Type AFC –55 °C to 105 °C

SMT Aluminum Electrolytic Capacitors - Low Impedance, 105 °C

Low Impedance and Long-Life for Filtering, Bypassing and Power Supply Decoupling



Type AFC Capacitors are the choice for high-frequency filtering. At 100 kHz, most ratings can handle more than twice the ripple current of type AHA. With solid performance at temperatures down to –55 ° C, Type AFC has more than 90% capacitance retention at –20 ° C and 1 kHz. With low impedance to beyond 100 kHz, it is ideal for higher power DC/DC converters. The vertical cylindrical cases make for easy automatic mounting and reflow soldering, and offer big savings and higher capacitance compared to tantalum capacitors.

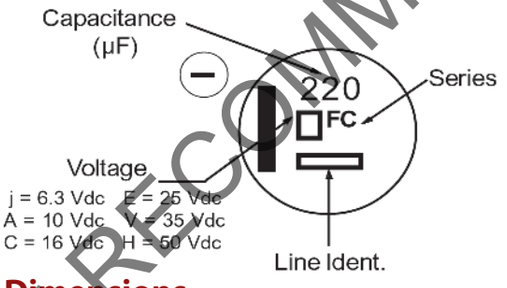
Highlights

- +105 °C, Up to 1000 Hour Load Life
- Capacitance Range: 1 µF to 1500 µF
- Voltage Range: 6.3 Vdc to 50 Vdc
- AEC-Q200 Compliant

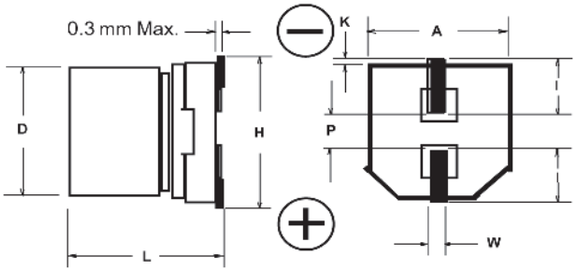
Specifications

Capacitance Range	1.0 µF to 1500 µF
Capacitance Tolerance	±20% @ 120 Hz and +20 °C
Rated Voltage	6.3, 10, 16, 25, 50 Vdc
Operating Temperature Range	–55 °C to +105 °C
Leakage Current	I = 0.01 CV or 3 (µA) whichever is greater after 2 minutes
Dissipation Factor	See ratings table
Ripple Curent Multipliers (Frequency)	50/60 Hz: 0.70 · 120 Hz: .0.75 · 1 kHz: 0.90 · 10 kHz: 0.95 · 100 kHz: 1.00
Load Life	1000 h @ +105 °C Δ Capacitance ±20% DF: ≤200% of limit DCL: ≤100% of limit
Shelf Life	1000 h @ +105 °C Δ Capacitance ±20% DF: ≤200% of limit DCL: ≤100% of limit
	Regulatory Information

AFC Series Marking



Outline Drawing



Case Dimensions

Case Code	Dimensions in (mm) D ± 0.5	L	A ± 0.2	H (max)	I (ref)	W	P (ref)	K
B	4.0	5.4 +.1,-.2	4.3	5.5	1.8	0.65 ± 0.1	1.0	0.35 + 0.15/-0.20
C	5.0	5.4 +.1,-.2	5.3	6.5	2.2	0.65 ± 0.1	1.5	0.35 + 0.15/-0.20
D	6.3	5.4 +.1,-.2	6.6	7.8	2.4	0.65 ± 0.1	1.8	0.35 + 0.15/-0.20
E	8.0	6.2 ±.3	8.3	9.5	3.4	0.65 ± 0.1	2.2	0.35 + 0.15/-0.20
F	8.0	10.2 ±.3	8.3	10.0	3.4	0.90 ± 0.2	3.2	0.70 ± 0.20
G	10.0	10.2 ±.3	10.3	12.0	3.5	0.90 ± 0.2	4.6	0.70 ± 0.20

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Ratings Table

Cap (µF)	Catalog Part Number	Max. DCL 2 min (mA)	Max. Dissipation Factor @ 120 Hz 20 °C	Max. ESR @ 120 Hz20 °C (Ω)	Impedance @ 100 kHz 20 °C (Ω)	Max. Ripple Current @ 105 °C 100 kHz (mA)	Case Code	Size (mm) D x L	Quantity per Reel
6.3 Vdc (8 Vdc Surge)									
22.0	AFC226M06B12T-F	3.0	0.26	19.60	3.00	60	B	4 x 5.4	2000
47.0	AFC476M06C12T-F	3.0	0.26	9.20	1.80	95	C	5 x 5.4	1000
100.0	AFC107M06D16T-F	6.3	0.26	4.30	1.00	140	D	6.3 x 5.4	1000
220.0	AFC227M06E16T-F	13.9	0.26	2.00	0.40	230	E	8 x 6.2	1000
330.0	AFC337M06F24T-F	20.8	0.26	1.30	0.30	450	F	8 x 10.2	500
1000.0	AFC108M06G24T-F	63.0	0.26	0.43	0.15	670	G	10 x 10.2	500
1500.0	AFC158M06G24T-F	94.5	0.26	0.29	0.15	670	G	10 x 10.2	500
10 Vdc (13 Vdc Surge)									
33.0	AFC336M10C12T-F	3.3	0.19	9.60	1.80	95	C	5 x 5.4	1000
100.0	AFC107M10E16T-F	10.0	0.19	3.20	0.40	230	E	8 x 6.2	1000
150.0	AFC157M10E16T-F	15.0	0.19	2.10	0.40	230	E	8 x 6.2	1000
220.0	AFC227M10F24T-F	22.0	0.19	1.40	0.30	450	F	8 x 10.2	500
470.0	AFC477M10G24T-F	47.0	0.19	0.67	0.15	670	G	10 x 10.2	500
1000.0	AFC108M10G24T-F	100.0	0.22	0.36	0.15	670	G	10 x 10.2	500
16 Vdc (20 Vdc Surge)									
10.0	AFC106M16B12T-F	3.0	0.16	26.50	3.00	60	B	4 x 5.4	2000
22.0	AFC226M16C12T-F	3.5	0.16	12.10	1.80	95	C	5 x 5.4	1000
47.0	AFC476M16D16T-F	7.5	0.16	5.70	1.00	140	D	6.3 x 5.4	1000
68.0	AFC686M16E16T-F	10.9	0.16	3.90	0.40	230	E	8 x 6.2	1000
100.0	AFC107M16E16T-F	16.0	0.16	2.70	0.40	230	E	8 x 6.2	1000
220.0	AFC227M16G24T-F	35.2	0.16	1.20	0.15	670	G	10 x 10.2	500
330.0	AFC337M16G24T-F	52.8	0.16	0.80	0.15	670	G	10 x 10.2	500
470.0	AFC477M16G24T-F	75.2	0.16	0.60	0.15	670	G	10 x 10.2	500
680.0	AFC687M16G24T-F	108.8	0.16	0.40	0.15	670	G	10 x 10.2	500
25 Vdc (31 Vdc Surge)									
6.8	AFC685M25B12T-F	3.0	0.14	34.10	3.00	60	B	4 x 5.4	2000
22.0	AFC226M25D16T-F	5.5	0.14	10.60	1.00	140	D	6.3 x 5.4	1000
33.0	AFC336M25D16T-F	8.3	0.14	7.00	1.00	140	D	6.3 x 5.4	1000
47.0	AFC476M25E16T-F	11.8	0.14	4.90	0.40	230	E	8 x 6.2	1000
68.0	AFC686M25F24T-F	17.0	0.14	3.40	0.30	450	F	8 x 10.2	500
100.0	AFC107M25F24T-F	25.0	0.14	2.30	0.30	450	F	8 x 10.2	500
220.0	AFC227M25G24T-F	55.0	0.14	1.10	0.15	670	G	10 x 10.2	500
330.0	AFC337M25G24T-F	82.5	0.14	0.70	0.15	670	G	10 x 10.2	500
470.0	AFC477M25G24T-F	117.5	0.14	0.50	0.15	670	G	10 x 10.2	500
35 Vdc (44 Vdc Surge)									
1.0	AFC105M35B12T-F	3.0	0.12	199.00	3.00	60	B	4 x 5.4	2000
2.2	AFC225M35B12T-F	3.0	0.12	90.40	3.00	60	B	4 x 5.4	2000
3.3	AFC335M35B12T-F	3.0	0.12	60.30	3.00	60	B	4 x 5.4	2000
4.7	AFC475M35B12T-F	3.0	0.12	42.40	3.00	60	B	4 x 5.4	2000
6.8	AFC685M35C12T-F	3.0	0.12	29.30	1.80	95	C	5 x 5.4	1000
10.0	AFC106M35C12T-F	3.5	0.12	19.90	1.80	95	C	5 x 5.4	1000
22.0	AFC226M35D16T-F	7.7	0.12	9.10	1.00	140	D	6.3 x 5.4	1000
33.0	AFC336M35E16T-F	11.6	0.12	6.00	0.40	230	E	8 x 6.2	1000
47.0	AFC476M35E16T-F	16.5	0.12	4.20	0.40	230	E	8 x 6.2	1000
100.0	AFC107M35G24T-F	35.0	0.12	2.00	0.20	670	G	10 x 10.2	500
220.0	AFC227M35G24T-F	77.0	0.12	0.90	0.15	670	G	10 x 10.2	500
330.0	AFC337M35G24T-F	115.5	0.12	0.60	0.15	670	G	10 x 10.2	500
50 Vdc (63 Vdc Surge)									
1.0	AFC105M50B12T-F	3.0	0.12	199.00	5.00	30	B	4 x 5.4	2000
2.2	AFC225M50B12T-F	3.0	0.12	90.50	5.00	30	B	4 x 5.4	2000
3.3	AFC335M50B12T-F	3.0	0.12	60.30	5.00	30	B	4 x 5.4	2000
4.7	AFC475M50C12T-F	3.0	0.12	42.40	3.00	50	C	5 x 5.4	1000
10.0	AFC106M50D16T-F	5.0	0.12	19.90	2.00	70	D	6.3 x 5.4	1000
22.0	AFC226M50E16T-F	11.0	0.12	9.10	0.70	120	E	8 x 6.2	1000
33.0	AFC336M50F24T-F	16.5	0.12	6.00	0.60	300	F	8 x 10.2	500
47.0	AFC476M50G24T-F	23.5	0.12	4.20	0.30	500	G	10 x 10.2	500
100.0	AFC107M50G24T-F	50.0	0.12	2.00	0.30	500	G	10 x 10.2	500
220.0	AFC227M50G24T-F	110.0	0.12	0.90	0.30	500	G	10 x 10.2	500

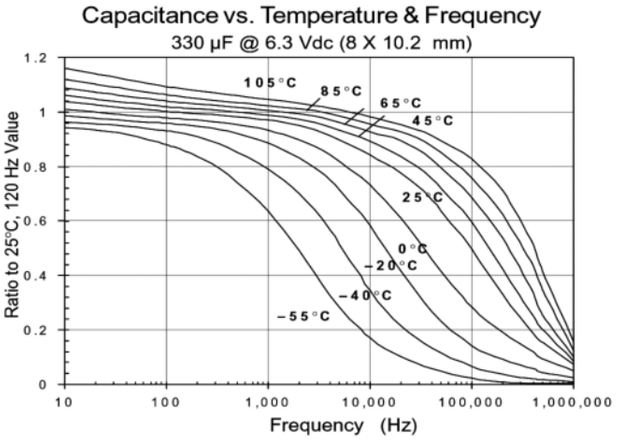
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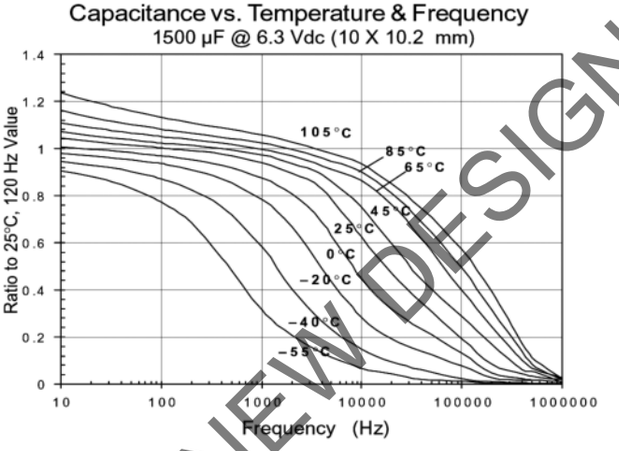
Part Numbering System

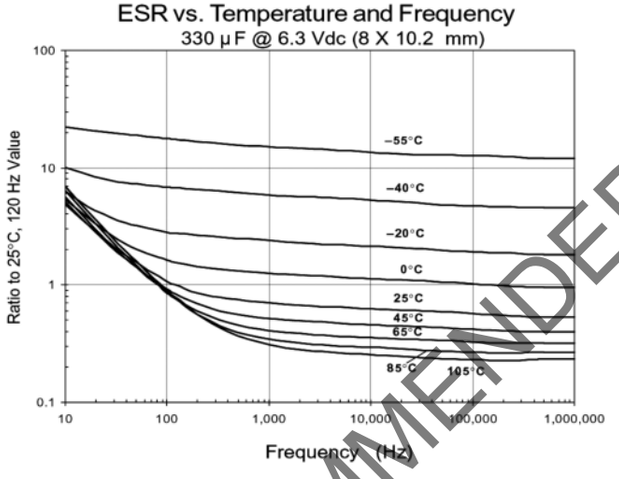
AFC	106	M	16	B	12T	–F
Type	Capacitance	Capacitance Tolerance	Voltage	Case Code	Packaging Information	RoHS Compliant
	105 = 1.0 µF	M = ±20%	06 = 6.3 Vdc 25 = 25 Vdc		12 = Carrier tape Width (mm)	
	106 = 10.0 µF		10 = 10 Vdc 35 = 35 Vdc		T = Tape & Reel	
	107 = 100.0 µF		16 = 16 Vdc 50 = 50 Vdc		B = bulk	
	108 = 1000 µF					

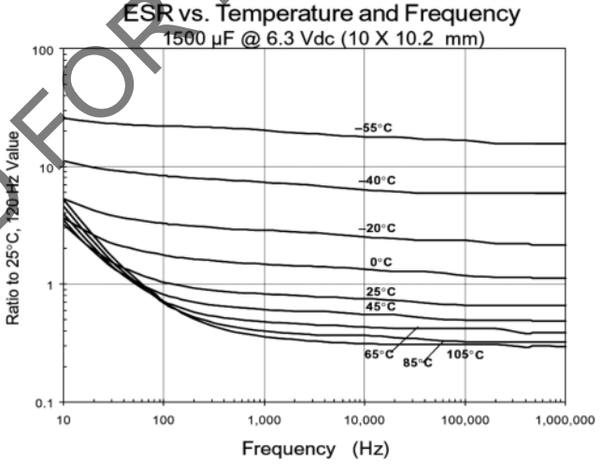
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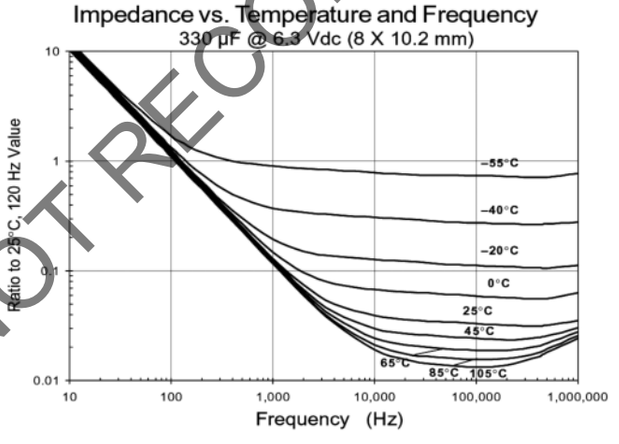
Typical Performance Curves

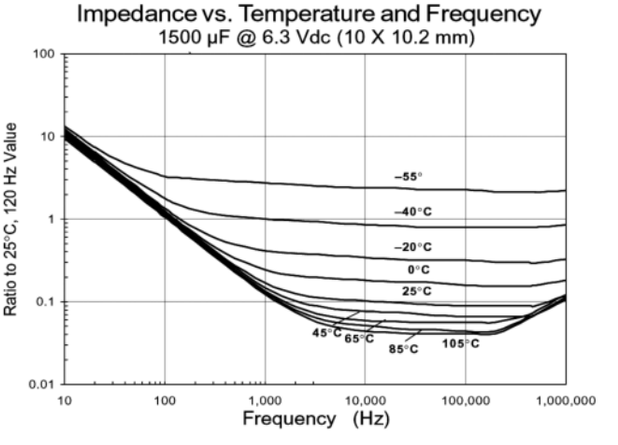






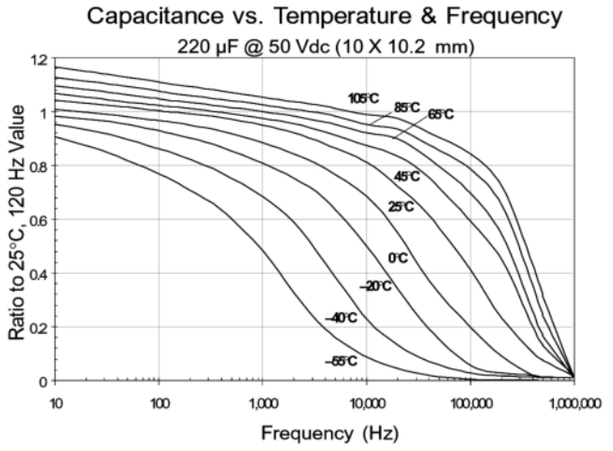


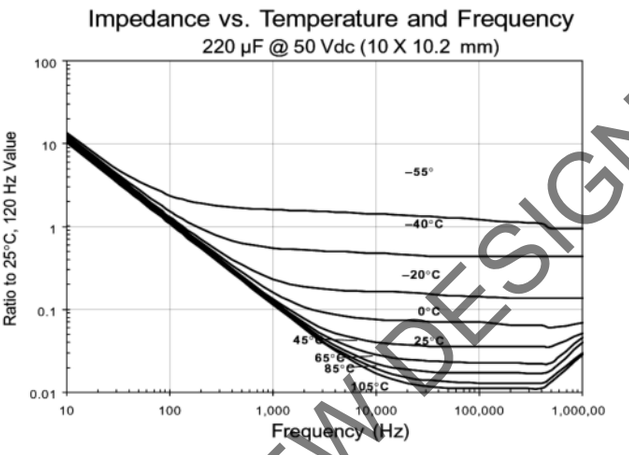


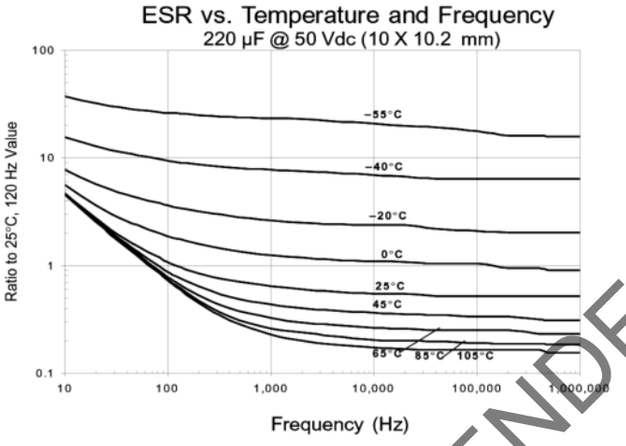


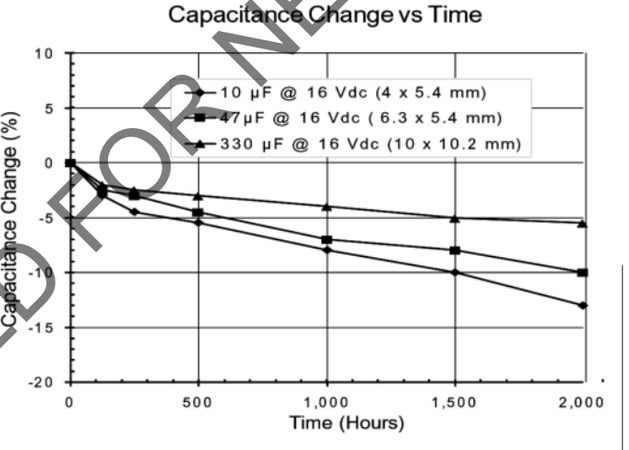
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