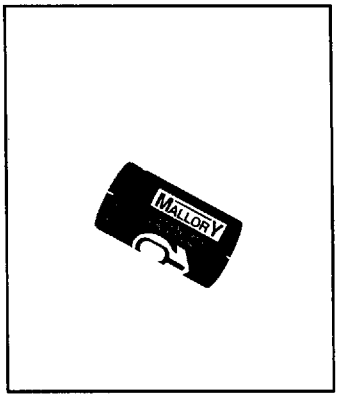
Type SKA
Axial Leaded Capacitors

JAMICON MALLORY



- 85°C General Purpose
- Axial Leads Miniature Size
- High CV per Case Size
- 2000 Hour Load Life Data for Longer Life
- Suitable for Consumer Electronic Products, Such as Stereo Radio, TV. etc.

SKA parts are available taped, in Ammo Pack.
See page 92 for details.

GENERAL SPECIFICATIONS

Operating Temperature:
-40°C to +85°C
(For 105°C device, contact NACC)

Voltage Range:
6.3 WVDC to 450 WVDC

Capacitance Range:
0.47 μF to 15,000 μF

Capacitance Tolerance:
±20%

DC Leakage Current:
6.3 - 100VDC
I = ≤ .03CV or 4μA whichever is greater after 3 minutes.
Over 100VDC
I = ≤ .03CV +40μA Max
C = Capacitance in μF
V = Rated Voltage
I = Leakage Current in μA

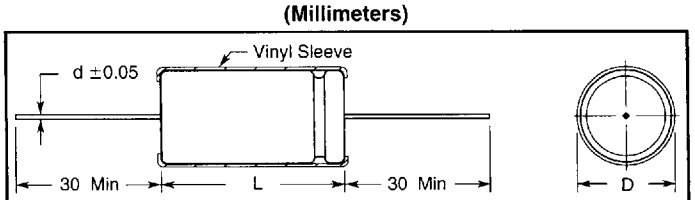
QA Stability Test:
Apply WVDC for 2,000 hrs at 85°C
- Capacitance change ≤20% from initial limits
- DC leakage current meets initial limits
- ESR ≤150% of initial measured value

The maximum ripple current at 85°C and 120 Hz for SKA capacitors is shown in the Standard Rating Table. Maximum ripple current may be adjusted by the multipliers in the following tables.

Rated WVDC	Ripple Multipliers		
	60Hz	120Hz	1kHz
6 to 25	.85	1.0	1.10
35 to 100	.80	1.0	1.15
160 to 250	.75	1.0	1.25
350 to 450	.70	1.0	1.30

Ambient Temperature	Ripple Multiplier
+85°C	1.00
+75°C	1.14
+65°C	1.25

Outline Dimensions
(Millimeters)



Case vented on diameters 6.3 and greater.

Vinyl sleeve adds .5 Max. to diameter and 2.0 Max. to length.

6.3 WVDC; 8 VDC Surge

Cap μF	Max ESR Ohms 120Hz 25°C	Max Ripple mA 120Hz 85°C	Size (Millimeters) D Diameter	L Length	d	Catalog Number
100	3.98	130	6.3	13	.6	SKA101M0JE13V
220	1.81	210	6.3	16	.6	SKA221M0JE16V
330	1.21	260	8	16	.6	SKA331M0JF16V
470	.85	350	8	16	.6	SKA471M0JF16V
1,000	.40	560	10	22	.6	SKA102M0JG22V
2,200	.20	980	13	27	.6	SKA222M0JJ27V
3,300	.14	1180	13	27	.6	SKA332M0JJ27V
4,700	.11	1460	13	32	.6	SKA472M0JJ32V
6,800	.09	1700	16	33	.8	SKA682M0JK33V
10,000	.07	2100	16	43	.8	SKA103M0JK43V
15,000	.06	2370	18	43	.8	SKA153M0JL43V

10 WVDC; 13 VDC Surge

Cap μF	Max ESR Ohms 120Hz 25°C	Max Ripple mA 120Hz 85°C	Size (Millimeters) D Diameter	L Length	d	Catalog Number
47	6.00	100	6.3	13	.6	SKA470M1AE13V
100	3.32	140	6.3	16	.6	SKA101M1AE16V
220	1.51	230	6.3	16	.6	SKA221M1AE16V
330	1.01	330	8	16	.6	SKA331M1AF16V
470	.71	390	8	16	.6	SKA471M1AF16V
1,000	.33	670	10	22	.6	SKA102M1AG22V
2,200	.17	1080	13	27	.6	SKA222M1AJ27V
3,300	.12	1270	13	32	.6	SKA332M1AJ32V
4,700	.10	1610	13	35	.6	SKA472M1AJ35V
6,800	.08	2010	16	33	.8	SKA682M1AK33V

16 WVDC; 20 VDC Surge

Cap μF	Max ESR Ohms 120Hz 25°C	Max Ripple mA 120Hz 85°C	Size (Millimeters) D Diameter	L Length	d	Catalog Number
47	6.00	100	6.3	13	.6	SKA470M1CE13V
100	2.82	170	6.3	16	.6	SKA101M1CE16V
220	1.28	290	8	16	.6	SKA221M1CF16V
330	.85	350	8	16	.6	SKA331M1CF16V
470	.60	460	8	21	.6	SKA471M1CF21V
1,000	.28	820	10	27	.6	SKA102M1CG27V
2,200	.14	1160	13	32	.6	SKA222M1CJ32V
3,300	.11	1490	13	35	.6	SKA332M1CJ35V
4,700	.09	1900	16	33	.8	SKA472M1CK33V
6,800	.07	2170	16	43	.8	SKA682M1CK43V

25 WVDC; 32 VDC Surge

Cap μF	Max ESR Ohms 120Hz 25°C	Max Ripple mA 120Hz 85°C	Size (Millimeters) D Diameter	L Length	d	Catalog Number
33	7.54	90	6.3	13	.6	SKA330M1EE13V
47	5.29	110	6.3	16	.6	SKA470M1EE16V
100	2.49	180	6.3	16	.6	SKA101M1EE16V
220	1.13	310	8	16	.6	SKA221M1EF16V
330	.75	410	8	21	.6	SKA331M1EF21V
470	.53	530	10	22	.6	SKA471M1EG22V
1,000	.25	880	13	27	.6	SKA102M1EJ27V
2,200	.13	1350	13	35	.6	SKA222M1EJ35V
3,300	.10	1790	16	33	.8	SKA332M1EK33V
4,700	.08	2040	18	43	.8	SKA472M1EL43V

35 WVDC; 44 VDC Surge

Cap μF	Max ESR Ohms 120Hz 25°C	Max Ripple mA 120Hz 85°C	Size (Millimeters) D Diameter	L Length	d	Catalog Number
22	7.54	90	6.3	13	.6	SKA220M1VE13V
33	6.03	100	6.3	16	.6	SKA330M1VE16V
47	4.23	140	6.3	16	.6	SKA470M1VE16V
100	1.99	230	8	16	.6	SKA101M1VF16V
220	.90	370	8	21	.6	SKA221M1VF21V
330	.60	500	10	22	.6	SKA331M1VG22V
470	.42	670	10	27	.6	SKA471M1VG27V
1,000	.20	990	13	32	.6	SKA102M1VJ32V
2,200	.11	700	16	33	.8	SKA222M1VK33V
3,300	.08	2000	16	43	.8	SKA332M1VK43V

50 WVDC; 63 VDC Surge

Cap μF	Max ESR Ohms 120Hz 25°C	Max Ripple mA 120Hz 85°C	Size (Millimeters) D Diameter	L Length	d	Catalog Number
0.47	352.74	13	6.3	13	.6	SKAR47M1HE13V
1.0	165.79	19	6.3	13	.6	SKA010M1HE13V
2.2	75.36	29	6.3	13	.6	SKA2R2M1HE13V
3.3	50.24	35	6.3	13	.6	SKA3R3M1HE13V
4.7	35.27	42	6.3	13	.6	SKA4R7M1HE13V
10	16.58	60	6.3	13	.6	SKA100M1HE13V
22	7.54	90	6.3	16	.6	SKA220M1HE16V
33	5.02	130	6.3	16	.6	SKA330M1HE16V
47	3.53	150	6.3	16	.6	SKA470M1HE16V
100	1.66	250	8	16	.6	SKA101M1HF16V
220	.75	440	10	22	.6	SKA221M1HG22V
330	.50	610	10	27	.6	SKA331M1HG27V
470	.35	740	13	27	.6	SKA471M1HJ27V
1,000	.17	1220	13	35	.6	SKA102M1HJ35V
2,200	.09	1890	18	43	.8	SKA222M1HL43V

Type SKA
Axial Leaded Capacitors

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Cap µF	Max ESR Ohms 120Hz 25°C	Max Ripple mA 120Hz 85°C	Size (Millimeters) D Diameter	L Length	d	Catalog Number
63 WVDC; 79 VDC Surge						
10	16.58	60	6.3	13	.6	SKA100M1JE13V
22	7.54	100	6.3	16	.6	SKA220M1JE16V
33	5.02	130	6.3	16	.6	SKA330M1JE16V
47	3.53	170	8	16	.6	SKA470M1JF16V
100	1.66	270	8	21	.6	SKA101M1JF21V
220	.75	500	10	27	.6	SKA221M1JG27V
330	.50	620	13	27	.6	SKA331M1JJ27V
470	.35	820	13	32	.6	SKA471M1JJ32V
1,000	.17	1360	16	33	.8	SKA102M1JK33V
100 WVDC; 125 VDC Surge						
0.47	282.19	15	6.3	13	.6	SKAR47M2AE13V
1.0	132.63	22	6.3	13	.6	SKA010M2AE13V
2.2	60.29	32	6.3	13	.6	SKA2R2M2AE13V
3.3	40.19	39	6.3	13	.6	SKA3R3M2AE13V
4.7	28.22	47	6.3	13	.6	SKA4R7M2AE13V
10	13.26	80	6.3	16	.6	SKA100M2AE16V
22	6.03	130	8	16	.6	SKA220M2AF16V
33	4.02	180	8	21	.6	SKA330M2AF21V
47	2.82	230	8	21	.6	SKA470M2AF21V
100	1.06	380	10	27	.6	SKA101M2AG27V
220	.60	640	13	32	.6	SKA221M2AJ32V
330	.40	780	13	35	.6	SKA331M2AJ35V
470	.28	1040	16	43	.8	SKA471M2AK43V
160 WVDC; 200 VDC Surge						
0.47	705.47	12	6.3	13	.6	SKAR47M2CE13V
1.0	331.57	18	6.3	13	.6	SKA010M2CE13V
2.2	150.72	27	6.3	16	.6	SKA2R2M2CE16V
3.3	100.48	35	8	16	.6	SKA3R3M2CF16V
4.7	70.55	39	8	16	.6	SKA4R7M2CF16V
10	33.16	65	10	22	.6	SKA100M2CG22V
22	15.07	120	10	27	.6	SKA220M2CG27V
33	10.05	160	13	27	.6	SKA330M2CJ27V
47	7.06	190	13	32	.6	SKA470M2CJ32V
100	3.32	310	16	33	.8	SKA101M2CK33V
220	1.51	540	18	43	.8	SKA221M2CL43V
200 WVDC; 250 VDC Surge						
0.47	705.47	13	6.3	13	.6	SKAR47M2DE13V
1.0	331.57	19	6.3	13	.6	SKA010M2DE13V
2.2	150.72	29	6.3	16	.6	SKA2R2M2DE16V
3.3	100.48	35	8	16	.6	SKA3R3M2DF16V
4.7	70.55	48	8	16	.6	SKA4R7M2DF16V
10	33.16	75	10	22	.6	SKA100M2DG22V
22	15.07	140	13	27	.6	SKA220M2DJ27V
33	10.05	170	13	32	.6	SKA330M2DJ32V
47	7.06	210	13	32	.6	SKA470M2DJ32V
100	3.32	340	16	43	.8	SKA101M2DK43V

Cap µF	Max ESR Ohms 120Hz 25°C	Max Ripple mA 120Hz 85°C	Size (Millimeters) D Diameter	L Length	d	Catalog Number
250 WVDC; 300 VDC Surge						
0.47	705.47	14	6.3	13	.6	SKAR47M2EE13V
1.0	331.57	21	6.3	16	.6	SKA010M2EE16V
2.2	150.72	31	8	16	.6	SKA2R2M2EF16V
3.3	100.48	44	8	16	.6	SKA3R3M2EF16V
4.7	70.55	50	10	22	.6	SKA4R7M2EG22V
10	33.16	90	10	27	.6	SKA100M2EG27V
22	15.07	150	13	27	.6	SKA220M2EJ27V
33	10.05	190	13	32	.6	SKA330M2EJ32V
47	7.06	250	13	35	.6	SKA470M2EJ35V
100	3.32	410	16	43	.6	SKA101M2EK43V
350 WVDC; 400 VDC Surge						
0.47	881.84	14	6.3	16	.6	SKAR47M2VE16V
1.0	414.47	21	8	16	.6	SKA010M2VF16V
2.2	188.39	31	8	21	.6	SKA2R2M2VF21V
3.3	125.60	41	10	22	.6	SKA3R3M2VG22V
4.7	88.18	49	10	27	.6	SKA4R7M2VG27V
10	41.45	85	13	27	.6	SKA100M2VJ27V
22	18.84	130	13	32	.6	SKA220M2VJ32V
33	12.56	180	16	33	.8	SKA330M2VK33V
47	8.82	220	18	43	.8	SKA470M2VL43V
400 WVDC; 450 VDC Surge						
0.47	881.84	15	6.3	16	.6	SKAR47M2GE16V
1.0	414.47	21	8	16	.6	SKA010M2GF16V
2.2	188.39	32	8	21	.6	SKA2R2M2GF21V
3.3	125.60	42	10	22	.6	SKA3R3M2GG22V
4.7	88.18	55	10	27	.6	SKA4R7M2GG27V
10	41.45	90	13	27	.6	SKA100M2GJ27V
22	18.84	150	16	33	.8	SKA220M2GK33V
33	12.56	190	16	43	.8	SKA330M2GK43V
450 WVDC; 500 VDC Surge						
1.0	414.47	18	8	16	.6	SKA010M2WF16V
2.2	188.39	29	8	21	.6	SKA2R2M2WF21V
3.3	125.60	38	10	22	.6	SKA3R3M2WG22V
4.7	88.18	48	10	27	.6	SKA4R7M2WG27V
10	41.45	75	13	27	.6	SKA100M2WJ27V
22	18.84	130	16	43	.8	SKA220M2WK43V
33	12.56	170	18	43	.8	SKA330M2WL43V

North American Capacitor Company/P.O. Box 1284/Indianapolis IN 46206-1284/Phone: (317)273-0900/Fax: (317)273-2400

SK SERIES

標準品FOR GENERAL USE

- 本系列是屬高CV值，體積較一般產品小。更適合於輕便型或小型化之電子產品。
- 適用於一般民生用電子設備，例如：收音機、電視機等等。
- SK series is high CV product, smaller than others general use products in case size. SK series is more suitable for those electronics products which require small size.
- Suitable for consumer electronic equipment, such as stereo radios, TV sets, etc.

SPECIFICATION

Item	Characteristic
使用溫度範圍 Operation Temperature Range	−40～＋85℃ / −25～＋85℃
額定電壓 Rated Working Voltage	6.3～100VDC / 160～450VDC
靜電容量容許差(120Hz 25℃) Capacitance Tolerance	±20%(M)
漏洩電流 (25℃) Leakage Current	I≤0.03CV or 4(uA) / I≤003CV＋40uA max
	Whichever is greater after 3 minutes I :Leakage Current (uA) C :Rated Capacitance (uF) V :Working Voltage (V)

湧浪電壓 (25℃) Surge Voltage	W.V	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450
	S.V	8	13	20	32	44	63	79	125	200	250	300	400	450	500

散逸因素 (120Hz 25℃) Dissipation Factor (tanδ)	Add 0.02 per 1000uF for more than 1000uF														
	W.V.	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450
	tanδ	0.24	0.20	0.17	0.15	0.12	0.10	0.10	0.08	0.20	0.20	0.20	0.25	0.25	0.25

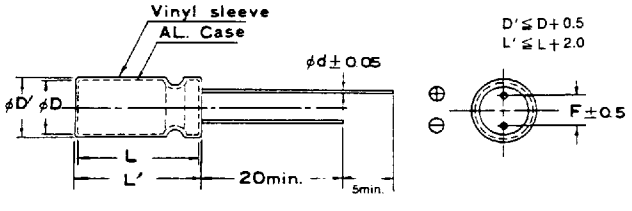
低溫特性 Low Temperature Stability	Impedance ratio at 120Hz						
	Rated Voltage (v)	6.3	10	16	25	35～100	160～250	350～450
	−25℃／＋25℃	4	3	2	2	2	8	12
	−40℃／＋25℃	10	8	6	4	3		

高溫負荷特性 Load Life	After 2000 hours application of W.V. at＋85℃ the capacitor shall meet the following limits.	
	Capacitanc Change	≤ ±20% of initial value
	Dissipation Factor	≤ 150% of initial specified value
	Leakage Current	≤ initial specified value

放置特性 Shelf Life	At 85℃ no voltage applied after 500 hours the capacitor shall meet the following limits.	
	Capacitance Change	≤ ±20% of initial value
	Dissipation Factor	≤ 200% of initial specified value
	Leakage Current	≤ 200% of initial specified value

CASE SIZE OF RADIAL TYPE

D	5	6.3	8	10	13	16	18
F	2.0	2.5	3.5	5.0		7.5	
d	0.5		0.6			0.8	



NORTH AMERICAN CAPACITO 66E D ■ 6647497 0004154 935 ■ NACC

CASE SIZE,E.S.R. & MAX RIPPLE CURRENT

Case size : D×L (mm)
E.S.R. : Ω25℃120HZ
Max ripple current : mA (rms)
(R.C.) 85℃ 120HZ

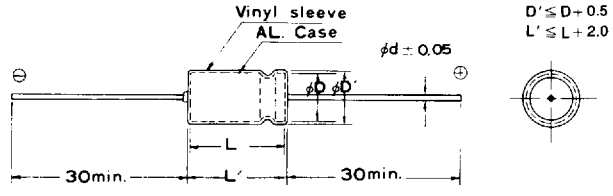
〔SKR〕

μF \ WV	160			200			250		
ITEM	D×L	E.S.R.	R.C.	D×L	E.S.R.	R.C.	D×L	E.S.R.	R.C.
0.47	6.3×11	705.47	12	6.3×11	705.47	13	6.3×11	705.47	14
1	6.3×11	331.57	18	6.3×11	331.57	19	6.3×11	331.57	21
2.2	6.3×11	150.72	27	6.3×11	150.72	29	6.3×11	150.72	31
3.3	6.3×11	100.48	33	6.3×11	100.48	35	8×11	100.48	44
4.7	6.3×11	70.55	39	8×11	70.55	48	8×11	70.55	50
10	8×11	33.16	65	10×13	33.16	75	10×16	33.16	90
22	10×16	15.07	120	10×21	15.07	140	13×21	15.07	150
33	10×21	10.05	160	13×21	10.05	170	13×21	10.05	190
47	13×21	7.06	190	13×21	7.06	210	13×26	7.06	250
100	13×26	3.32	310	16×25	3.32	340	16×32	3.32	410
220	16×35	1.51	540	18×42	1.51	620			
330	18×42	1.01	710						

μF \ WV	350			400			450		
ITEM	D×L	E.S.R.	R.C.	D×L	E.S.R.	R.C.	D×L	E.S.R.	R.C.
0.47	8×11	881.84	14	8×11	881.84	15	8×11	881.84	12
1	8×11	414.47	21	8×11	414.47	21	8×11	414.47	18
2.2	8×11	188.39	31	8×11	188.39	32	10×13	188.39	29
3.3	10×13	125.60	41	10×13	125.60	42	10×16	125.60	38
4.7	10×13	88.18	49	10×16	88.18	55	10×18	88.18	48
10	10×21	41.45	85	13×21	41.45	90	13×21	41.45	75
22	13×21	18.84	130	13×26	18.84	150	16×25	18.84	130
33	13×26	12.56	180	16×25	12.56	190	16×32	12.56	170
47	16×25	8.82	220	16×32	8.82	250	18×35	8.82	210
100	18×35	4.15	360						

CASE SIZE OF AXIAL TYPE

D	6.3	8	10	13	16	18
d	0.6				0.8	



〔SKA〕

Case Size:D×L(mm)

μF \ WV	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450
0.47					→	6.3×13	→	6.3×13	6.3×13	6.3×13	6.3×13	6.3×16	6.3×16	
1					→	6.3×13	→	6.3×13	6.3×13	6.3×13	6.3×16	8×16	8×16	8×16
2.2	註：空格部份膠管所標示的電				→	6.3×13	→	6.3×13	6.3×16	6.3×16	8×16	8×21	8×21	8×21
3.3	壓以→右方一格表示				→	6.3×13	→	6.3×13	8×16	8×16	8×16	10×22	10×22	10×22
4.7	All blank voltage on sleeve marking				→	6.3×13	→	6.3×13	8×16	8×16	10×22	10×27	10×27	10×27
10	Is same voltage"→" point to				→	6.3×13	6.3×13	6.3×16	10×22	10×22	10×27	13×27	13×27	13×27
22				→	6.3×13	6.3×16	6.3×16	8×16	10×27	13×27	13×27	13×32	16×33	16×43
33			→	6.3×13	6.3×16	6.3×16	6.3×16	8×21	13×27	13×32	13×32	16×33	16×43	18×43
47	→	6.3×13	6.3×13	6.3×16	6.3×16	6.3×16	8×16	8×21	13×32	13×32	13×35	18×43		
100	6.3×13	6.3×16	6.3×16	6.3×16	8×16	8×16	8×21	10×27	16×33	16×43	16×43			
220	6.3×16	6.3×16	8×16	8×16	8×21	10×22	10×27	13×32	18×43					
330	8×16	8×16	8×16	8×21	10×22	10×27	13×27	13×35						
470	8×16	8×16	8×21	10×22	10×27	13×27	13×32	16×43						
1000	10×22	10×22	10×27	13×27	13×32	13×35	16×33							
2200	13×27	13×27	13×32	13×35	16×33	18×43								
3300	13×27	13×32	13×35	16×33	16×43									
4700	13×32	13×35	16×33	18×43										
6800	16×33	16×33	16×43											
10000	16×43	18×43												
15000	18×43													