

Aluminum Electrolytic Capacitors Screw Terminal Type

AES-KP Series

MERITEK

FEATURE

- 2000 hours of load life at 85°C
- High ripple current capability
- Operation temperature: -40°C ~ +85°C



PART NUMBERING SYSTEM

AES (1) 1C (2) 223 (3) M (4) A (5) 050 (6) KP (7)



No	Item	Code	Description	Reference
(1)	Meritek Series	AES	Aluminum Electrolytic Capacitor	Screw terminal type
(2)	Rated Voltage Code	1C	1C: 16V	0J: 6.3V, 1A:10V ~ 2G: 400V, 2W: 450V
(3)	Capacitance	223	223: 22000μF	222: 2200μF
(4)	Tolerance	M	M: ±20%	-20% ~ +20% (M)
(5)	Case Code (Diameter)	A	A: 35mm	B: 51mm, C:64mm, D:77mm, E:90mm
(6)	Length	050	050: 50mm	050: 50mm ~ 236: 236mm
(7)	Internal Code	KP	2000 hours load life at 85°C	Product type reference

ELECTRICAL CHARACTERISTICS

Item	Characteristic																
Operation Temperature	-40°C ~ +85°C										-25°C ~ +85°C						
Rated Working Voltage	6.3 ~ 100VDC										160 ~ 450VDC						
Capacitance at 120Hz 20°C	2200 ~ 680000μF										270 ~ 39000μF						
Capacitance Tolerance at 120Hz 20°C	±20%(M)																
Max ripple Current at 120Hz 85°C	2.15 ~ 21.01Arms										1.45 ~ 28.51Arms						
Leakage Current at 20°C	I ≤ 0.02CV or 5 mA whichever is smaller after 5 minutes										I : Leakage Current(μA) C : Rated Capacitance(μF) V : Working Voltage(V)						
Surge Voltage at 20°C	Working Voltage	W.V. (VDC)	6.3	10	16	25	35	50	63	80	100	160	200	250	350	400	450
	Surge Voltage	S.V. (VDC)	8	13	20	32	44	63	79	100	125	200	250	300	400	450	500
Dissipation Factor (tan δ) at 120Hz 20°C	tan δ	W.V. (VDC)	6.3	10	16	25	35	50	63	80	100	160	200	250	350	400	450
		Φ35	0.75	0.75	0.60	0.40	0.30	0.25	0.20	0.20	0.15	0.15	0.15	0.15	0.20	0.20	0.20
		Φ51	1.00	1.00	0.70	0.50	0.50	0.30	0.25	0.20	0.20	0.15	0.15	0.15	0.20	0.20	0.20
		Φ64	1.30	1.30	0.80	0.70	0.60	0.50	0.30	0.25	0.25	0.20	0.20	0.20	0.25	0.25	0.25
		Φ77	1.50	1.50	1.00	0.80	0.70	0.60	0.40	0.30	0.25	0.20	0.20	0.20	0.20	0.25	0.25
Low Temperature Stability Impedance ratio at 120Hz	Rated Voltage (VDC)		10 ~ 100						160 ~ 450								
	-25°C / +20°C		-						8								
	-40°C / +20°C		12						-								
Load Life	Capacitance Change		≤ ±15% of initial value														
	Dissipation Factor		≤ 175% of initial specified value														
	Leakage Current		≤ initial specified value														
Shelf Life	At +85°C, no voltage application after 1000 hours, the capacitor shall meet the limits for load life characteristics. (With voltage treatment)																

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CASE SIZES AND MAX RIPPLE CURRENT

Rated Voltage (Code)		6.3Vdc (0J)		10Vdc (1A)		16Vdc (1C)	
Capacitance (μF)	Code	DxL (mm)	RC (Arms)	DxL (mm)	RC (Arms)	DxL (mm)	RC (Arms)
22000	223	-	-	-	-	35x50	4.16
33000	333	-	-	35x50	4.14	35x60	5.51
39000	393	-	-	35x50	4.50	35x80	6.80
47000	473	35x50	4.94	35x60	5.35	35x80	7.47
56000	563	35x60	4.96	35x80	6.63	35x100	9.03
68000	683	35x60	5.47	35x80	7.31	35x121	9.88
82000	823	35x80	6.82	35x80	8.02	35x121	10.85
100000	104	35x80	7.53	35x121	9.21	51x80	10.86
120000	124	35x121	9.15	51x80	9.23	51x90	11.74
150000	154	51x80	9.51	51x80	10.32	51x121	12.48
180000	184	51x80	10.42	51x90	11.50	51x121	13.67
220000	224	51x100	12.39	51x121	13.66	64x100	14.75
270000	274	64x100	13.68	51x121	15.13	64x115	17.37
330000	334	64x100	15.12	64x121	17.25	77x121	18.19
390000	394	64x121	16.97	64x121	18.75	77x121	19.78
470000	474	64x121	18.63	77x121	19.25	-	-
560000	564	77x121	18.80	77x121	21.01	-	-
680000	684	77x121	20.71	-	-	-	-

Rated Voltage (Code)		25Vdc (1E)		35Vdc (1V)		50Vdc (1H)	
Capacitance (μF)	Code	DxL (mm)	RC (Arms)	DxL (mm)	RC (Arms)	DxL (mm)	RC (Arms)
6800	682	-	-	-	-	35x50	3.26
8200	822	-	-	-	-	35x50	3.58
10000	103	-	-	35x50	3.53	35x60	4.27
12000	123	-	-	35x50	3.87	35x60	4.68
15000	153	-	-	35x60	3.96	35x80	5.94
18000	183	35x50	3.35	35x60	4.34	35x80	6.51
22000	223	35x60	4.01	35x80	4.93	35x121	6.70
27000	273	35x80	5.04	35x80	5.46	35x121	7.42
33000	333	35x80	5.58	35x121	7.20	51x80	7.55
39000	393	35x80	6.06	35x121	7.83	51x80	8.20
47000	473	35x121	7.54	51x80	8.26	51x100	9.80
56000	563	35x121	8.23	51x80	9.02	51x100	10.70
68000	683	51x100	9.13	51x100	10.35	64x100	11.34
82000	823	51x100	10.03	51x100	11.36	64x100	12.46
100000	104	51x121	11.26	64x100	11.48	64x144	12.81
120000	124	51x121	12.33	64x121	13.13	64x144	14.03
150000	154	64x100	12.68	64x144	15.42	77x144	15.86
180000	184	64x100	13.89	64x144	16.89	-	-
220000	224	64x144	16.05	77x144	17.79	-	-
270000	274	77x115	17.80	-	-	-	-
330000	334	77x144	20.38	-	-	-	-

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CASE SIZES AND MAX RIPPLE CURRENT (CONTINUED)

Rated Voltage (Code)		63Vdc (1J)		80Vdc (1K)		100Vdc (2A)	
Capacitance (µF)	Code	DxL (mm)	RC (Arms)	DxL (mm)	RC (Arms)	DxL (mm)	RC (Arms)
2200	222	-	-	-	-	35x50	2.15
2700	272	-	-	-	-	35x50	2.38
3300	332	-	-	-	-	35x50	2.64
3900	392	-	-	-	-	35x60	3.1
4700	472	-	-	35x50	2.72	35x80	3.87
5600	562	35x50	2.97	35x60	3.22	35x80	4.22
6800	682	35x50	3.28	35x80	4.03	35x100	5.15
8200	822	35x60	3.89	35x80	4.42	35x121	5.83
10000	103	35x80	4.77	35x100	5.41	51x80	6.03
12000	123	35x80	5.23	35x121	6.47	51x80	6.6
15000	153	35x100	5.88	51x80	7.63	51x121	8.86
18000	183	35x121	6.16	51x80	8.35	51x121	9.71
22000	223	51x80	7.73	51x100	8.76	64x100	9.79
27000	273	51x80	8.56	51x100	9.7	64x100	10.85
33000	333	51x100	8.76	64x100	10.22	64x144	12.8
39000	393	51x121	10.22	64x100	11.11	77x115	13.11
47000	473	64x100	11.88	64x144	14.33	77x144	14.81
56000	563	64x100	12.96	64x144	15.64	-	-
68000	683	64x144	13.63	77x144	16.27	-	-
100000	104	77x144	15.86	-	-	-	-

Rated Voltage (Code)		160Vdc (2C)		200Vdc (2D)		250Vdc (2E)	
Capacitance (µF)	Code	DxL (mm)	RC (Arms)	DxL (mm)	RC (Arms)	DxL (mm)	RC (Arms)
470	471	-	-	-	-	35x50	1.66
560	561	-	-	-	-	35x50	1.81
680	681	-	-	35x50	1.99	35x50	1.99
820	821	-	-	35x50	2.19	35x60	2.37
1000	102	-	-	35x60	2.62	35x80	2.87
1200	122	35x50	2.64	35x60	2.87	35x80	3.15
1500	152	35x60	3.20	35x80	3.52	35x100	3.49
1800	182	35x70	3.63	35x80	3.85	35x100	3.83
2200	222	35x80	4.26	35x100	4.23	51x70	4.28
2700	272	35x100	4.68	35x121	4.72	51x70	4.74
3300	332	35x121	5.22	51x70	5.24	51x90	5.38
3900	392	51x70	5.70	51x70	5.70	51x115	6.23
4700	472	51x70	6.26	51x90	6.42	64x96	7.06
5600	562	51x90	7.00	51x115	7.47	64x96	7.71
6800	682	51x90	7.72	51x130	8.70	64x115	9.19
8200	822	51x115	9.04	64x96	9.33	64x115	10.09
10000	103	64x96	10.30	64x96	10.30	64x130	11.76
12000	123	64x96	11.29	77x96	12.56	77x115	13.01
15000	153	64x130	13.83	77x96	14.04	77x130	14.70
18000	183	64x130	15.15	77x130	16.80	77x155	17.40
22000	223	77x130	18.57	77x155	20.07	90x157	20.19
27000	273	77x130	20.58	90x131	21.62	-	-
33000	333	90x131	23.90	90x157	25.85	-	-
39000	393	90x157	28.10	-	-	-	-

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CASE SIZES AND MAX RIPPLE CURRENT (CONTINUED)

Rated Voltage (Code)		350Vdc (2V)		400Vdc (2G)		450Vdc (2W)	
Capacitance (μF)	Code	DxL (mm)	RC (Arms)	DxL (mm)	RC (Arms)	DxL (mm)	RC (Arms)
270	271	-	-	-	-	35x50	1.45
330	331	-	-	35x80	1.97	35x80	1.97
390	391	35x50	1.74	35x80	2.14	35x80	2.14
470	471	35x80	2.35	35x80	2.35	35x80	2.35
560	561	35x80	2.57	35x80	2.57	35x100	2.63
680	681	35x80	2.83	35x100	2.90	35x100	2.90
820	821	35x100	3.18	35x100	3.18	51x70	3.26
1000	102	35x100	3.51	51x70	3.60	51x70	3.60
1200	122	51x70	3.94	51x70	3.94	51x90	4.39
1500	152	51x70	4.41	51x90	4.91	51x115	5.17
1800	182	51x90	5.38	51x90	5.38	51x130	5.64
2200	222	51x90	5.95	51x130	6.23	64x96	6.40
2700	272	51x130	6.91	64x96	7.09	64x115	7.25
3300	332	51x130	7.63	64x115	8.01	64x130	8.22
3900	392	64x115	8.71	64x130	8.94	77x115	9.40
4700	472	64x130	9.81	77x115	10.32	77x130	10.88
5600	562	77x115	11.26	77x130	11.87	77x155	12.83
6800	682	77x130	13.08	77x155	14.14	90x157	14.60
8200	822	77x155	15.53	90x157	16.03	90x157	16.03
10000	103	90x157	17.71	90x157	17.71	90x196	19.53
12000	123	90x157	19.40	90x196	21.40	90x236	23.28
15000	153	90x196	23.93	90x236	26.02	-	-
18000	183	90x236	28.51	-	-	-	-

DIMENSIONS

ΦD	W1	W2	W3	W4	W5	P
35	24.0	30.0	7.0	3.5	10.0	12.7
51	32.5	37.5	4.5	7.0	13.0	21.8
64	38.5	42.8	4.5	7.0	13.0	28.2
77	44.8	49.0	4.5	7.0	13.0	31.4
90	52.3	58.8	5.0	8.0	16.0	31.4

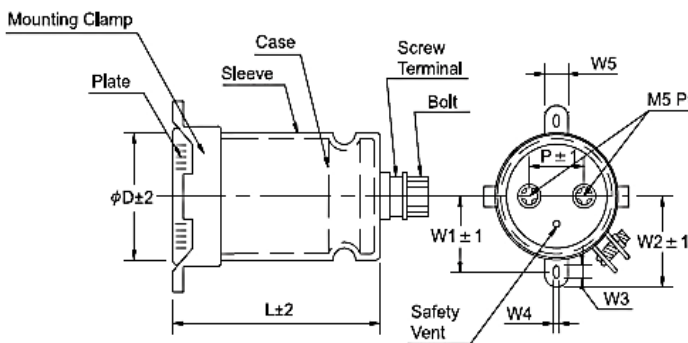
Unit: mm

RIPPLE CURRENT COEFFICIENTS

Frequency (Hz)	60	120	1K	10K	100K
6.3~35V	0.90	1.00	1.05	1.10	1.10
50~100V	0.90	1.00	1.10	1.15	1.15
160~450V	0.80	1.00	1.20	1.40	1.40

Temperature	≤60°C	70°C	85°C
Multiplier	1.80	1.60	1.00

(▲ φ35)



(▲ φ51, φ64, φ77, φ90)

