

# KNSCHA Snap-in Type Aluminum Electrolytic Capacitors

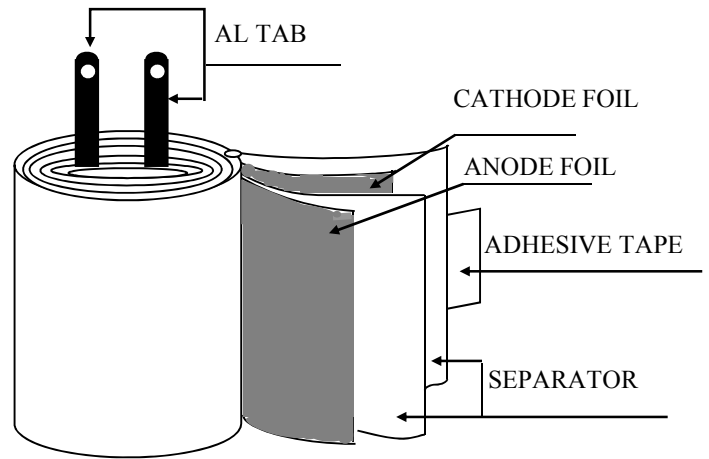
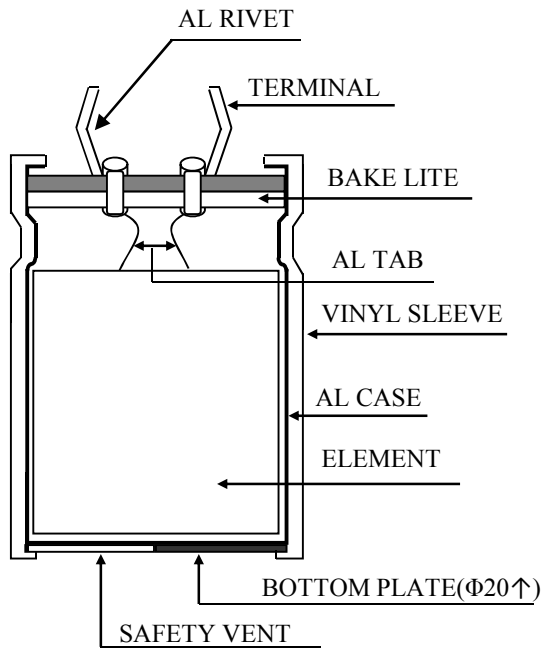
<b>Customer :</b>	◆KNSCHA SMZ Series Snap-in Terminal Type Aluminum Electrolytic Capacitors,105°C Long Life
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## PRODUCT CHARACTERISTICS

KNSCHA P/N	Cap. (120Hz)	Cap. Tol.	Rate Volt.	Surge Volt.	Oper. Temp.	Nominal Case Size	Leakage Current	D.F. Max	RC 120HZ	ESR 100KHZ	Normal service life
	( $\mu$ F)	(%)	(V-DC)	(V-DC)	( $^{\circ}$ C)	D*L(mm)	Max( $\mu$ A)	( )	(Arms)	( $\Omega$ )	(Hours)
152EC0325	470	$\pm 20$	450	500	-25 $\sim$ 105 $^{\circ}$ C	30*45	1379	0.20	1.73	/	5000
152EC0326	470	$\pm 20$	450	500	-25 $\sim$ 105 $^{\circ}$ C	35*40	1379	0.20	1.80	/	5000
152EC0334	270	$\pm 20$	450	500	-25 $\sim$ 105 $^{\circ}$ C	30*30	1046	0.20	1.18	/	5000
152EC0340	680	$\pm 20$	200	250	-25 $\sim$ 105 $^{\circ}$ C	25*35	1106	0.15	1.86	/	5000

# KNSCHA Snap-in Type Aluminum Electrolytic Capacitors

## STRUCTURE and MATERIALS



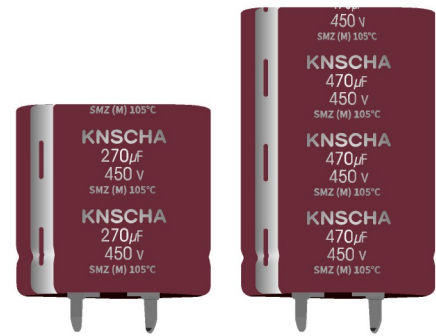
### LARGE SIZED TYPE CAPACITORS COMPONENT

PART NAME	MATERIALS
AL RIVET	ALUMINUM 99.9%
TERMINAL	SPCC
BAKE LITE	RUBBER+PAPER LAMINATE
AL TAB	ALUMINUM 99.9% OVER
SLEEVE	INK
	P.E.T (Polyethylene Terephthalate Resin)
AL CASE	ALUMINUM 99.5%
ANODE FOIL	FORMED ALUMINUM 99.9% OVER
CATHODE FOIL	FORMED ALUMINUM 98.4% OVER
SEPARATOR	INSULATION PAPER
ADHESIVE TAPE	POLY PROPYLENE FILM

# SMZ Series

## 特征/FEATURES

- Withstanding 5000 hours application of rated ripple current at 105°C
- High ripple current, Long life and High reliability
- Compliant to the RoHS directive
- 105°C印加纹波电流寿命保证5000小时
- 高纹波、长寿命，适合大功率电源、路灯照明、驱动器、变频器
- RoHS指令对策品

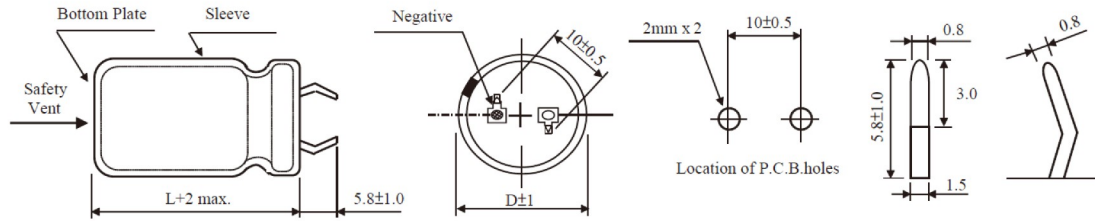


## 规格表/SPECIFICATIONS

项目 Items	特征 Characteristics								
温度范围 Category Temperat Range	-40°C ~ +105°C			-40°C ~ +105°C			-25°C ~ +105°C		
规格电压范围 Rated voltage range	6.3-100V.DC			160-250V.DC			400-450V.DC		
静电容量允许容差 Capacitance Tolerance	± 20% ( 20°C, 120Hz )								
漏电流 Leakage Current(MAX)	10-100V.DC				160-450V.DC				
	I=0.01CV或者3 ( µ A ) 值以下 定格电压印加2分钟后 I=0.01CVor3 ( µ A ) whichever is greater after 2 minutes application of rated voltage				I=0.02CV值以下 定格电压印加3分钟后 I=0.02CVwhichever is greater after 3 minutes application of rated voltage				
	I=漏电流 ( µ A )		C=定格静电容量 ( µ F )		V=定格电压 ( V )				
	Leakage Current		Rated Capacitance		Rated Voltage				
损失角正接 ( tan δ ) Dissipation Factor(MAX)	定格电压 ( V )	6.3	10	16	25	35	50	63	20°C 120Hz
	Rated Voltage	-	0.2	0.16	0.14	0.12	0.1	0.09	
	定格电压 ( V )	80	100	160	200	250	400	450	
	Rated Voltage	0.09	0.08	0.15	0.15	0.15	0.15	0.15	
容量超过1000 µ F; 每超过1000 µ F, 损失角增加0.02 Add 0.02 per 1,000 µ F for more than 1,000 µ F items.									
高温负荷特性 High Temp Load Test	105°C, 在规定的时间内, 印加定格电压与纹波电流后, 满足下列条件 After life test with ripple current at conditions stated in the table below, the capacitors shall meet the following requirements. 105°C施加额定电压5000小时后满足下列条件 After 5000 hours, application of DC rated working voltage at + 105°C, capacitor shall meet the following limits.								
	静电容量变化率 Capacitance Change	初期值的 ± 25% Within ± 25%							
	损失角正接 ( tan δ ) Dissipation Factor	规格值的200%以内 Not more than the specified value							
	漏电流 Leakage Current(MAX)	规格值以下 Not more than the specified value							
低温特性 ( 抵抗比 ) Low Temperature Stability impedance Ratio MAX	规格电压 ( V ) Rated Voltage	6.3-16V	25-50V	63-100V	160-250V	400V	450V		
	Z(-25°C)/Z(20°C)	4	5	6	5	6	8		
	Z(-40°C)/Z(20°C)	8	9	10	9	10	12		
高温无负荷特性 High Temp Non- Load Test	After storage for 1000 hours at 105°C with no voltage applied, voltage treatment of JIS-C-5102 article 4-4 is to be given and then measurement shall be made, at which time requirements specified in the table "High Temperature Loading" can be met. 在105°C的条件下不加电压放置1000个小时, 按照JIS-C-5102中4-4的标准进行处理, 特性满足高温负荷特性								

# SMZ Series

## 寸法图DIMENSIONS



★ Φ35mm: 3.5 ± 0.5mm The standard design has no plastic disc 标准的作业没有底座

### ▼ MULTIPLIER FOR RIPPLE CURRENT 纹波电流修正系数

(1) Frequency coefficient 频率系数

Freq.(Hz) Cap(μF)	120	1K	10K	100K	(2) Temperature coefficient				
	330 ~ 680	1.00	1.05	1.10	1.20	Ambient Temperature(°C) Coefficient	65	75	85
820 ~ 82000	1.00	1.10	1.15	1.18	1.10		1.15	1.20	1.00

### 标准品一览表/STANDARD SIZE

定格电压 Rated voltage 10V(1A)					
定格静容量(μF) Rated Capacitance	外形尺寸 Size Φ D x L (mm)	定格电流 Rated ripple current m A r. m. s / 105 °C, 120 KHz	阻抗值 Impedance / 100 KHz / (Ω)		
			20 °C	-10 °C	
12000	22*25	2200	1.000	4.300	
15000	22*30	2300	0.980	4.300	
18000	22*30	2400	0.950	4.300	
18000	25*25	2400	0.900	4.300	
22000	22*35	2600	0.800	4.300	
22000	25*30	2600	0.700	4.300	
27000	22*40	3100	0.600	4.300	
27000	25*35	3100	0.550	4.100	
27000	30*25	3100	0.450	3.900	
33000	22*45	3400	0.430	3.700	
33000	25*40	3400	0.410	3.300	
39000	25*45	3700	0.400	3.200	
39000	30*30	3700	0.380	3.100	
39000	35*25	3700	0.330	3.900	
47000	25*50	3950	0.290	3.300	
47000	30*45	4100	0.260	3.100	
47000	35*30	4200	0.250	2.900	
56000	30*40	4800	0.230	2.700	
56000	35*35	4950	0.220	2.500	
68000	30*45	5100	0.200	2.300	
68000	35*40	5100	0.180	2.100	
82000	35*45	5300	0.160	2.000	



# SMZ Series

## 标准品一览表/STANDARD SIZE

定格电压 Rated voltage 16V(1C)				
定格静容量(μ F) Rated Capacitance	外形尺寸 Size ΦDxL (mm)	定格电流 Rated ripple current m A r.m.s./105℃,120KHz	阻抗值 Impedance /100KHz/(Ω)	
			20℃	-10℃
10000	22*50	2200	0.980	4.300
12000	22*30	2300	0.950	4.300
12000	25*35	2400	0.900	4.300
15000	22*35	2400	0.800	4.300
18000	22*40	2600	0.700	4.300
18000	25*30	2600	0.600	4.300
22000	22*45	3100	0.550	4.100
22000	25*35	3100	0.450	3.900
22000	30*25	3100	0.430	3.700
27000	22*50	3400	0.410	3.300
27000	25*40	3400	0.400	3.200
27000	30*30	3700	0.380	3.100
27000	35*25	3700	0.330	3.900
33000	25*45	3700	0.290	3.300
33000	30*35	4200	0.260	3.100
39000	30*40	4200	0.250	2.900
39000	35*30	4350	0.230	2.700
47000	30*45	4500	0.220	2.500
47000	35*35	4650	0.200	2.300
56000	30*50	4780	0.180	2.100
56000	35*40	4820	0.160	2.000
68000	35*45	4900	0.140	1.800
定格电压 Rated voltage 25V(1E)				
定格静容量(μ F) Rated Capacitance	外形尺寸 Size ΦDxL (mm)	定格电流 Rated ripple current m A r.m.s./105℃,120KHz	阻抗值 Impedance /100KHz/(Ω)	
			20℃	-10℃
6800	22*25	2300	0.950	4.300
8200	22*30	2400	0.900	4.300
8200	25*25	2400	0.800	4.300
10000	22*35	2600	0.700	4.300
12000	22*40	2600	0.600	4.300
12000	25*30	3100	0.550	4.100
15000	22*45	3100	0.450	3.900
15000	25*35	3100	0.430	3.700
15000	30*25	3400	0.410	3.300
18000	22*50	3400	0.400	3.200
18000	25*40	3700	0.380	3.100
18000	30*30	3700	0.330	3.900
18000	35*25	3700	0.290	3.300
22000	25*45	4200	0.260	3.100
22000	30*35	4200	0.250	2.900
22000	35*30	4350	0.230	2.700
27000	30*40	4500	0.220	2.500
27000	35*35	4650	0.200	2.300
33000	30*45	4780	0.180	2.100
33000	35*40	4820	0.160	2.000
39000	30*50	4900	0.140	1.800
39000	35*45	5100	0.140	1.800
47000	35*50	5200	0.130	1.600

# SMZ Series

## 标准品一览表/STANDARD SIZE

定格电压 Rated voltage 35V(IV)				
定格静容量(μ F) Rated Capacitance	外形尺寸 Size ΦDxL (mm)	定格电流 Rated ripple current m A r.m.s./105℃,120KHz	阻抗值 Impedance /100Khz/(Ω)	
			20℃	-10℃
4700	22*25	2400	0.950	4.300
5600	22*25	2400	0.900	4.300
5600	22*30	2600	0.800	4.300
6800	25*25	2600	0.700	4.300
8200	22*35	3100	0.600	4.300
8200	25*30	3100	0.550	4.100
10000	30*25	3100	0.450	3.900
10000	22*40	3400	0.430	3.700
10000	25*35	3400	0.410	3.300
12000	30*25	3700	0.400	3.200
12000	22*45	3700	0.380	3.100
12000	25*40	3700	0.330	3.900
12000	30*30	4200	0.290	3.300
15000	35*25	4200	0.260	3.100
15000	25*45	4350	0.250	2.900
15000	30*35	4500	0.230	2.700
18000	35*30	4650	0.220	2.500
18000	25*50	4780	0.200	2.300
22000	30*40	4820	0.180	2.100
22000	35*30	4900	0.160	2.000
27000	30*45	5100	0.140	1.800
27000	35*35	5200	0.140	1.800
33000	35*45	5300	0.130	1.600
定格电压 Rated voltage 50V(IH)				
定格静容量(μ F) Rated Capacitance	外形尺寸 Size ΦDxL (mm)	定格电流 Rated ripple current m A r.m.s./105℃,120KHz	阻抗值 Impedance /100Khz/(Ω)	
			20℃	-10℃
2700	22*25	2400	0.950	4.300
3300	22*30	2550	0.900	4.300
3900	22*30	2650	0.800	4.300
3900	25*25	2900	0.700	4.300
4700	22*35	3000	0.600	4.300
4700	25*30	3200	0.550	4.100
5600	30*25	3500	0.450	3.900
5600	22*40	3500	0.430	3.700
5600	25*35	3800	0.410	3.300
6800	30*25	3800	0.400	3.200
6800	22*50	3800	0.380	3.100
6800	25*40	4200	0.330	3.900
6800	30*30	4200	0.290	3.300
8200	35*25	4200	0.260	3.100
8200	25*45	4200	0.250	2.900
10000	30*35	4700	0.230	2.700
10000	35*30	4700	0.220	2.500
10000	25*50	4800	0.200	2.300
12000	30*40	4800	0.180	2.100
12000	35*30	4900	0.160	2.000
15000	30*45	4900	0.140	1.800
15000	35*35	5150	0.140	1.800
18000	35*40	5250	0.130	1.600

# SMZ Series

## 标准品一览表/STANDARD SIZE

定格电压 Rated voltage 65V(1J)				
定格静容量(μ F) Rated Capacitance	外形尺寸 Size ΦDxL (mm)	定格电流 Rated ripple current m A r.m.s./105℃,120KHz	阻抗值 Impedance /100KHz/(Ω)	
			20℃	-10℃
2200	22*25	2400	0.980	4.300
2700	22*30	2550	0.950	4.300
2700	25*25	2650	0.900	4.300
3300	22*35	2900	0.800	4.300
3900	25*30	3000	0.700	4.300
3900	22*40	3200	0.600	4.300
3900	25*35	3500	0.550	4.100
4700	30*25	3500	0.450	3.900
4700	22*45	3800	0.430	3.700
5600	25*35	3800	0.410	3.300
5600	30*30	3800	0.400	3.200
5600	35*25	4200	0.380	3.100
5600	22*50	4200	0.330	3.900
6800	25*40	4200	0.290	3.300
6800	30*25	4200	0.260	3.100
6800	35*25	4700	0.250	2.900
8200	25*50	4700	0.230	2.700
8200	30*40	4800	0.220	2.500
10000	35*30	4800	0.200	2.300
10000	30*45	4900	0.180	2.100
12000	35*35	4900	0.160	2.000
12000	30*50	5150	0.140	1.800
15000	35*40	5250	0.120	1.400
定格电压 Rated voltage 80V(1K)				
定格静容量(μ F) Rated Capacitance	外形尺寸 Size ΦDxL (mm)	定格电流 Rated ripple current m A r.m.s./105℃,120KHz	阻抗值 Impedance /100KHz/(Ω)	
			20℃	-10℃
1200	22*25	1800	0.980	4.300
1500	22*25	1950	0.950	4.300
1500	22*30	1950	0.900	4.300
1800	25*25	2100	0.800	4.300
2200	22*35	2250	0.700	4.300
2200	25*30	2350	0.600	4.300
2700	22*40	2450	0.550	4.100
2700	25*35	2550	0.450	3.900
2700	30*25	2550	0.430	3.700
3300	22*50	2700	0.410	3.300
3300	25*40	2750	0.400	3.200
3300	30*30	2750	0.380	3.100
3300	35*25	2800	0.330	3.900
3900	25*45	2900	0.290	3.300
3900	30*35	3000	0.260	3.100
4700	35*25	3150	0.250	2.900
4700	25*50	3200	0.230	2.700
4700	30*40	3200	0.220	2.500
5600	35*30	3500	0.200	2.300
5600	30*45	3650	0.180	2.100
6800	35*35	3800	0.160	2.000
6800	30*35	3950	0.140	1.800
8200	30*50	4100	0.130	1.700

# SMZ Series

## 标准品一览表/STANDARD SIZE

定格电压 Rated voltage 100V(2A)				
定格静容量(μ F) Rated Capacitance	外形尺寸 Size Φ D×L (mm)	定格电流 Rated ripple current m A r.m.s./105℃,120KHz	阻抗值 Impedance /100KHz/(Ω)	
			20℃	-10℃
820	22*25	1400	0.600	4.300
1000	22*30	1550	0.550	4.100
1200	22*30	1650	0.450	3.900
1200	25*25	1800	0.430	3.700
1500	22*35	2100	0.410	3.300
1500	25*30	2250	0.400	3.200
1800	22*40	2350	0.380	3.100
1800	25*35	2450	0.330	3.900
1800	30*25	2550	0.290	3.300
2200	22*45	2550	0.260	3.100
2200	25*40	2700	0.250	2.900
2200	30*30	2750	0.230	2.700
2200	30*40	2750	0.230	2.700
2200	35*25	2750	0.220	2.500
2700	25*45	2800	0.200	2.300
2700	30*35	2900	0.180	2.100
3300	25*50	3000	0.160	2.000
3300	30*40	3150	0.140	1.800
3300	35*30	3200	0.200	2.300
3900	30*45	3500	0.180	2.100
3900	35*35	3650	0.160	2.000
4700	30*50	3800	0.140	1.800
4700	35*40	3950	0.100	1.500
5600	35*45	4100	0.140	1.800
6800	35*50	4300	0.100	1.500
定格电压 Rated voltage 160V(2C)				
定格静容量(μ F) Rated Capacitance	外形尺寸 Size Φ D×L (mm)	定格电流 Rated ripple current m A r.m.s./105℃,120KHz	阻抗值 Impedance /100KHz/(Ω)	
			20℃	-10℃
470	22*30	1500	0.800	4.300
560	22*35	1600	0.700	4.300
680	22*40	1800	0.600	4.300
680	25*30	1800	0.550	4.100
820	22*45	1900	0.450	3.900
820	25*35	1900	0.430	3.700
1000	22*50	2100	0.410	3.300
1000	25*40	2100	0.400	3.200
1000	30*30	2200	0.380	3.100
1000	35*25	2200	0.330	3.900
1200	25*45	2300	0.290	3.300
1200	30*35	2300	0.260	3.100
1200	35*30	2400	0.250	2.900
1500	30*40	2500	0.230	2.700
1500	35*30	2550	0.220	2.500
1800	30*45	2800	0.200	2.300
1800	35*35	2800	0.180	2.100
2200	35*45	2950	0.160	2.000
3300	35*60	3050	0.140	1.800



# SMZ Series

## 标准品一览表/STANDARD SIZE

定格电压 Rated voltage 200V(2D)				
定格静容量(μ F) Rated Capacitance	外形尺寸 Size Φ D×L (mm)	定格电流 Rated ripple current m A r.m.s./105℃,120KHz	阻抗值 Impedance /100KHz/(Ω)	
			20℃	-10℃
270	22*25	1350	1.000	4.300
330	22*30	1480	0.980	4.300
390	22*30	1550	0.950	4.300
390	25*25	1600	0.900	4.300
470	22*35	1800	0.800	4.300
470	25*30	1800	0.700	4.300
560	22*40	1900	0.600	4.300
560	25*30	1900	0.550	4.100
560	30*25	2000	0.450	3.900
680	22*40	2100	0.430	3.700
680	22*45	2100	0.430	3.700
680	25*35	2200	0.410	3.300
680	30*30	2200	0.400	3.200
820	22*50	2300	0.380	3.100
820	25*40	2300	0.330	3.900
820	30*30	2400	0.290	3.300
820	35*25	2500	0.260	3.100
1000	25*45	2550	0.250	2.900
1000	30*35	2800	0.230	2.700
1000	35*30	2800	0.220	2.500
1200	30*40	2950	0.200	2.300
1200	35*35	3050	0.180	2.100
1500	30*50	3100	0.160	2.000
1500	35*40	3150	0.150	1.800
1800	35*50	3300	0.140	1.600
2200	35*55	3500	0.130	1.400
2200	35*60	3650	0.120	1.200
3300	35*65	3800	0.110	1.000
定格电压 Rated voltage 250V(2E)				
定格静容量(μ F) Rated Capacitance	外形尺寸 Size Φ D×L (mm)	定格电流 Rated ripple current m A r.m.s./105℃,120KHz	阻抗值 Impedance /100KHz/(Ω)	
			20℃	-10℃
220	22*25	1480	0.980	4.300
270	22*30	1550	0.950	4.300
270	25*25	1600	0.900	4.300
330	22*35	1800	0.800	4.300
330	25*30	1800	0.700	4.300
390	22*40	1900	0.600	4.300
390	25*30	1900	0.550	4.100
390	30*25	2100	0.450	3.900
470	22*45	2100	0.430	3.700
470	25*35	2200	0.410	3.300
470	30*30	2200	0.400	3.200
560	25*40	2300	0.380	3.100
560	30*30	2300	0.330	3.900
560	35*25	2400	0.290	3.300
680	25*45	2500	0.260	3.100
680	30*35	2550	0.250	2.900
680	35*30	2650	0.230	2.700
820	30*40	2650	0.220	2.500
820	35*35	2750	0.200	2.300
1000	30*50	2900	0.180	2.100
1000	35*40	2950	0.160	2.000
1200	35*45	2950	0.155	1.900
2200	35*65	3600	0.150	1.800

# SMZ Series

## 标准品一览表/STANDARD SIZE

定格电压 Rated voltage 400V(2G)				
定格静容量(μ F) Rated Capacitance	外形尺寸 Size Φ D×L (mm)	定格电流 Rated ripple current m A r.m.s./105℃,120KHz	阻抗值 Impedance /100KHz/(Ω)	
			20℃	-10℃
82	22*25	1140	1.450	4.900
100	22*30	1300	1.400	4.800
100	25*25	1300	1.380	4.900
120	22*35	1460	1.330	4.800
120	25*30	1460	1.330	4.600
150	22*40	1530	1.300	4.500
150	25*30	1530	1.250	4.400
150	30*25	1530	1.220	4.380
180	22*45	1600	1.200	4.350
180	25*35	1600	1.150	4.300
180	30*30	1600	1.120	4.300
220	22*50	1800	1.100	4.300
220	25*40	1800	1.050	4.100
220	30*30	1850	1.000	3.900
220	35*25	1850	0.950	3.900
270	25*45	1950	0.900	3.900
270	30*35	1950	0.850	3.700
定格电压 Rated voltage 400V(2G)				
定格静容量(μ F) Rated Capacitance	外形尺寸 Size Φ D×L (mm)	定格电流 Rated ripple current m A r.m.s./105℃,120KHz	阻抗值 Impedance /100KHz/(Ω)	
			20℃	-10℃
150	25*24	1050	1.800	3.900
220	35*30	2050	0.800	3.200
270	35*30	2050	0.800	3.200
330	30*40	2180	0.750	3.000
330	35*30	2200	0.700	2.900
390	30*45	2350	0.650	2.700
390	35*35	2350	0.600	2.600
470	35*40	2550	0.520	2.500
470	35*45	2550	0.500	2.400
560	35*45	2650	0.460	2.400
680	35*50	2800	0.200	2.300
820	35*60	2980	0.180	2.100
1000	35*60	3210	0.160	2.000
定格电压 Rated voltage 450V(2W)				
定格静容量(μ F) Rated Capacitance	外形尺寸 Size Φ D×L (mm)	定格电流 Rated ripple current m A r.m.s./105℃,120KHz	阻抗值 Impedance /100KHz/(Ω)	
			20℃	-10℃
82	22*30	1300	1.400	4.800
82	25*25	1300	1.380	4.900
100	22*35	1460	1.330	4.800
100	25*30	1460	1.330	4.600
120	22*40	1530	1.300	4.500
120	25*35	1530	1.250	4.400
120	30*25	1530	1.220	4.380
150	22*45	1600	1.200	4.350
150	25*40	1600	1.150	4.300
150	30*30	1600	1.120	4.300
150	35*25	1800	1.100	4.300
180	22*50	1800	1.050	4.100
180	25*40	1850	1.000	3.900
180	30*30	1850	0.950	3.900
180	35*25	1950	0.900	3.900
220	25*45	1950	0.850	3.700
220	30*35	2050	0.800	3.200
220	35*30	2180	0.750	3.000
270	30*40	2200	0.700	2.900
270	35*35	2350	0.650	2.700
330	30*46	2350	0.600	2.600
330	30*50	2350	0.600	2.600
330	35*40	2550	0.520	2.500
390	35*40	2550	0.500	2.400
470	35*40	2650	0.460	2.400
470	35*45	2800	0.200	2.300
470	35*60	2800	0.200	2.300
560	35*50	2980	0.180	2.100
680	35*60	3010	0.160	2.000
820	35*60	3210	0.150	1.580