Type AVE –40 °C to 85 °C General Purpose SMT Capacitors

Aluminum Electrolytic Capacitors for Filtering and Bypass

Type AVE capacitors are a great value for filter and bypass applications not requiring wide temperature performance or high ripple current. Their vertical cylindrical cases facilitate automatic mounting and reflow soldering and offer a significant savings over tantalum capacitors.

Highlights

- +85 °C, Up to 2000 Hour Load Life
- Low Impedance
- Voltage Range: 4 Vdc to 100 Vdc

Specifications

Operating Temperature: –40 °C to +85 °C

Rated Voltage: 4, 6.3, 10, 16, 25, 35, 50, 63 & 100 Vdc

Capacitance: 0.1 µF to 1500 µF

Capacitance Tolerance: ±20% @ 120 Hz and +20 °C

Leakage Current: 0.01 CV or 3 µA @ +20 °C, after two minutes (whichever is greater)

Dissipation Factor:

4V	6.3V	10 V	16 V	25 V	35 V	50 V	63 V	100 V
0.42	0.28	0.24	0.20	0.14	0.12	0.10	0.10	0.10

Low Temperature Characteristics @ 120 Hz:

Rated Voltage (Vdc)		4	6.3	10	16	25	35	50	63	100
Impedance	Z(-25ºC)/Z(+20ºC)	7	4	3	2	2	2	2	2	2
Ratio	Z(-40ºC)/Z(+20ºC)	15	8	5	4	3	3	3	3	3

Ripple Curent Multipliers:

Frequency	50 Hz	120 Hz	1 kHz	10 kHz up
Vdc (V)	Multiplier			
≤ 16	0.80	1.00	1.15	1.25
25 - 35	0.80	1.00	1.25	1.40
50 - 63	0.80	1.00	1.35	1.50
100	0.70	1.00	1.35	1.50

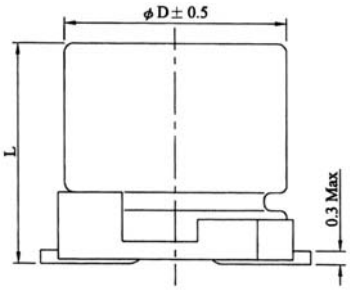
RoHS Compliant

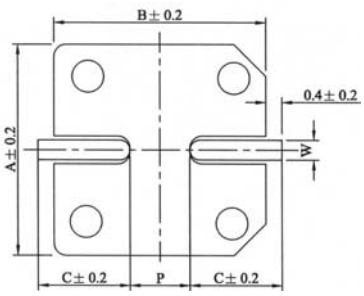
Complies with the EU Directive 2002/95/EC requirement restricting the use of Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent chromium (Cr(VI)), PolyBrominated Biphenyls (PBB) and PolyBrominated Diphenyl Ethers (PBDE).

Life Test: 2000 h @ 85 °C
Δ Capacitance ±20% (4 WV: ±30%)
DF: ≤ 200% of limit (4 WV: ±30%)
DCL: ≤ 100% of limit

Shelf Test: 1000 h @ 85 °C
Δ Capacitance ±20% (4 WV: ±30%)
DF: ≤ 200% of limit (4 WV: ±30%)

Outline Drawing





Case Code	Dimensions in millimeters (mm)						
	∅ D	L	A	B	C	W	P±0.2
A	3	5.3±0.2	3.3	3.3	1.5	.45 ~ 0.75	0.8
B	4	5.3±0.2	4.3	4.3	2.0	0.5 to 0.8	1.0
C	5	5.3±0.2	5.3	5.3	2.3	0.5 to 0.8	1.5
D	6.3	5.3±0.2	6.6	6.6	2.7	0.5 to 0.8	2.0
X	6.3	7.7±0.3	6.6	6.6	2.7	0.5 to 0.8	2.0
E	8	6.5±0.3	8.4	8.4	3.4	0.5 to 0.8	2.3
F	8	10±0.5	8.4	8.4	3.0	0.7 to 1.1	3.1
G	10	10±0.5	10.4	10.4	3.3	0.7 to 1.1	4.7

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Part Numbering System

AVE	106	M	16	B	12T	– F
Type	Capacitance	Capacitance Tolerance	Voltage	Case Code	Packaging Information	RoHS Compliant
	104 = 0.1 µF	**M** = ±20%	**04** = 4 Vdc **06** = 6.3 Vdc	**B** = B	**12** = Carrier Tape Width (mm)	
	105 = 1.0 µF		**10** = 10 Vdc **16** = 16 Vdc			
	106 = 10.0 µF		**25** = 25 Vdc **35** = 35 Vdc		**T** = Tape & Reel	
	107 = 100.0 µF		**50** = 50 Vdc **63** = 63 Vdc			
	108 = 1000.0 µF		**2A** = 100 Vdc			

Ratings

Cap (µF)	Catalog Part Number	Max. DCL 2 min. (µA)	Max. DF @120Hz/20ºC (%)	Max. E.S.R. @120Hz/20ºC (Ω)	Max. Ripple Current @120Hz/85ºC (mA)	Case Code	Size D x L (mm)	Qty. Per Reel (Each)
4 Vdc (5 Vdc Surge)								
22	AVE226M04A12T-F	3	0.42	31.65	14	A	3x5.3	2000
33	AVE336M04B12T-F	3	0.42	21.10	31	B	4x5.3	2000
47	AVE476M04B12T-F	3	0.42	14.81	37	B	4x5.3	2000
68	AVE686M04C12T-F	3	0.42	10.24	63	C	5x5.3	1000
100	AVE107M04D16T-F	4	0.42	6.96	110	D	6.3x5.3	1000
6.3 Vdc (8 Vdc Surge)								
22	AVE226M06B12T-F	3	0.28	21.10	23	B	4x5.3	2000
33	AVE336M06B12T-F	3	0.28	14.07	31	B	4x5.3	2000
47	AVE476M06C12T-F	3	0.28	9.88	52	C	5x5.3	1000
68	AVE686M06D16T-F	4.3	0.28	6.83	89	D	6.3x5.3	1000
100	AVE107M06D16T-F	6.3	0.28	4.64	120	D	6.3x5.3	1000
220	AVE227M06X16T-F	13.9	0.28	2.11	123	X	6.3x7.7	1000
220	AVE227M06E16T-F	13.9	0.28	2.11	155	E	8x6.5	1000
330	AVE337M06X16T-F	20.8	0.28	1.41	139	X	6.3x7.7	1000
330	AVE337M06E16T-F	20.8	0.28	1.41	155	E	8x6.5	1000
470	AVE477M06F24T-F	29.6	0.28	0.99	252	F	8x10	500
1000	AVE108M06G24T-F	63.0	0.28	0.46	458	G	10x10	500
1500	AVE158M06G24T-F	94.5	0.28	0.31	458	G	10x10	500
10 Vdc (13 Vdc Surge)								
10	AVE106M10B12T-F	3	0.24	39.79	23	B	4x5.3	2000
22	AVE226M10C12T-F	3	0.24	18.09	39	C	5x5.3	1000
33	AVE336M10C12T-F	3.3	0.24	12.06	48	C	5x5.3	1000
47	AVE476M10D16T-F	4.7	0.24	8.47	67	D	6.3x5.3	1000
68	AVE686M10D16T-F	6.8	0.24	5.85	98	D	6.3x5.3	1000
100	AVE107M10X16T-F	10	0.24	3.98	108	X	6.3x7.7	1000
100	AVE107M10E16T-F	10	0.24	3.98	155	E	8x6.5	1000
220	AVE227M10X16T-F	22	0.24	1.81	130	X	6.3x7.7	1000
220	AVE227M10E16T-F	22	0.24	1.81	155	E	8x6.5	1000
330	AVE337M10F24T-F	33	0.24	1.21	252	F	8x10	500
470	AVE477M10G24T-F	47	0.24	0.85	458	G	10x10	500
1000	AVE108M10G24T-F	100	0.24	0.40	458	G	10x10	500

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Ratings

Cap (µF)	Catalog Part Number	Max. DCL 2 min. (µA)	Max. DF @120Hz/20ºC (%)	Max. E.S.R. @120Hz/20ºC (Ω)	Max. Ripple Current @120Hz/85ºC (mA)	Case Code	Size D x L (mm)	Qty. Per Reel (Each)
			16 Vdc (20 Vdc Surge)					
10	AVE106M16A12T-F	3.0	0.2	33.16	14	A	3x5.3	2000
10	AVE106M16B12T-F	3.0	0.2	33.16	26	B	4x5.3	2000
22	AVE226M16C12T-F	3.5	0.2	15.07	44	C	5x5.3	1000
33	AVE336M16D16T-F	5.3	0.2	10.05	63	D	6.3x5.3	1000
47	AVE476M16D16T-F	7.5	0.2	7.05	75	D	6.3x5.3	1000
68	AVE686M16D16T-F	10.9	0.2	4.88	103	D	6.3x5.3	1000
100	AVE107M16X16T-F	16.0	0.2	3.32	108	X	6.3x7.7	1000
100	AVE107M16E16T-F	16.0	0.2	3.32	155	E	8x6.5	1000
220	AVE227M16X16T-F	35.2	0.2	1.51	124	X	6.3x7.7	1000
220	AVE227M16F24T-F	35.2	0.2	1.51	252	F	8x10	500
330	AVE337M16F24T-F	52.8	0.2	1.00	252	F	8x10	500
470	AVE477M16G24T-F	75.2	0.2	0.71	458	G	10x10	500
			25 Vdc (31 Vdc Surge)					
4.7	AVE475M25B12T-F	3.0	0.14	49.38	19	B	4x5.3	2000
10	AVE106M25C12T-F	3.0	0.14	23.21	32	C	5x5.3	1000
22	AVE226M25D16T-F	5.5	0.14	10.55	55	D	6.3x5.3	1000
33	AVE336M25D16T-F	8.3	0.14	7.03	67	D	6.3x5.3	1000
47	AVE476M25X16T-F	11.8	0.14	4.94	98	X	6.3x7.7	1000
47	AVE476M25E16T-F	11.8	0.14	4.94	155	E	8x6.5	1000
68	AVE686M25X16T-F	17.0	0.14	3.41	109	X	6.3x7.7	1000
68	AVE686M25E16T-F	17.0	0.14	3.41	155	E	8x6.5	1000
100	AVE107M25X16T-F	25.0	0.14	2.32	124	X	6.3x7.7	1000
100	AVE107M25E16T-F	25.0	0.14	2.32	155	E	8x6.5	1000
220	AVE227M25F24T-F	55.0	0.14	1.06	252	F	8x10	500
330	AVE337M25G24T-F	82.5	0.14	0.70	458	G	10x10	500
			35 Vdc (44 Vdc Surge)					
3.3	AVE335M35A12T-F	3.0	0.12	60.28	8	A	3x5.3	2000
4.7	AVE475M35B12T-F	3.0	0.12	42.33	20	B	4x5.3	2000
10	AVE106M35C12T-F	3.5	0.12	19.89	34	C	5x5.3	1000
22	AVE226M35D16T-F	7.7	0.12	9.04	59	D	6.3x5.3	1000
33	AVE336M35X16T-F	11.6	0.12	6.03	85	X	6.3x7.7	1000
33	AVE336M35E16T-F	11.6	0.12	6.03	155	E	8x6.5	1000
47	AVE476M35X16T-F	16.5	0.12	4.23	98	X	6.3x7.7	1000
47	AVE476M35E16T-F	16.5	0.12	4.23	155	E	8x6.5	1000
68	AVE686M35X16T-F	23.8	0.12	2.93	109	X	6.3x7.7	1000
68	AVE686M35E16T-F	23.8	0.12	2.93	155	E	8x6.5	1000
100	AVE107M35F24T-F	35.0	0.12	1.99	252	F	8x10	500
220	AVE227M35G24T-F	77.0	0.12	0.90	458	G	10x10	500

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Ratings

Cap (µF)	Catalog Part Number	Max. DCL 2 min. (µA)	Max. DF @120Hz/20ºC (%)	Max. E.S.R. @120Hz/20ºC (Ω)	Max. Ripple Current @120Hz/85ºC (mA)	Case Code	Size D x L (mm)	Qty. Per Reel (Each)
50 Vdc (63 Vdc Surge)								
.10	AVE104M50B12T-F	3.0	0.1	1657.83	3	B	4x5.3	2000
.22	AVE224M50B12T-F	3.0	0.1	753.56	5	B	4x5.3	2000
.33	AVE334M50B12T-F	3.0	0.1	502.37	6	B	4x5.3	2000
.47	AVE474M50B12T-F	3.0	0.1	352.73	7	B	4x5.3	2000
1	AVE105M50B12T-F	3.0	0.1	165.78	10	B	4x5.3	2000
2.2	AVE225M50B12T-F	3.0	0.1	75.36	15	B	4x5.3	2000
3.3	AVE335M50B12T-F	3.0	0.1	50.24	19	B	4x5.3	2000
4.7	AVE475M50C12T-F	3.0	0.1	35.27	26	C	5x5.3	1000
10	AVE106M50D16T-F	5.0	0.1	16.58	44	D	6.3x5.3	1000
22	AVE226M50X16T-F	11.0	0.1	7.54	65	X	6.3x7.7	1000
22	AVE226M50E16T-F	11.0	0.1	7.54	155	E	8x6.5	1000
33	AVE336M50X16T-F	16.5	0.1	5.02	82	X	6.3x7.7	1000
33	AVE336M50E16T-F	16.5	0.1	5.02	155	E	8x6.5	1000
47	AVE476M50X16T-F	23.5	0.1	3.53	98	X	6.3x7.7	1000
47	AVE476M50F24T-F	23.5	0.1	3.53	252	F	8x10	500
68	AVE686M50F24T-F	34.0	0.1	2.44	252	F	8x10	500
100	AVE107M50F24T-F	50.0	0.1	1.66	252	F	8x10	500
220	AVE227M50G24T-F	110.0	0.1	0.75	458	G	10x10	500
63 Vdc (75 Vdc Surge)								
10	AVE106M63E16T-F	6.3	0.1	16.58	75	E	8x6.5	1000
22	AVE226M63F24T-F	13.9	0.1	7.54	139	F	8x10	500
33	AVE336M63F24T-F	20.8	0.1	5.02	139	F	8x10	500
47	AVE476M63G24T-F	29.6	0.1	3.53	226	G	10x10	500
68	AVE686M63G24T-F	42.8	0.1	2.44	226	G	10x10	500
100	AVE107M63G24T-F	63.0	0.1	1.66	226	G	10x10	500
100 Vdc (125 Vdc Surge)								
10	AVE106M2AF24T-F	10	0.1	16.58	94	F	8x10	500
22	AVE226M2AG24T-F	22	0.1	7.54	189	G	10x10	500
33	AVE336M2AG24T-F	33	0.1	5.02	189	G	10x10	500

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Данный компонент на территории Российской Федерации

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