KSA Series Aluminum Electrolytic Capacitors

KNSCHA
Empowering The World

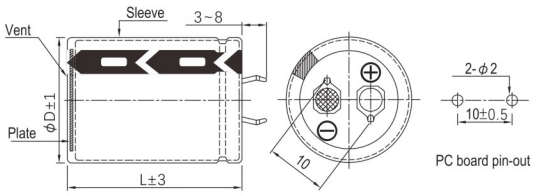
特性/ Features

- Long Life
- Load Life:3000 hours at 105℃
- RoHS compliant
- 长寿命
- 105℃负荷寿命 3000小时
- 符合RoHS指令

■表1 规格表 Specifications

项目 Items	性 能 Performance													
工作温度范围 Category Temperature Range	16~100V								160~450V					
	-40℃~+105℃								-25℃~+105℃					
额定静电容量容许误差值 Capacitance Tolerance	± 20% (120 Hz, 20℃)													
漏电流 Leakage Current(at 20℃)	测试时间 Time	2 分钟后 after 2 minutes							5 分钟后 after 2 minutes					
	漏电流 Leakage Current	I ≤ 0.03CV or 3(mA/毫安) 之中任一个较小值以下whichever is smaller							I≤3$\sqrt{CV}$ or 0.94 (mA/毫安) 之中任一个较小值以下whichever is smaller					
	I = 漏电流(μA/微安)、C = 额定静电容量(μF/微法拉)、V = 额定直流工作电压(V/伏特) Where,C = rated capacitance in μF,V = rated DC working voltage in V													
损失角正切值 Tanδ (at 120 Hz, 20℃)	额定电压 Rated Voltage	16	25	35	50	63	100	160	200	250	315	400	450	
	损失角正切值 Tanδ (max)	0.50	0.40	0.35	0.30	0.25	0.20	0.15	0.15	0.15	0.20	0.20	0.20	
温度特性(120 Hz) Low Temperature Characteristics	阻抗比不可大于下表所列数值 Impedance ratio shall not exceed the values given in the table below.													
	额定电压 Rated Voltage		16	25	35	50	63	80	100	160	200	250	315	400	450
	阻抗比 Impedance Ratio	Z(-25℃)/Z(+20℃)	4	3	3	2	2	2	2	4	4	4	8	8	8
		Z(-40℃)/Z(+20℃)	15	10	8	6	6	5	5						
耐久性 Endurance	保证寿命时间 Test Time	3,000 hours												
	静电容量变化率 Capacitance Change	≦初始值的± 20% Within ±20% of initial value												
	损失角正切值 Tanδ	≤初始规格值的200% Less than 200% of specified value												
	漏电流 Leakage Current	≦初始规格值 Within specified value												
	*于 105℃环境中供给容许纹波电流值与额定电压 3,000 小时后，待制品回复至 20℃的环境中进行量测时，需满足上列要求。 *The above specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied with rated ripple current for 3,000 hours at 105℃.													
高温无负荷特性 Shelf Life Test	保证寿命时间 Test Time	1,000 hours												
	静电容量变化率 Capacitance Change	≦初始值的± 20% Within ±20% of initial value												
	损失角正切值 Tanδ	≤初始规格值的200% Less than 200% of specified value												
	漏电流 Leakage Current	≦初始规格值 Within specified value												
	*于 105℃环境中不供给额定电压 1,000 小时后，待制品回复至 20℃的环境中进行量测时，需满足上列要求。 *The above specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 105℃ without voltage applied.													

■表2 外形尺寸 Dimensions(mm)



Lead Spacing and Diameter

Unit: mm

ΦD±1	20,22,25.4						30,35				
L±3	25	30	35	40	45	50	30	35	40	45	50

■表3 纹波电流与频率补正系数

Ripple Current and Frequency Multipliers

Rated Volt.(VDC) \ Freq.(Hz)		60	120	500	1K	100K
Coefficient	≤100	0.8	1.00	1.2	1.2	1.2
	≥160	0.8	1.00	1.2	1.3	1.4

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■表4 标准品一览表 Standard Size

Dimension and Permissible Ripple Current

Dimension: ϕDxL(mm)
Ripple Current: mA/rms at 120 Hz, 105°C

Rated Volt.(Vdc)	16		25		35		50		63		80		100	
Surge Volt.(Vdc)	20		32		44		63		79		100		125	
Item / Cap.(μF)	D×L	R. C.	D×L	R. C.	D×L	R. C.	D×L	R. C.	D×L	R. C.	D×L	R. C.	D×L	R. C.
560													22×25	1070
820											22×25	1110	22×30	1350
													25×25	1350
1000											22×25	1290	22×30	1540
													25×30	1560
1200									22×25	1250	22×30	1440	22×40	1740
											25×25	1390	25×30	1760
													30×25	1710
1500									22×30	1470	22×30	1610	22×45	1990
									25×25	1440	25×25	1620	25×35	2030
													30×30	2000
1800							22×25	1340	22×30	1580	22×35	1830	25.4×40	2280
									25×25	1520	25×30	1860	30×35	2270
											30×25	1810		
2200									22×35	1820	22×40	2090	25.4×50	2570
									25×30	1750	25×35	2010	30×35	2590
											30×25	2100	35×30	2520
2500													35×35	2772
2700							22×30	1700	22×40	2070	25×40	2430	30×45	2940
							25×25	1700	25.4×35	2110	30×30	2430	35×45	2900
									30×25	1930				
3300					22×25	1450	22×35	1980	22×45	2330	25×45	2760	30×50	3320
							25.4×30	2000	25.4×35	2270	30×35	2780	35×40	3310
									30×30	2240	35×30	2710		
3500													35×45	3439
3900					22×30	1690	22×40	2250	25.4×40	2540	25×50	2920	35×45	3690
							25.4×30	2280	30×35	2550	30×40	3120		
							30×25	2220			35×30	3070		
4700			22×25	1610	22×35	2020	22×45	2560	25.4×50	2970	30×45	3520	35×50	4140
					25.4×25	1780	25.4×35	2610	30×40	2900	35×35	3500		
							30×30	2580	35×30	2830				
5600			22×30	1800	22×35	2130	22×50	2890	30×40	3280	30×50	3800		
					25.4×30	2040	25.4×40	2810	35×35	3240	35×40	3870		
					30×25	2310	30×30	2950						
6000									35×35	3403	35×45	4190		
6800	22×25	1750	22×30	1910	22×40	2410	25.4×45	3370	30×50	3730				
			25.4×25		25.4×35	2310	30×35	3390	35×40	3710				
					30×25		35×30	3310						
8200	22×30	2000	22×35	2140	22×50	2850	30×40	3710	35×45	4160				
			25.4×30	2340	25.4×40	2730	35×35	3660						
			30×25	2250	30×30	2750								
8500									35×45	4196				
10000	22×25	2050	22×40	2650	25.4×45	3050	30×50	4090	30×50	4690				
	22×30	2100	25.4×30	2610	30×35		35×40	4070						
			30×30											
12000	22×30	2300	22×45	2690	25.4×50	3370	35×45	4560						
	22×35	2310	25.4×40	2810	30×40	3280								
	30×25	2380	30×30	2740	35×30	3200								
15000	22×40	2680	25.4×45	3270	30×45	3740	35×50	4770						
	22×35		30×35	3130	35×35	3690								
	30×30	2570	35×30	3260										
18000	22×45	2980	25.4×50	3540	35×40	4370								
	25.4×40	3160	30×40	3560										
	30×30	3000	35×35	3840										
22000	25.4×45	3400	30×45	4240	35×50	4920								
	30×35	3390	35×35	3960										
	35×30	3250												
27000	25.4×50	3850	35×45	4750										
	30×40	3830												
	35×30	3740												
33000	30×45	4300	35×50	5500										
	35×35	4270												
39000	30×50	4810												
	35×40	4800												
47000	35×45	5530												

制品尺寸与容许纹波电流一览表

尺寸：直径(ϕD)×长度(L)，(毫米/mm)
容许纹波电流：毫安/均方根值(mA/rms)，120 赫兹(Hz), 105℃

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Dimension and Permissible Ripple Current

Dimension: ϕDxL(mm)
Ripple Current: mA/rms at 120 Hz, 105°C

Rated Volt.(Vdc)	160		200		250		315		400		450	
Surge Volt.(Vdc)	200		250		300		365		450		500	
Item / Cap.(μF)	D×L	R. C.	D×L	R. C.	D×L	R. C.	D×L	R. C.	D×L	R. C.	D×L	R. C.
47											20×25	390
56									20×25	510	20×30	510
68									20×30	560	20×35	560
82							20×25	640	20×30	640	20×35	640
									22×25	640	22×30	
											22×25	550
											25.4×25	640
100							20×30	690	20×35	700	20×50	750
											20×45	690
									22×30		22×35	
									25.4×25		25.4×30	
120							20×30	750	20×40	750	22×40	800
							22×25		22×35		25.4×30	
									25.4×25		30×25	
150					20×25	790	20×35	820	20×45	830	22×45	880
									22×40	880		
							22×30		25.4×30		25.4×35	
							25×25		30×25		30×30	
180					20×30	900	20×40	900	22×45	980	22×50	1000
							22×35	920	25.4×35		25.4×40	
							25.4×25		30×30		30×30	
									35×25			
220			20×25	1000	20×30	1000	22×50	1000	22×50	1100	25.4×45	1120
							22×40	1040	25.4×35		30×35	
									25.4×40			
					22×25		25.4×30		30×30		35×30	
							30×25		35×25			
270	20×25	1100	20×30	1100	20×35	1100	22×45	1160	25.4×35	1020	30×40	1280
									25.4×45	1220		
			22×25		22×35	1180	25.4×35		30×35		35×35	
					25.4×25		30×25		35×30		25.4×45	1200
330	20×30	1200	20×35	1200	20×40	1200	22×50	1330	25.4×40	1290	30×50	1450
			22×30	1250	22×40	1300	25.4×40		25.4×50	1440	35×40	
			25.4×25		25.4×30		30×30		35×30			
					30×25		35×25					
390	20×30	1300	20×40	1310	22×50	1450	25.4×45	1470	25×45	1400		
	22×25		22×30	1350	22×45	1490	30×35		30×45	1600		
			25.4×25	1350	30×25		35×30		35×35	1600		
470	20×35	1340	20×45	1450	22×50	1650	25.4×50	1700	30×40	1700	35×50	1850
	22×30	1550	22×35	1500	25.4×40		30×40		30×50	1900		
	25.4×25		25.4×30	1500	30×30		35×30		35×40			
			30×25	1500	35×25							
560	20×40	1500	20×50	1580	25.4×45	1800	30×45	2050	30×45	1963		
	22×35	1670	22×40	1670					35×45	2120		
	25.4×30		25.4×30		30×35		35×35					
	30×25		30×25		35×25							
680	20×45	1700	22×45	1780	25.4	2550	30×50	2170				
	22×40	1820	25.4×35		25.4×50	2000						
	25.4×30		30×30		30×40		35×40					
	30×25		35×25		35×30							
820	22×45	2040	25.4×45	2040	30×45	2300	35×45	2200				
	25.4×35		30×30									
	30×30		35×25		35×35							
	35×25											
1000	22×50	2250	25.4×50	2300	30×50	2470						
	25.4×40		30×35									
	30×30		35×30		35×40							
	35×25											
1200	25.4×45	2490	30×40	2650	35×45	2600						
	30×35		35×35									
	35×30											
1500	30×40	2840	30×50	3080	35×50	3000						
	35×30		35×40									
1800	30×45	3320	35×45	3480								
	35×35	3000										
2200	35×45	3500	35×50	3780								
2700	35×50	4000										

制品尺寸与容许纹波电流一览表

尺寸：直径(ϕD)×长度(L)，(毫米/mm)
容许纹波电流：毫安/均方根值(mA/rms)，120 赫兹(Hz), 105℃

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■表5 产品编码说明 Part Numbering System

L	SA	477	M	450	S1	A	4	T40	A
电容器类别 Capacitors Name	系列名 Series Name	额定静电容量 Capacitance	额定静电容量容许误差值 Capacitance tolerance	额定电压 Rated voltage	加工形状 Processing shape	电气特性 Electrical characteristics	PET套颜色管 PET Sleeve color	制品尺寸 Case size	内部特征码 Internal use
	KSA Series	范例Example:	M=±20%	范例Example:			咖啡体银字 Coffee body silver print	范例Example:	

Cap.	Symbol
0.1μF	104
2.2μF	225
33μF	336
470μF	477
6800μF	688
82000μF	829

Voltage	Symbol
6.3V	6R3
10V	010
250V	250

ϕDxL (mm)	Symbol
35x40	T40

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