Aluminum Electrolytic Capacitors MEA

Features

- Endurance with ripple current: 85℃, 2,000 hours
- RoHS Compliance

Sleeve & Marking Color: Black & White

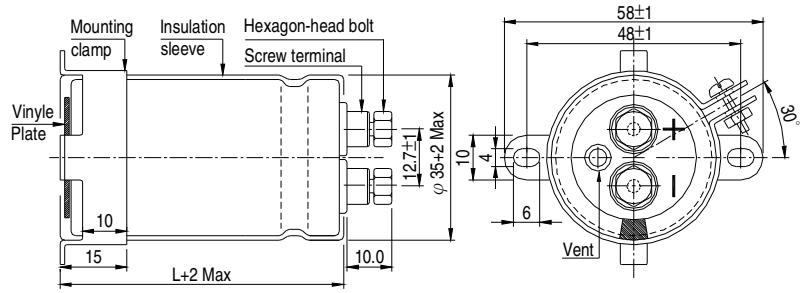
SPECIFICATIONS

<table>
<tr><td>Items</td><td colspan="2">Performance</td></tr>
<tr><td rowspan="2">Category Temperature Range</td><td>-40℃ ~ +85℃</td><td>-25℃ ~ +85℃</td></tr>
<tr><td>10 ~ 100V</td><td>160 ~ 450V</td></tr>
<tr><td>Capacitance Tolerance</td><td colspan="2">±20% (at 120Hz, 20℃)</td></tr>
<tr><td>Leakage Current (at 20℃)</td><td colspan="2">$I=3\sqrt{CV}$ or 5 (mA) whichever is smaller (after 5 minutes)
Where, C= rated capacitance in μF V = rated DC working voltage in V</td></tr>
<tr><td>Dissipation Factor
(Tan δ at 120 Hz, 20℃)</td><td colspan="2">See the Dimensions & Permissible Ripple Current</td></tr>
<tr><td>Low Temperature Characteristics
(at 120Hz)</td><td colspan="2">Capacitance change : C(-25℃) / C(+20℃) ≧ 0.7</td></tr>
<tr><td>Endurance</td><td colspan="2"><table><tr><td>Test Time</td><td>2,000 Hrs</td></tr><tr><td>Capacitance Change</td><td>Within ±15% of initial value</td></tr><tr><td>Dissipation Factor</td><td>Less than 175% of specified value</td></tr><tr><td>Leakage Current</td><td>Within specified value</td></tr></table>* The above specifications shall be satisfied when the capacitors are restored to 20℃ after subjected to DC voltage with rated ripple current applied for 2,000 hours at 85℃.</td></tr>
<tr><td>Shelf Life Test</td><td colspan="2"><table><tr><td>Test Time</td><td>500 Hrs</td></tr><tr><td>Capacitance Change</td><td>Within ±20% of initial value</td></tr><tr><td>Dissipation Factor</td><td>Less than 200% of specified value</td></tr><tr><td>Leakage Current</td><td>Within specified value</td></tr></table>* The above specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 500 hours at 85℃ without voltage applied. The rated voltage shall be applied to the capacitors before the measurements (Refer to JIS C 5101-4 4.1).</td></tr>
<tr><td>Ripple Current &
Frequency Multipliers</td><td colspan="2"><table><tr><td>Frequency (Hz)</td><td>50 / 60</td><td>100 / 120</td><td>300</td><td>1k</td><td>10k up</td></tr><tr><td>Multiplier</td><td>0.7</td><td>1.0</td><td>1.1</td><td>1.3</td><td>1.4</td></tr></table></td></tr>
<tr><td>Ripple Current &
Temperature Multipliers</td><td colspan="2"><table><tr><td>Temperature (℃)</td><td>40</td><td>60</td><td>70</td><td>85</td></tr><tr><td>Multiplier</td><td>2.7</td><td>2.0</td><td>1.7</td><td>1.0</td></tr></table></td></tr>
</table>

DIAGRAM OF DIMENSIONS

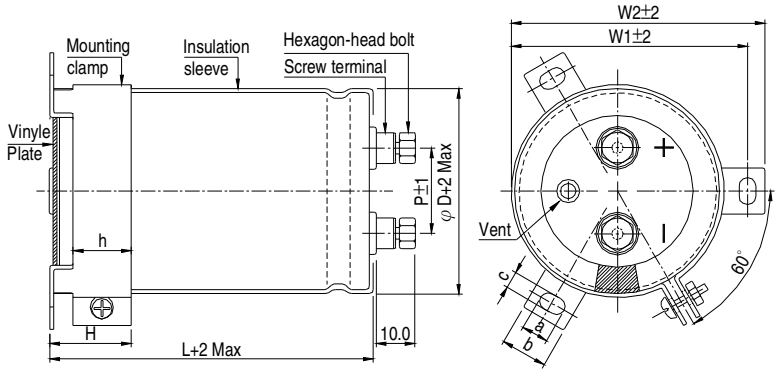
1. 35φ

Unit: mm



Screw specifications:
Plus hexagon-headed screw: M5×0.8×10
Max. screw tightening torque: 3.23Nm

2. 51 ~ 90φ



φD	P	W1	W2	H	h	a	b	c
51	22.0	61.0	65.5	21.0	15.0	7.0	12.0	4.5
64	28.6	72.5	78.0	25.0	20.0	7.0	14.0	4.5
77	32.0	85.5	91.0	35.0	20.0	8.0	16.0	4.5
90	32.0	101	106	34.5	20.0	8.0	16.0	5.0

Dimension: φD×L(mm)
Tan δ : 120 Hz, 20℃
Ripple Current: A/rms at 120 Hz, 85℃

DIMENSION & PERMISSIBLE RIPPLE CURRENT

V. DC / Item / μF	10V (1A)				16V (1C)				25V (1E)				35V (1V)			
	Size Code	φD×L	Tan δ	Ripple Current	Size Code	φD×L	Tan δ	Ripple Current	Size Code	φD×L	Tan δ	Ripple Current	Size Code	φD×L	Tan δ	Ripple Current
10,000													A053	35×53	0.30	3.5
12,000													A053	35×53	0.30	3.7
15,000													A065	35×65	0.30	3.9
18,000									A053	35×53	0.35	4.0	A065	35×65	0.35	4.2
22,000									A065	35×65	0.35	4.5	A083	35×83	0.35	4.9
27,000					A053	35×53	0.45	4.2	A065	35×65	0.40	5.0	A083	35×83	0.40	5.2
33,000	A053	35×53	0.60	4.4	A065	35×65	0.50	5.5	A083	35×83	0.40	5.5	A121	35×121	0.40	7.1
39,000	A053	35×53	0.60	4.7	A065	35×65	0.50	5.8	A083	35×83	0.40	6.2	A121	35×121	0.40	7.3
47,000	A065	35×65	0.60	5.6	A083	35×83	0.55	7.2	A121	35×121	0.40	7.4	B083	51×83	0.45	8.3
56,000	A065	35×65	0.60	5.9	A083	35×83	0.60	7.5	A121	35×121	0.45	8.3	B083	51×83	0.50	8.7
68,000	A083	35×83	0.60	7.5	A121	35×121	0.60	10.2	B100	51×100	0.50	9.3	B100	51×100	0.50	10.2
82,000	A083	35×83	0.60	7.7	A121	35×121	0.70	10.4	B121	51×121	0.50	9.7	B100	51×100	0.55	10.5
100,000	A121	35×121	0.70	9.2	B083	51×83	0.70	10.9	B121	51×121	0.60	10.5	C100	64×100	0.60	10.9
120,000	A121	35×121	0.70	9.4	B083	51×83	0.80	11.3	B121	51×121	0.60	11.5	C121	64×121	0.60	12.8
150,000	B083	51×83	0.90	10.2	B121	51×121	0.90	12.6	C100	64×100	0.70	12.9	C144	64×144	0.70	15.3
180,000	B083	51×83	0.90	10.7	B121	51×121	0.90	13.0	C121	64×121	0.75	14.7	C144	64×144	0.70	15.8
220,000	B121	51×121	1.00	13.9	C100	64×100	1.00	14.7	C144	64×144	0.80	18.0	D144	77×144	0.75	17.3
270,000	B121	51×121	1.20	15.2	C100	64×100	1.20	15.3	C144	64×144	0.90	18.3				
330,000	C121	64×121	1.40	17.2	D121	77×121	1.30	18.2	D144	77×144	1.00	19.5				
390,000	C121	64×121	1.50	18.1	D121	77×121	1.60	18.6	D144	77×144	1.20	20.8				
470,000	D121	77×121	2.00	19.2	D121	77×121	1.80	19.3								
560,000	D121	77×121	2.50	19.8	D144	77×144	2.00	20.7								
680,000	D121	77×121	3.00	21.0												

Dimension: φD×L(mm)
Tan δ : 120 Hz, 20℃
Ripple Current: A/rms at 120 Hz, 85℃

DIMENSION & PERMISSIBLE RIPPLE CURRENT

V. DC / Item / μF	50V (1H)				63V (1J)				80V (1K)				100V (2A)			
	Size Code	φD×L	Tan δ	Ripple Current	Size Code	φD×L	Tan δ	Ripple Current	Size Code	φD×L	Tan δ	Ripple Current	Size Code	φD×L	Tan δ	Ripple Current
2,200													A053	35×53	0.15	2.5
2,700													A053	35×53	0.15	2.5
3,300									A053	35×53	0.15	2.5	A065	35×65	0.15	2.9
3,900									A053	35×53	0.15	2.7	A083	35×83	0.15	3.5
4,700									A065	35×65	0.15	2.9	A083	35×83	0.15	3.7
5,600					A053	35×53	0.20	3.0	A065	35×65	0.20	3.7	A100	35×100	0.15	4.6
6,800	A053	35×53	0.25	3.2	A053	35×53	0.20	3.7	A083	35×83	0.20	4.3	A100	35×100	0.20	4.9
8,200	A053	35×53	0.25	3.4	A065	35×65	0.25	4.4	A083	35×83	0.20	4.5	B083	51×83	0.20	5.8
10,000	A065	35×65	0.25	4.3	A083	35×83	0.25	4.5	A100	35×100	0.20	5.4	B083	51×83	0.20	6.2
12,000	A065	35×65	0.25	4.5	A083	35×83	0.25	4.7	A100	35×100	0.20	5.6	B100	51×100	0.20	7.5
15,000	A083	35×83	0.25	4.7	A100	35×100	0.25	5.6	B083	51×83	0.25	7.3	B121	51×121	0.20	8.5
18,000	A083	35×83	0.25	4.9	A100	35×100	0.25	6.2	B083	51×83	0.25	7.7	C100	64×100	0.20	8.8
22,000	A121	35×121	0.30	6.3	B083	51×83	0.30	7.7	B100	51×100	0.30	8.5	C100	64×100	0.25	9.6
27,000	A121	35×121	0.35	6.6	B083	51×83	0.30	8.2	C100	64×100	0.30	8.6	C121	64×121	0.25	10.3
33,000	B083	51×83	0.40	7.5	B100	51×100	0.35	8.7	C100	64×100	0.35	10.5	C144	64×144	0.25	12.1
39,000	B083	51×83	0.40	7.7	B100	51×100	0.35	9.6	C121	64×121	0.35	11.8	D144	77×144	0.25	12.4
47,000	B100	51×100	0.40	9.6	C100	64×100	0.40	11.5	C144	64×144	0.35	14.0	D144	77×144	0.25	13.9
56,000	B100	51×100	0.40	9.8	C100	64×100	0.40	11.8	C144	64×144	0.35	14.2	D144	77×144	0.30	15.3
68,000	C100	64×100	0.45	11.9	C144	64×144	0.40	13.7	D144	77×144	0.35	16.7				
82,000	C100	64×100	0.50	12.2	C144	64×144	0.45	14.2	D144	77×144	0.35	17.1				
100,000	C144	64×144	0.50	14.2	D144	77×144	0.45	15.2								
120,000	C144	64×144	0.50	14.5	D144	77×144	0.50	15.8								
150,000	D144	77×144	0.60	16.5												
180,000	D144	77×144	0.70	16.8												

V. DC / Item / μF	160V (2C)				200V (2D)				250V (2E)				350V (2V)			
	Size Code	φD×L	Tan δ	Ripple Current	Size Code	φD×L	Tan δ	Ripple Current	Size Code	φD×L	Tan δ	Ripple Current	Size Code	φD×L	Tan δ	Ripple Current
390													A053	35×53	0.15	1.6
470													A065	35×65	0.15	2.1
560													A083	35×83	0.15	2.3
680													A083	35×83	0.15	2.6
820													A100	35×100	0.15	3.0
1,000													A100	35×100	0.15	3.4
1,200													B075	51×75	0.15	3.8
1,500									A100	35×100	0.15	3.2	B075	51×75	0.15	4.2
1,800									A100	35×100	0.15	3.5	B096	51×96	0.15	5.1
2,200					A100	35×100	0.15	3.9	B075	51×75	0.15	4.0	B096	51×96	0.15	5.7
2,700					A121	35×121	0.15	4.7	B075	51×75	0.15	4.4	B130	51×130	0.15	7.1
3,300	A121	35×121	0.15	5.2	B075	51×75	0.15	4.9	B096	51×96	0.15	5.4	C115	64×115	0.15	7.9
3,900	B075	51×75	0.15	5.3	B075	51×75	0.15	5.3	B115	51×115	0.15	6.3	C115	64×115	0.15	8.9
4,700	B075	51×75	0.15	5.8	B096	51×96	0.15	6.4	C096	64×96	0.15	7.1	C130	64×130	0.15	10.3
5,600	B096	51×96	0.15	7.0	B115	51×115	0.15	7.5	C096	64×96	0.15	7.7	D115	77×115	0.15	11.3
6,800	B096	51×96	0.15	7.7	B130	51×130	0.15	8.7	C115	64×115	0.15	9.1	D130	77×130	0.15	13.1
8,200	B115	51×115	0.15	9.1	C096	64×96	0.15	9.4	C115	64×115	0.15	10.0	D155	77×155	0.15	15.4
10,000	C096	64×96	0.15	10.3	C096	64×96	0.15	10.3	C130	64×130	0.15	11.6	E157	90×157	0.15	18.1
12,000	C096	64×96	0.15	11.3	D096	77×96	0.15	12.0	D115	77×115	0.15	12.8	E157	90×157	0.15	20.0
15,000	C130	64×130	0.15	14.3	D096	77×96	0.15	14.4	D130	77×130	0.15	15.1	E196	90×196	0.15	24.4
18,000	C130	64×130	0.15	15.6	D130	77×130	0.15	16.5	D155	77×155	0.15	17.7	E236	90×236	0.15	28.8
22,000	D130	77×130	0.15	18.2	D155	77×155	0.15	19.6	E157	90×157	0.15	20.9				
27,000	D130	77×130	0.15	20.2	E130	90×130	0.15	21.5								
33,000	E130	90×130	0.15	23.7	E157	90×157	0.15	25.5								
39,000	E157	90×157	0.15	27.8												

Dimension: φD×L(mm)
Tan δ : 120 Hz, 20℃
Ripple Current: A/rms at 120 Hz, 85℃

DIMENSION & PERMISSIBLE RIPPLE CURRENT

V. DC / Item μF	400V (2G)				450V (2W)			
	Size Code	φD×L	Tan δ	Ripple Current	Size Code	φD×L	Tan δ	Ripple Current
270					A053	35×53	0.15	1.3
330	A053	35×53	0.15	1.5	A065	35×65	0.15	1.8
390	A065	35×65	0.15	2.0	A083	35×83	0.15	2.0
470	A083	35×83	0.15	2.1	A083	35×83	0.15	2.1
560	A083	35×83	0.15	2.3	A100	35×100	0.15	2.5
680	A100	35×100	0.15	2.8	A100	35×100	0.15	2.8
820	A100	35×100	0.15	3.1	B075	51×75	0.15	3.2
1,000	B075	51×75	0.15	3.5	B075	51×75	0.15	3.5
1,200	B075	51×75	0.15	3.8	B096	51×96	0.15	4.2
1,500	B096	51×96	0.15	4.7	B115	51×115	0.15	5.0
1,800	B096	51×96	0.15	5.1	B130	51×130	0.15	5.8
2,200	B130	51×130	0.15	6.4	C096	64×96	0.15	6.3
2,700	C096	64×96	0.15	6.9	C115	64×115	0.15	7.5
3,300	C115	64×115	0.15	8.2	C130	64×130	0.15	8.6
3,900	C130	64×130	0.15	9.4	D115	77×115	0.15	9.5
4,700	D115	77×115	0.15	10.4	D130	77×130	0.15	10.8
5,600	D130	77×130	0.15	11.9	D155	77×155	0.15	12.8
6,800	E157	90×157	0.15	14.0	E157	90×157	0.15	15.0
8,200	E157	90×157	0.15	16.4	E157	90×157	0.15	16.4
10,000	E157	90×157	0.15	18.2	E196	90×196	0.15	19.9
12,000	E196	90×196	0.15	21.8	E236	90×236	0.15	23.6
15,000	E236	90×236	0.15	26.3				

*Special requirements are available upon request.

Case Code

Unit: mm

L / φD	35	51	64	77	90
53	A053	-	-	-	-
65	A065	-	-	-	-
75	A075	B075	-	-	-
83	A083	B083	-	-	-
96	-	B096	C096	D096	-
100	A100	B100	C100	-	-
115	-	B115	C115	D115	-
121	A121	B121	C121	D121	-
130	-	B130	C130	D130	E130
144	-	-	C144	D144	-
155	-	-	-	D155	-
157	-	-	-	-	E157
196	-	-	-	-	E196
236	-	-	-	-	E236

Part numbering system

MEA series	3300μF	±20%	400V	Plain case + Mounting clamp	M5 Post	64φ×115L	Pb-free Terminal + PVC Sleeve
MEA	**332**	**M**	**2G**	**-**	**-**	**C115**	
Series name	Capacitance	Capacitance tolerance	Rated voltage	Case Type	Terminal type	Case size	Terminal and Sleeve Type

Example:

Cap.	Symbol
470	471
1,800	182
10,000	103

M = ±20%
K = ±10%

Example:

WV	Symbol
350	2V
400	2G
450	2W

Example:

φD×L	Code
35×83	A083
51×96	B096
90×157	E157

Note: For more details, please refer to “Product Code Guide– Screw Type” on page 16.