Type AEB

SMT Aluminum Electrolytic Capacitors - High Voltage, 105 °C

Low Impedance and Long Life for High Voltage, High Ripple Current Applications

Type AEB capacitors are it for high voltage applications like input bus capacitors in board mounted miniature AC/DC supplies. The AEB's low impedance in ratings up to 450 Vdc, and long life, make it ideal for power supply input and other high voltage applications. The vertical, cylindrical cases make easy automatic mounting and reflow soldering.

Highlights

- +105 °C, Up to 5000 Hour Load Life
- Capacitance Range: 2.2 µF to 100 µF
- Voltage Range: 160 Vdc to 450 Vdc

Specifications

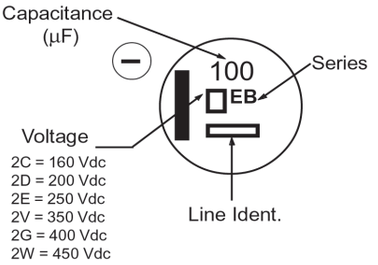
Capacitance Range	2.2 µF to 100 µF
Capacitance Tolerance	±20% @ 120 Hz and +20 °C
Rated Voltage	160, 200, 250, 350, 400, 450 Vdc
Operating Temperature Range	–25 °C to +105 °C
Impedance Ration (at 120 Hz)	

Rated Voltage	160	200	250	350	400	450
Z(-25°C)/Z(+20°C)	2	2	3	5	6	6

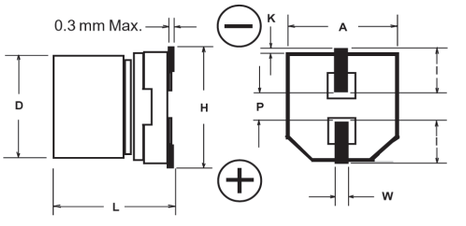
Life Test	5000 h @ +105 °C, L, P, U, R and S Cases 4000 h @ +105 °C, K Case 3000 h @ +105 °C, J Case Δ Capacitance ± 20% DF: ≤ 200% of limit DCL: ≤ 100% of limit
Shelf Test	1000 h @ 105 °C Δ Capacitance ± 20% DF: ≤ 200% of limit DCL: ≤ 100% of limit

Regulatory Information

AEB Series Marking



Outline Drawing



Case Dimensions

Case Code	D ±0.5	L ±0.5	A ±0.2	H (max)	I (ref)	W	P (ref)	K (mm)
J	10.0	13.5	10.3	12	3.5	0.9 ±0.2	4.6	0.7 ± 0.2
K	10.0	16.5	10.3	12	3.5	0.9 ±0.2	4.6	0.7 ± 0.2
L	12.5	16.5	13.5	15	4.7	0.9 ±0.3	4.4	0.7 ± 0.3
P	16.0	16.5	17.0	19	5.5	1.2 ±0.3	6.7	0.7 ± 0.3
U	16.0	21.5	17.0	19	5.5	1.2 ±0.3	6.7	0.7 ± 0.3
R	18.0	16.5	19.0	21	6.7	1.2 ±0.3	6.7	0.7 ± 0.3
S	18.0	21.5	19.0	21	6.7	1.2 ±0.3	6.7	0.7 ± 0.3

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Ratings

Cap (µF)	Catalog Part Number	Max. DCL 2 min (µA)	Max. Dissipation Factor @ 120 Hz 20 °C	Max. Impedance @ 100 kHz 20 °C (Ω)	Max. Ripple Current @ 105 °C 100 kHz (mA)	Size (mm) D x L	Quantity Reel
160 Vdc							
10.0	AEB106M2CJ32T-F	106	0.15	3.00	70	10 x 13.5	250
33.0	AEB336M2CL32T-F	327	0.15	1.80	470	12.5 x 16.5	150
47.0	AEB476M2CP44T-F	461	0.15	1.40	600	16 x 16.5	125
68.0	AEB686M2CU44T-F	663	0.15	0.55	750	16 x 21.5	75
68.0	AEB686M2CR44T-F	663	0.15	0.80	750	18 x 16.5	125
100.0	AEB107M2CS44T-F	970	0.15	0.50	1060	18 x 21.5	75
200 Vdc							
22.0	AEB226M2DL32T-F	274	0.15	1.80	470	12.5 x 16.5	150
33.0	AEB336M2DP44T-F	406	0.15	1.40	600	16 x 16.5	125
47.0	AEB476M2DR44T-F	574	0.15	0.80	600	18 x 16.5	125
68.0	AEB686M2DU44T-F	826	0.15	0.55	750	16 x 21.5	75
100.0	AEB107M2DS44T-F	1210	0.15	0.50	1060	18 x 21.5	75
250 Vdc							
10.0	AEB106M2EK32T-F	160	0.15	2.50	88	10 x 16.5	200
22.0	AEB226M2EP44T-F	340	0.15	1.60	560	16 x 16.5	125
33.0	AEB336M2ER44T-F	505	0.15	0.85	560	18 x 16.5	125
47.0	AEB476M2EU44T-F	715	0.15	0.70	710	16 x 21.5	75
68.0	AEB686M2ES44T-F	1030	0.15	0.60	990	18 x 21.5	75
350 Vdc							
10.0	AEB106M2VP44T-F	220	0.20	3.20	270	16 x 16.5	125
22.0	AEB226M2VR44T-F	472	0.20	1.60	350	18 x 16.5	125
33.0	AEB336M2VU44T-F	703	0.20	1.20	480	16 x 21.5	75
47.0	AEB476M2VS44T-F	997	0.20	1.00	670	18 x 21.5	75
400 Vdc							
3.3	AEB335M2GJ32T-F	89	0.24	8.00	40	10 x 13.5	250
4.7	AEB475M2GK32T-F	123	0.24	5.50	50	10 x 16.5	200
10.0	AEB106M2GP44T-F	250	0.24	3.60	250	16 x 16.5	125
22.0	AEB226M2GU44T-F	538	0.24	2.20	410	16 x 21.5	75
33.0	AEB336M2GS44T-F	802	0.24	1.20	600	18 x 21.5	75
450 Vdc							
2.2	AEB225M2WJ32T-F	69	0.24	11.00	29	10 x 13.5	250
3.3	AEB335M2WK32T-F	99	0.24	7.00	41	10 x 16.5	200
4.7	AEB475M2WL32T-F	137	0.24	4.80	49	12.5 x 16.5	150
10.0	AEB106M2WR44T-F	280	0.24	3.00	310	18 x 16.5	125
22.0	AEB226M2WS44T-F	604	0.24	1.80	560	18 x 21.5	75

Part Numbering System

AEB	106	M	2C	J	32T	-F
Type	**Capacitance**	**Capacitance Tolerance**	**Voltage Code**	**Case Code**	**Packaging Information**	**RoHS Compliant**
	105 = 1.0 µF	M = ±20%	2C = 160 Vdc 2V = 350 Vdc		32 = Carrier tape Width (mm)	
	106 = 10.0 µF		2D = 200 Vdc 2G = 400 Vdc		T = Tape & Reel	
	107 = 100.0 µF		2E = 250 Vdc 2W = 450 Vdc		B = bulk	

See the Aluminum SMT Application Guide for Packaging Information.

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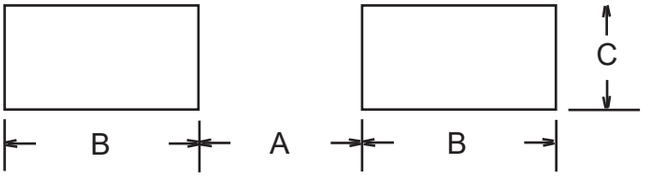
Recommended Land Pattern

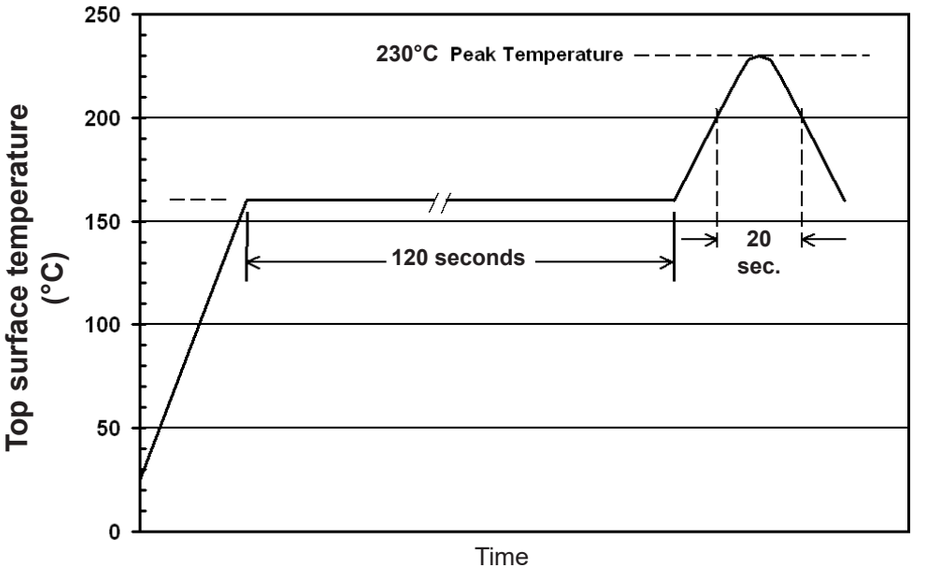


Case Code	Case Dia. (mm)	A (mm)	B (mm)	C (mm)
J	10	4.0	4.5	2.0
K	10	4.0	4.5	2.0
L	12.5	4.0	5.7	2.0
P	16	6.0	6.5	2.5
U	16	6.0	6.5	2.5
R	18	6.0	7.5	2.5
S	18	6.0	7.5	2.5

Ripple Current Correction Factor

Vdc	Ripple Current Correction Factor vs Frequency			
	120 Hz	1kHz	10kHz to 30kHz	30kHz to 100kHz
160 to 250	0.55	0.85	0.90	1.00
350 to 450	0.50	0.80	0.90	1.00

Recommended Reflow Soldering Profile for AEB Series (10 to 18 mm dia.)



Max. top surface temperature during reflow soldering	**230°C**
Maximum time at peak temperature	**5 seconds**
Maximum time at or above 200°C	**20 seconds**
Number of reflow processes	**1**
Terminal Material	**copper clad iron**

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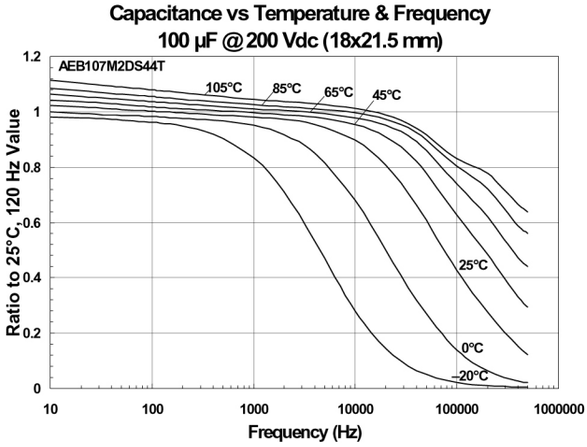
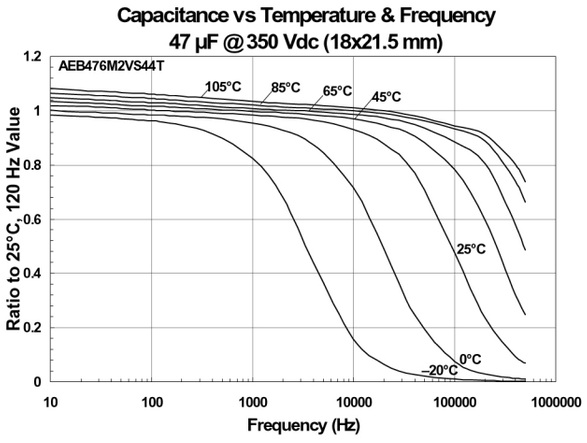
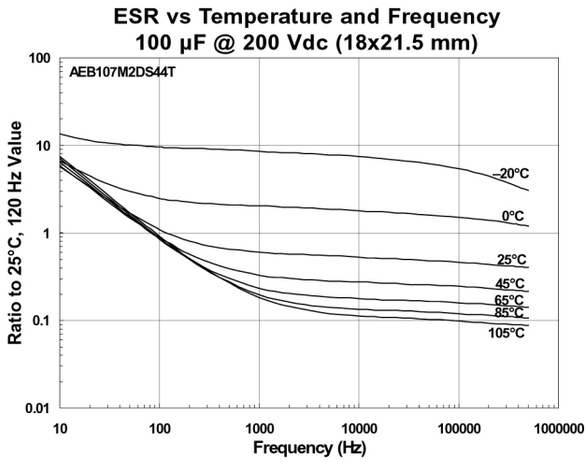
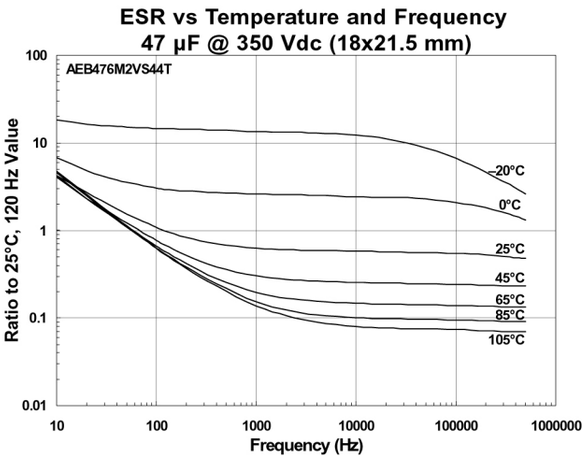
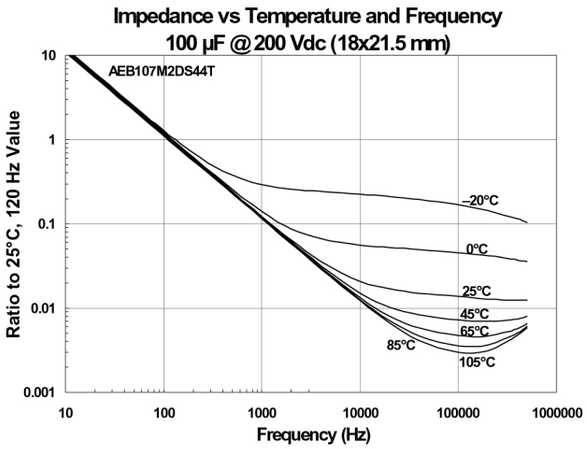
Typical Performance Curves

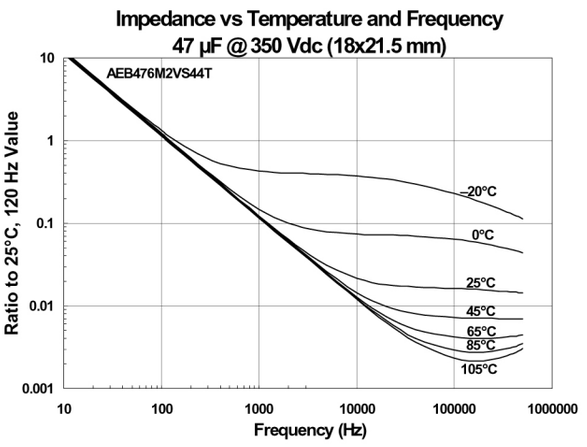












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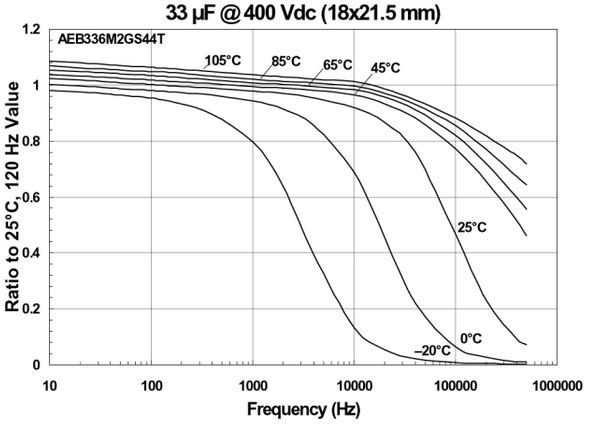
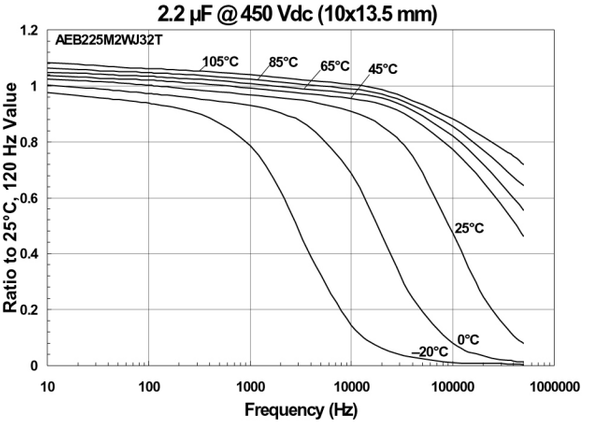
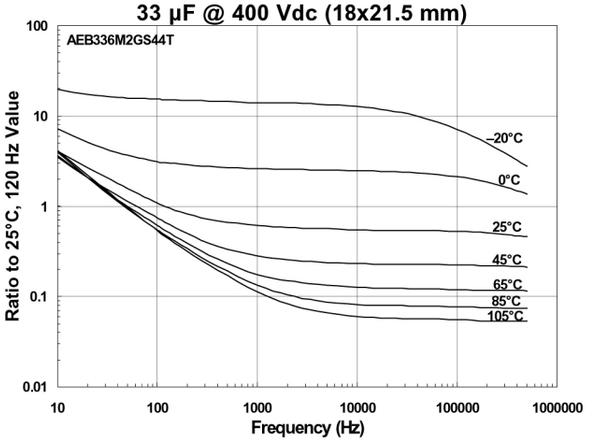
Capacitance vs Temperature & Frequency
33 µF @ 400 Vdc (18x21.5 mm)



Capacitance vs Temperature & Frequency
2.2 µF @ 450 Vdc (10x13.5 mm)



ESR vs Temperature and Frequency
33 µF @ 400 Vdc (18x21.5 mm)



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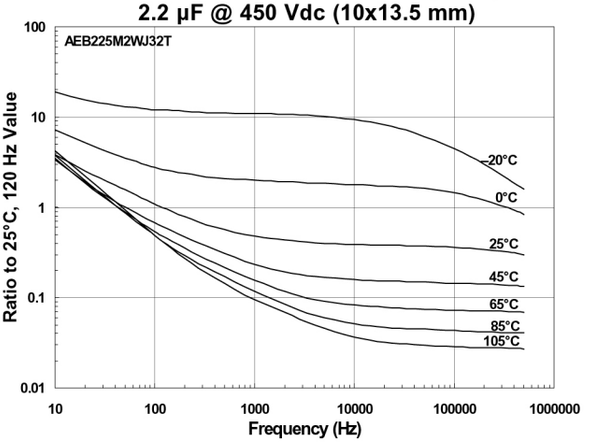
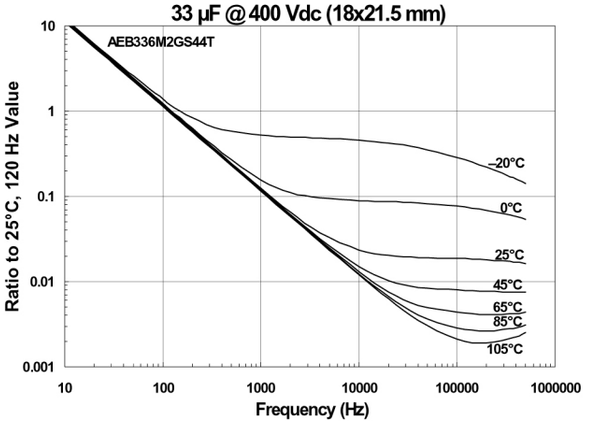
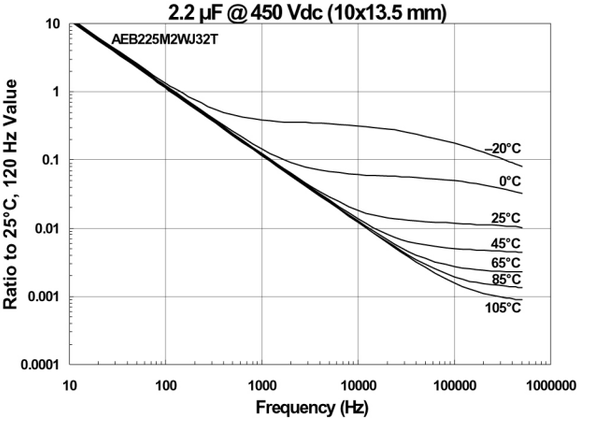


Impedance vs Temperature and Frequency
33 µF @ 400 Vdc (18x21.5 mm)



Impedance vs Temperature and Frequency
2.2 µF @ 450 Vdc (10x13.5 mm)



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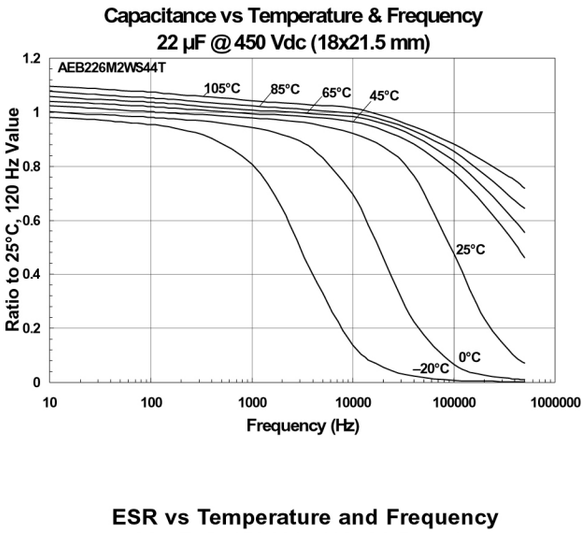

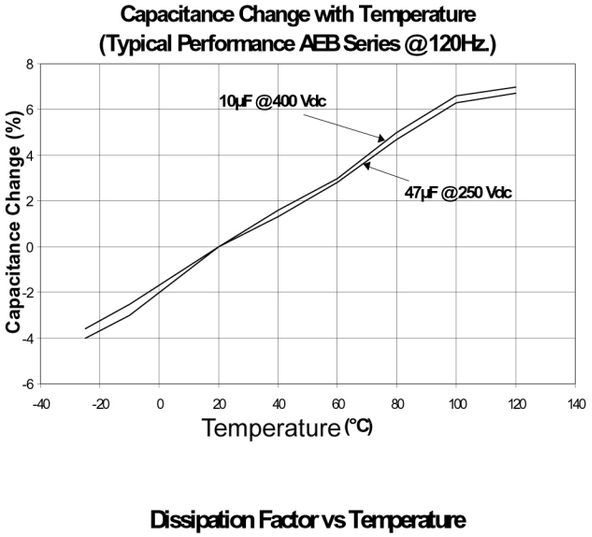

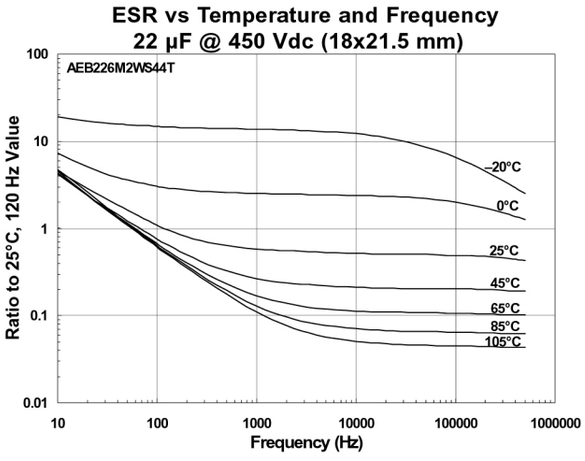

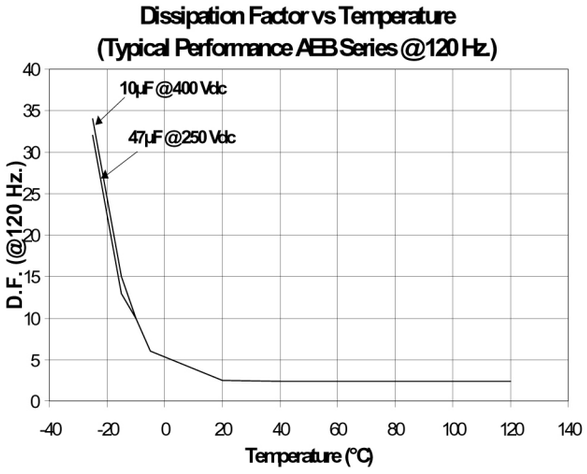

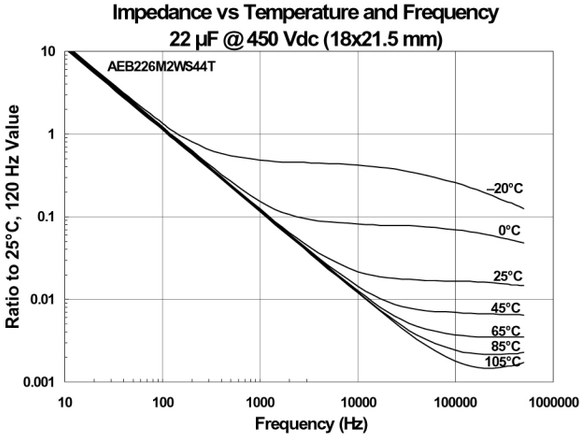

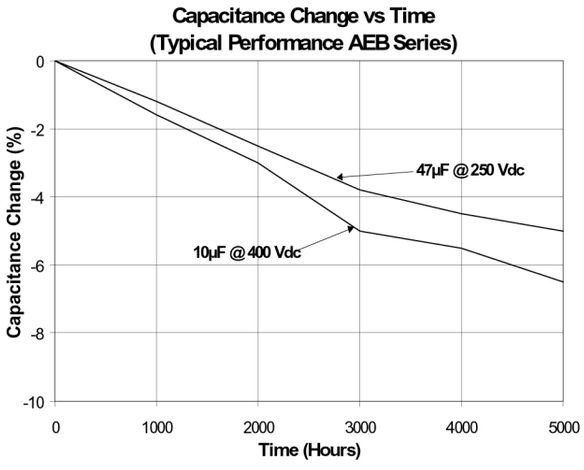

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