

# Aluminum Electrolytic Capacitors Screw Terminal Type

AES-RP Series

MERITEK

## FEATURE

- 2000 hours of load life at 105°C
- High ripple current capability
- High reliability design
- Operation temperature: -40°C ~ +105°C



## PART NUMBERING SYSTEM

**AES** (1)   **1C** (2)   **333** (3)   **M** (4)   **A** (5)   **050** (6)   **RP** (7)



No	Item	Code	Description	Reference
(1)	Meritek Series	AES	Aluminum Electrolytic Capacitor	Screw terminal type
(2)	Rated Voltage Code	1C	1C: 16V	1A:10V, 1C: 16V ~ 2G: 400V, 2W: 450V
(3)	Capacitance	333	333: 33000μF	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	075: 75mm ~ 196: 196mm
(7)	Internal Code	RP	2000 hours load life at 105°C	Product type reference

## ELECTRICAL CHARACTERISTICS

Item	Characteristic														
Operation Temperature	-40°C ~ +105°C							-25°C ~ +105°C							
Rated Working Voltage	10 ~ 100VDC							160 ~ 450VDC							
Capacitance at 120Hz 20°C	1000 ~ 33000μF							1000 ~ 22000μF							
Capacitance Tolerance at 120Hz 20°C	±20%(M)														
Max ripple Current at 120Hz 105°C	3.18 ~ 19.94Arms							1.50 ~ 14.64Arms							
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	W.V. (VDC)		10	16	25	35	50	63	100	160	200	250	350	400	450
	S.V. (VDC)		13	20	32	44	63	79	125	200	250	300	400	450	500
Dissipation Factor at 120Hz 20°C	W.V. (VDC)		10	16	25	35	50	63	100	160	200	250	350	400	450
	tan δ	Φ35	≤96	0.80	0.70	0.35	0.30	0.25	0.20	0.15	0.15	0.15	0.15	0.15	0.15
			≥100	0.80	0.70	0.40	0.35	0.30	0.25	0.15	0.15	0.15	0.15	0.15	0.15
	Φ51	≤96	1.00	0.90	0.40	0.45	0.35	0.25	0.15	0.15	0.15	0.15	0.15	0.15	0.15
		≥100	1.00	0.90	0.50	0.50	0.40	0.30	0.15	0.15	0.15	0.15	0.15	0.15	0.15
	Φ64	≤96	1.20	1.00	0.60	0.55	0.40	0.30	0.20	0.15	0.15	0.15	0.15	0.15	0.15
≥100		1.20	1.00	0.80	0.60	0.45	0.35	0.20	0.15	0.15	0.15	0.15	0.15	0.15	
Φ77	≥96	2.00	1.20	1.00	0.70	0.50	0.40	0.25	0.15	0.15	0.15	0.15	0.15	0.15	
	≥96	2.00	1.20	1.00	0.70	0.50	0.40	0.25	0.15	0.15	0.15	0.15	0.15	0.15	
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		≤ ±20% of initial value					After 2000 hours application of W.V. and +105°C ripple current value, the capacitor shall meet the following limits. (DC + ripple peak voltage ≤ rate working voltage)							
	Dissipation Factor		≤ 200% of initial specified value												
	Leakage Current		≤ initial specified value												
Shelf Life	At +105°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		10Vdc (1A)		16Vdc (1C)		25Vdc (1E)	
Capacitance (μF)	Code	DxL (mm)	RC (Arms)	DxL (mm)	RC (Arms)	DxL (mm)	RC (Arms)
22000	223	-	-	35x50	3.25	35x60	4.59
33000	333	35x50	3.72	35x60	4.31	35x80	6.39
47000	473	35x60	4.81	35x80	5.84	35x90	8.04
56000	563	35x70	5.61	35x90	6.72	51x70	8.31
68000	683	35x80	6.57	51x70	6.66	51x90	10.21
100000	104	51x70	7.67	51x90	9.00	64x96	11.28
150000	154	51x90	10.46	64x96	11.22	64x115	12.94
220000	224	64x96	13.53	64x115	14.69	77x115	14.83
330000	334	64x115	17.92	77x115	18.24	90x131	19.94

Rated Voltage		35Vdc (1V)		50Vdc (1H)		63Vdc (1J)	
Capacitance (μF)	Code	DxL (mm)	RC (Arms)	DxL (mm)	RC (Arms)	DxL (mm)	RC (Arms)
6800	682	-	-	-	-	35x70	3.31
8200	822	-	-	35x60	3.18	35x80	3.86
10000	103	-	-	35x70	3.75	35x90	4.50
15000	153	35x60	4.09	35x80	4.88	51x70	4.95
22000	223	35x80	5.63	51x70	5.57	51x90	6.68
33000	333	51x70	6.56	51x90	7.60	64x96	8.73
47000	473	51x80	8.29	64x96	9.48	64x115	10.43
56000	563	51x90	9.53	64x96	10.34	77x96	10.96
68000	683	51x115	11.11	64x115	11.62	77x115	13.03
100000	104	64x115	12.20	77x115	14.14	90x131	17.36
150000	154	77x115	13.90	90x131	19.02	-	-
220000	224	90x131	17.42	-	-	-	-

Rated Voltage		100Vdc (2A)		160Vdc (2C)		200Vdc (2D)	
Capacitance (μF)	Code	DxL (mm)	RC (Arms)	DxL (mm)	RC (Arms)	DxL (mm)	RC (Arms)
1000	102	-	-	35x50	1.50	35x60	1.62
1500	152	-	-	35x60	1.98	35x70	2.12
2200	222	-	-	35x70	2.57	35x90	2.88
3300	332	-	-	35x90	3.52	51x80	3.49
4700	472	-	-	51x80	4.54	51x90	4.38
5600	562	35x90	4.59	51x90	5.22	64x96	5.34
6800	682	51x70	5.16	64x96	5.89	64x115	6.37
8200	822	51x80	6.00	64x96	6.46	77x96	6.85
10000	103	51x90	6.97	77x96	7.56	77x115	8.16
15000	153	64x96	7.57	77x130	10.54	90x131	10.98
22000	223	77x96	8.69	90x131	13.30	-	-
33000	333	77x130	12.11	-	-	-	-
47000	473	90x131	15.05	-	-	-	-

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## CASE SIZES AND MAX RIPPLE CURRENT (CONTINUED)

Rated Voltage		250Vdc (2E)		350Vdc (2V)	
Capacitance (μF)	Code	DxL (mm)	RC (Arms)	DxL (mm)	RC (Arms)
1000	102	35x70	1.73	51x65	2.40
1500	152	35x90	2.38	51x70	3.03
2200	222	51x70	2.94	51x96	4.21
3300	332	51x90	4.01	64x96	5.47
3900	392	64x96	4.46	64x115	6.43
4700	472	64x115	5.29	64x130	7.45
5600	562	77x96	5.94	77x115	7.94
6800	682	77x115	7.07	77x130	9.23
8200	822	77x130	8.18	77x155	10.95
10000	103	77x155	9.76	90x157	12.25
15000	153	90x157	11.87	-	-

Rated Voltage		400Vdc (2G)		450Vdc (2W)	
Capacitance (μF)	Code	DxL (mm)	RC (Arms)	DxL (mm)	RC (Arms)
1000	102	51x70	2.47	51x90	2.94
1500	152	51x90	3.38	51x115	4.02
2200	222	64x96	4.46	64x115	5.17
3300	332	64x130	6.24	64x130	6.69
3900	392	64x155	7.34	77x121	7.82
4700	472	77x130	7.97	77x144	9.26
5600	562	77x155	9.39	90x145	11.06
6800	682	90x157	10.94	90x196	13.93
8200	822	90x157	12.01	-	-
10000	103	90x196	14.64	-	-

## 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

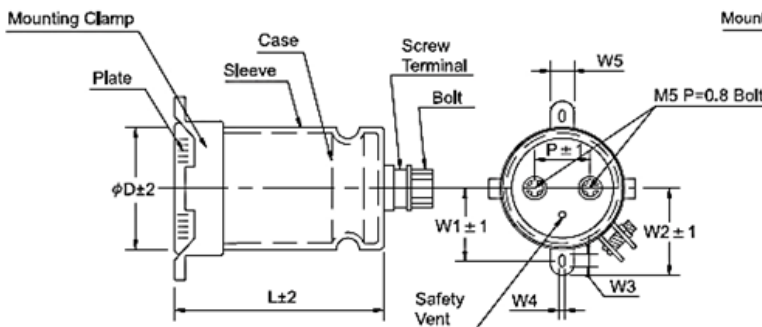
Unit: mm

## RIPPLE CURRENT COEFFICIENTS

Frequency (Hz)	60	120	1K	10K	100K
10~35V	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	1.30	1.35

Temperature		45°C	55°C	70°C	85°C	105°C
Multiplier	≤250V	3.00	2.50	2.00	1.40	1.00
	≥350V	2.50	2.00	1.50	1.20	1.00

(▲ φ35)



(▲ φ51, φ64, φ77, φ90)

