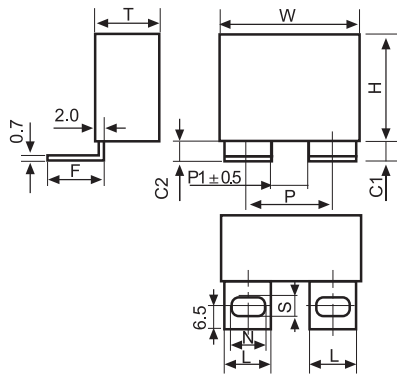




# C38

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

### ■ 外形图 Outline Drawing



L x F x N x S=14.0 x 16.0 x 10.2 x 6.2

图1 (Style 1)

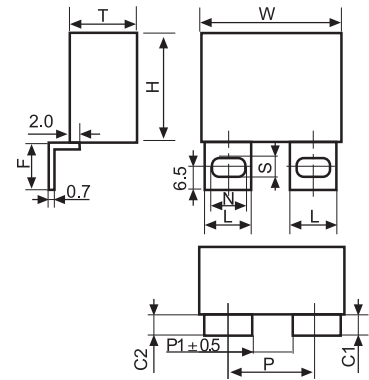
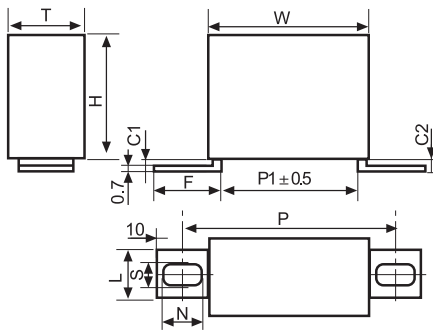


图2 (Style 2)



L x F x N x S=14.0 x 22.0 x 11.2 x 6.2  
or  
L x F x N x S=12.0 x 22.0 x 11.2 x 6.2

图3 (Style 3)

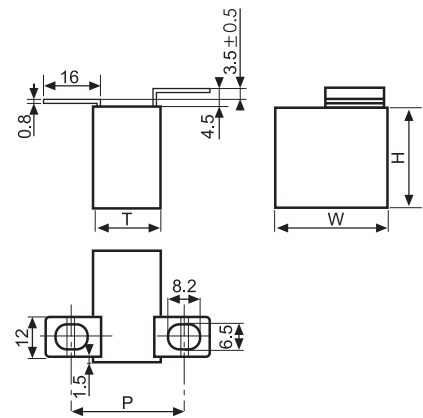


图4 (Style 4)

### ■ 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 circuit
- Especially designed as snubber capacitor for IGBT

### ■ 安全认证 Safety Approvals

●		UL(美国)	UL 810 (construction only) 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	
电容量范围 Capacitance Range	0.047μF ~ 9.0μF	
电容量偏差 Capacitance Tolerance	J(± 5%), K(± 10%)	
耐电压 Voltage Proof	1.6U <sub>N</sub> ( 10s )	
损耗角正切 Dissipation Factor	≤ 0.0005 (1kHz, 20°C )	
绝缘电阻 Insulation Resistance	≥ 100 000MΩ, C <sub>N</sub> ≤ 0.33μF	(20°C , 100Vdc, 1min)
	≥ 30 000s C <sub>N</sub> > 0.33μF	
工作寿命 Operation life time	≥ 100 000 hours at U <sub>N</sub> , Θ <sub>hs</sub> =70°C	

## 产品编码说明 Part number system

### ■ 18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	16	17	18
C	3	8															

第1~3位	型号代码 C38	Digit 1 to 3	Series code C38
第4~5位	直流额定电压 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 4 to 5	DC 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
第6~8位	标称容量 举例: 105=10 × 10 <sup>5</sup> pF=1.0μF	Digit 6 to 8	Rated capacitance value For example: 105=10 × 10 <sup>5</sup> pF=1.0μF
第9位	容量等级 J= ± 5%, K= ± 10%	Digit 9	Capacitance tolerance J= ± 5%, K= ± 10%
第10位	安装孔距P 见表1	Digit10	Distance of hole for fixing Referring to table 1
第11位	内部特征码	Digit11	Internal use
第12位	外壳宽度 1=37mm, 2=42mm, 3=57mm	Digit12	Width of case 1=37mm, 2=42mm, 3=57mm
第13~15位	引出端代码 见表2	Digit 13 to 15	Terminals code Referring to table 2
第16~18位	内部特征码	Digit 16 to 18	Internal use



■ **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
	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
	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			第 14 位		第 15 位		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	
					6	12.0 × 22.0 × 11.2 × 6.2	T ≥ 20 T < 20

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 ) #									
C <sub>N</sub> (μF)	W ± 1.0	H ± 1.0	T ± 1.0	dV/dt (V/μs)	I <sub>∧</sub> (A)	ESR @100kHz (mΩ)	L <sub>S</sub> (nH)	I <sub>max</sub> 100kHz@70℃ (A)	Part number
0.68	37.0	25.0	15.0	900	612	5.0	23	13	C381V684-*01***+++
1.0	37.0	30.0	16.0	900	900	5.0	23	14	C381V105-*01***+++
1.2	37.0	30.0	16.0	900	1 080	4.5	23	16	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)	I <sub>∧</sub> (A)	ESR @100kHz (mΩ)	L <sub>S</sub> (nH)	I <sub>max</sub> 100kHz@70℃ (A)	Part number
0.47	37.0	25.0	15.0	1 200	564	5.0	23	15	C381W474-*01***+++
0.68	37.0	30.0	16.0	1 200	816	5.0	23	16	C381W684-*01***+++
1.0	37.0	34.0	20.0	1 200	1 200	5.0	23	17	C381W105-*01***+++
1.2	37.0	34.0	20.0	1 200	1 440	5.0	23	17.5	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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## ■ 技术参数 Technical data ( mm )

1 000Vdc ( 500Vac )									
$C_N$ ( $\mu F$ )	$W \pm 1.0$	$H \pm 1.0$	$T \pm 1.0$	dV/dt (V/ $\mu s$ )	$\hat{I}$ (A)	ESR @100kHz (m $\Omega$ )	$L_S$ (nH)	$I_{max}$ 100kHz@70 $^{\circ}C$ (A)	Part number
0.47	37.0	25.0	15.0	1 300	611	5.0	23	14	C383A474-*01***+++
0.47	32.0	29.0	19.0	2 200	1 034	4.0	15	21	C383A474K029A40+++
0.68	37.0	30.0	16.0	1 300	884	5.0	23	15	C383A684-*01***+++
0.82	37.0	30.0	16.0	1 300	1 066	5.0	23	16	C383A824-*01***+++
1.0	37.0	34.0	20.0	1 300	1 300	4.5	23	17	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 )									
$C_N$ ( $\mu F$ )	$W \pm 1.0$	$H \pm 1.0$	$T \pm 1.0$	dV/dt (V/ $\mu s$ )	$\hat{I}$ (A)	ESR @100kHz (m $\Omega$ )	$L_S$ (nH)	$I_{max}$ 100kHz@70 $^{\circ}C$ (A)	Part number
0.33	37.0	25.0	15.0	1 500	495	4.5	23	15	C383L334-*01***+++
0.47	37.0	30.0	16.0	1 500	705	4.5	23	16	C383L474-*01***+++
0.68	37.0	34.0	20.0	1 500	1 020	4.5	23	17	C383L684-*01***+++
0.75	37.0	34.0	20.0	1 500	1 125	4.5	23	18	C383L754-*01***+++
0.82	42.0	40.0	20.0	950	779	4.0	29	18	C383L824-*02***+++
1.0	42.0	40.0	20.0	950	950	4.0	29	19	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 )									
$C_N$ ( $\mu$ F)	$W \pm 1.0$	$H \pm 1.0$	$T \pm 1.0$	dV/dt (V/ $\mu$ s)	$\hat{I}$ (A)	ESR @100kHz (m $\Omega$ )	$L_S$ (nH)	$I_{max}$ 100kHz@70 $^{\circ}$ C (A)	Part number
0.22	37.0	25.0	15.0	1 900	418	6.0	23	15	C383C224-*01***+++
0.33	37.0	30.0	16.0	1 900	627	6.0	23	15.5	C383C334-*01***+++
0.39	37.0	34.0	20.0	1 900	741	5.5	23	16	C383C394-*01***+++
0.47	37.0	34.0	20.0	1 900	893	5.5	23	17	C383C474-*01***+++
0.68	42.0	40.0	20.0	1 250	850	4.0	29	18	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 )									
$C_N$ ( $\mu$ F)	$W \pm 1.0$	$H \pm 1.0$	$T \pm 1.0$	dV/dt (V/ $\mu$ s)	$\hat{I}$ (A)	ESR @100kHz (m $\Omega$ )	$L_S$ (nH)	$I_{max}$ 100kHz@70 $^{\circ}$ C (A)	Part number
0.15	37.0	25.0	15.0	2 000	300	7.0	23	14	C387M154-*01***+++
0.22	37.0	30.0	16.0	2 000	440	6.0	23	15	C387M224-*01***+++
0.33	37.0	34.0	20.0	2 000	660	5.5	23	15.5	C387M334-*01***+++
0.39	37.0	34.0	20.0	2 000	780	5.5	23	16	C387M394-*01***+++
0.47	42.0	36.0	24.0	1 260	592	4.0	29	16	C387M474-*02***+++
0.56	42.0	36.0	24.0	1 260	706	4.0	29	17	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***+++



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## ■ 技术参数 Technical data ( mm )

2 000Vdc ( 700Vac )									
$C_N$ ( $\mu\text{F}$ )	$W \pm 1.0$	$H \pm 1.0$	$T \pm 1.0$	$dV/dt$ ( $\text{V}/\mu\text{s}$ )	$\hat{I}$ (A)	ESR @100kHz ( $\text{m}\Omega$ )	$L_S$ (nH)	$I_{\text{max}}$ 100kHz@70°C (A)	Part number
0.10	37.0	25.0	15.0	2 241	224	8.0	23	14	C383D104-*01***+++
0.15	37.0	25.0	15.0	2 241	336	8.0	23	15	C383D154-*01***+++
0.22	37.0	30.0	16.0	2 241	493	6.0	23	15.5	C383D224-*01***+++
0.33	37.0	34.0	20.0	2 241	740	6.0	23	16	C383D334-*01***+++
0.47	42.0	40.0	20.0	1 300	611	4.0	29	17	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***+++

2 500Vdc ( 725Vac )									
$C_N$ ( $\mu\text{F}$ )	$W \pm 1.0$	$H \pm 1.0$	$T \pm 1.0$	$dV/dt$ ( $\text{V}/\mu\text{s}$ )	$\hat{I}$ (A)	ESR @100kHz ( $\text{m}\Omega$ )	$L_S$ (nH)	$I_{\text{max}}$ 100kHz@70°C (A)	Part number
0.068	37.0	25.0	15.0	3 230	220	8.5	23	14	C383E683-*01***+++
0.10	37.0	30.0	16.0	3 230	323	8.5	23	15	C383E104-*01***+++
0.15	37.0	34.0	20.0	3 230	485	8.0	23	16	C383E154-*01***+++
0.18	37.0	34.0	20.0	3 230	581	7.5	23	17	C383E184-*01***+++
0.22	42.0	40.0	20.0	2 100	462	4.0	29	17	C383E224-*02***+++
0.33	42.0	44.0	24.0	2 100	693	4.0	29	17.5	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***+++

## ■ 技术参数 Technical data ( mm )

3 000Vdc ( 750Vac )									
$C_N$ ( $\mu$ F)	$W \pm 1.0$	$H \pm 1.0$	$T \pm 1.0$	dV/dt (V/ $\mu$ s)	$\hat{I}$ (A)	ESR @100kHz (m $\Omega$ )	$L_s$ (nH)	$I_{max}$ 100kHz@70 $^{\circ}$ C (A)	Part number
0.047	37.0	25.0	15.0	3 361	158	8.5	23	13	C384Q473-*01***+++
0.068	37.0	30.0	16.0	3 361	229	8.0	23	14	C384Q683-*01***+++
0.10	37.0	34.0	20.0	3 361	336	7.5	23	15	C384Q104-*01***+++
0.15	37.0	34.0	20.0	3 361	504	7.0	23	15.5	C384Q154-*01***+++
0.22	42.0	40.0	20.0	2 050	451	5.0	29	16	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,K=  $\pm 10\%$ , J=  $\pm 5\%$ .

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." +++" 表示内部特征码。 " +++" = Internal use.

6."  $I_{max}$  " 测试条件: 环境温度70 $^{\circ}$ C, 频率100kHz, 外壳温度达到85 $^{\circ}$ C下的有效值。

"  $I_{max}$  " at 100kHz,  $\Theta_{amb}=70^{\circ}$ C,  $\Theta_{case}=85^{\circ}$ C.

7." ESR" 、 "  $L_s$  " 均为典型值。 " ESR" 、 "  $L_s$  " are typical values.