■ Table 2 引出端代码 Terminals code 单位: mm

第 13 位 Digit 13			第 14 位 Digit 14		第 15 位 Digit 15		Note (Case dimension of T)
C 高度 Height for C			焊片的引出方式 Style of solder slice		焊片的尺寸 Size of solder slice		
Code	C1	C2	Code	图(Style)	Code	L×F×N×S	
0	(C1=C2)<3		1	图 1(Style 1)	1	14.0×16.0×10.2×6.2	—
1	C1=C2=6		2	图 2(Style 2)			
			3	图 3(Style 3)	2	14.0×22.0×11.2×6.2	T≥20
					6	12.0×22.0×11.2×6.2	T<20
			4	图 4 (Style 4)	0	16.0×12.0×8.2×6.2	—

注: C1、C2 尺寸可以按用户需要商定。

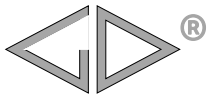
Dimensions of C1 and C2 are adjustable on request.



■ 技术参数 Technical data(mm)

630Vdc/700Vdc(420Vac) <sup>#</sup>									
C <sub>N</sub> (μF)	W ±1.0	H ±1.0	T ±1.0	dV/dt (V/μs)	İ (A)	ESR @100kHz (mΩ)	L <sub>s</sub> (nH)	I <sub>max</sub> 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 <sub>N</sub> (μF)	W ±1.0	H ±1.0	T ±1.0	dV/dt (V/μs)	İ (A)	ESR @100kHz (mΩ)	L <sub>s</sub> (nH)	I <sub>max</sub> 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***

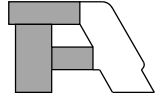


# C38

## ■ 技术参数 Technical data(mm)

1 000Vdc(500Vac)									
C <sub>N</sub> (μF)	W ±1.0	H ±1.0	T ±1.0	dV/dt (V/μs)	İ (A)	ESR @100kHz (mΩ)	L <sub>s</sub> (nH)	I <sub>max</sub> 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 <sub>N</sub> (μF)	W ±1.0	H ±1.0	T ±1.0	dV/dt (V/μs)	İ (A)	ESR @100kHz (mΩ)	L <sub>s</sub> (nH)	I <sub>max</sub> 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***

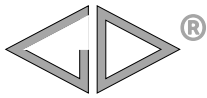


■ 技术参数 Technical data(mm)

1 600Vdc(650Vac)									
C <sub>N</sub> (μF)	W ±1.0	H ±1.0	T ±1.0	dV/dt (V/μs)	Î (A)	ESR @100kHz (mΩ)	L <sub>s</sub> (nH)	I <sub>max</sub> 100kHz@70°C (A)	Part number
0.22	37.0	25.0	15.0	1900	418	6.0	23	8	C383C224-*01***
0.33	37.0	30.0	16.0	1900	627	6.0	23	10	C383C334-*01***
0.39	37.0	34.0	20.0	1900	741	5.5	23	12	C383C394-*01***
0.47	37.0	34.0	20.0	1900	893	5.5	23	14	C383C474-*01***
0.68	42.0	40.0	20.0	1250	850	4.0	29	16	C383C684-*02***
0.82	42.0	44.0	24.0	1250	1025	4.0	29	19	C383C824-*02***
1.0	42.0	45.0	30.0	1250	1250	4.0	29	19.5	C383C105-*02***
1.2	42.0	45.0	30.0	1250	1500	4.0	29	20	C383C125-*02***
1.5	42.0	43.0	42.0	1250	1875	4.0	29	21	C383C155-*02***
1.5	57.0	45.0	30.0	750	1125	3.5	33	22	C383C155-*03***
2.0	57.0	50.0	35.0	750	1500	3.5	33	24	C383C205-*03***

1 700Vdc (675Vac)									
C <sub>N</sub> (μF)	W ±1.0	H ±1.0	T ±1.0	dV/dt (V/μs)	Î (A)	ESR @100kHz (mΩ)	L <sub>s</sub> (nH)	I <sub>max</sub> 100kHz@70°C (A)	Part number
0.15	37.0	25.0	15.0	2000	300	7.0	23	7	C387M154-*01***
0.22	37.0	30.0	16.0	2000	440	6.0	23	9	C387M224-*01***
0.33	37.0	34.0	20.0	2000	660	5.5	23	11.5	C387M334-*01***
0.39	37.0	34.0	20.0	2000	780	5.5	23	13	C387M394-*01***
0.47	42.0	36.0	24.0	1260	592	4.0	29	14	C387M474-*02***
0.56	42.0	36.0	24.0	1260	706	4.0	29	15.5	C387M564-*02***
0.68	42.0	44.0	24.0	1260	857	3.5	29	18	C387M684-*02***
0.82	42.0	44.0	24.0	1260	1033	3.5	29	19	C387M824-*02***
1.0	42.0	45.0	30.0	1260	1260	3.5	29	20	C387M105-*02***
1.2	42.0	43.0	42.0	1260	1512	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	1170	3.0	33	22	C387M155-*03***
2.0	57.0	50.0	35.0	780	1560	3.0	33	24	C387M205-*03***
3.0	57.0	55.0	45.0	780	2340	3.0	33	28	C387M305-*03***

2 000Vdc(700Vac)									
C <sub>N</sub> (μF)	W ±1.0	H ±1.0	T ±1.0	dV/dt (V/μs)	Î (A)	ESR @100kHz (mΩ)	L <sub>s</sub> (nH)	I <sub>max</sub> 100kHz@70°C (A)	Part number
0.10	37.0	25.0	15.0	2241	224	8.0	23	7	C383D104-*01***
0.15	37.0	25.0	15.0	2241	336	8.0	23	8.5	C383D154-*01***
0.22	37.0	30.0	16.0	2241	493	6.0	23	10	C383D224-*01***
0.33	37.0	34.0	20.0	2241	740	6.0	23	13	C383D334-*01***
0.47	42.0	40.0	20.0	1300	611	4.0	29	15.5	C383D474-*02***
0.56	42.0	44.0	24.0	1300	728	4.0	29	18	C383D564-*02***
0.68	42.0	44.0	24.0	1300	884	3.5	29	18.5	C383D684-*02***
0.82	42.0	45.0	30.0	1300	1066	3.5	29	19	C383D824-*02***
1.0	42.0	43.0	42.0	1300	1300	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	1020	4.0	33	23	C383D125-*03***
1.5	57.0	50.0	35.0	850	1275	4.0	33	24	C383D155-*03***



C38

### ■ 技术参数 Technical data(mm)

2 500Vdc(725Vac)									
C <sub>N</sub> (μF)	W ±1.0	H ±1.0	T ±1.0	dV/dt (V/μs)	$\hat{I}$ (A)	ESR @100kHz (mΩ)	L <sub>s</sub> (nH)	I <sub>max</sub> 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 <sub>N</sub> (μF)	W ±1.0	H ±1.0	T ±1.0	dV/dt (V/μs)	$\hat{I}$ (A)	ESR @100kHz (mΩ)	L <sub>s</sub> (nH)	I <sub>max</sub> 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***

- 备注 Note: 1. “-” 表示容量偏差。 “-” =capacitance tolerance code, J=±5%, K=±10%。  
 2. “\*” 表示脚距代码(见 table 1)。“\*” = Pitch (refer to table 1)。  
 3. “\*\*\*” 表示引出端形式代码(见 table 2)。“\*\*\*” =terminal form code(refer to table 2)  
 4. “#” 当额定电压为 630Vdc 时, 第 4~5 位为 2J。“#” when the rated voltage is 630Vdc, the digit 4~5 is 2J.  
 5. “I<sub>max</sub>” 测试条件: 环境温度 70°C, 频率 100kHz, 外壳温度达到 85°C 下的有效值。  
 “I<sub>max</sub>” at 100kHz, θ<sub>amb</sub>=70°C, θ<sub>case</sub>=85°C.  
 6. “ESR”、“L<sub>s</sub>” 均为典型值。“ESR”、“L<sub>s</sub>” are typical values.

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