

# 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

**Operating Temperature:** -25 °C to +105 °C

**Rated Voltage:** 160, 200, 250, 350, 400, 450 Vdc

**Capacitance:** 2.2 μF to 100 μF

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

**Impedance Ratio (at 120 Hz):**

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



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:** 5000 h @ +105 °C, L — 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

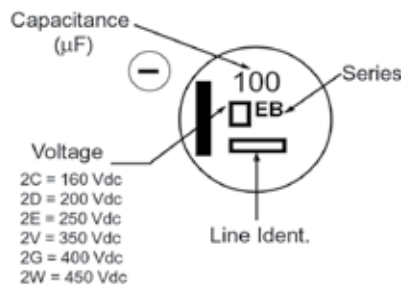
**Shelf Test:** 1000 h @ 105 °C

Δ Capacitance ± 20%

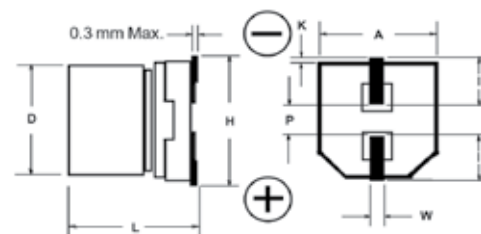
DF: ≤ 200% of limit

DCL: ≤ 100% of limit

#### 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 ( $\mu$ F)	Catalog Part Number	Max. DCL 2 min ( $\mu$ A)	Max. Dissipation Factor @ 120 Hz 20 °C	Max. Impedance @ 100 kHz 20 °C ( $\Omega$ )	Max. Ripple Current @ 105 °C 100 kHz (mA)	Size (mm) D x L	Quantity Reel
<b>160 Vdc</b>							
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
<b>200 Vdc</b>							
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
<b>250 Vdc</b>							
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
<b>350 Vdc</b>							
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
<b>400 Vdc</b>							
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
<b>450 Vdc</b>							
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

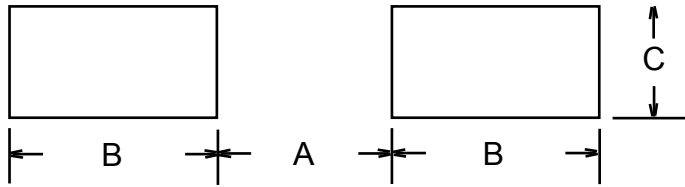
<b>AEB</b>	<b>106</b>	<b>M</b>	<b>2C</b>	<b>J</b>	<b>32T</b>	<b>-F</b>
Type	Capacitance	Capacitance Tolerance	Voltage Code	Case Code	Packaging Information	RoHS Compliant
	105 = 1.0 $\mu$ F 106 = 10.0 $\mu$ F 107 = 100.0 $\mu$ F	M = $\pm$ 20%	2C = 160 Vdc 2D = 200 Vdc 2E = 250 Vdc	2V = 350 Vdc 2G = 400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

See the Aluminum SMT Application Guide for Packaging Information.

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### Recommended Land Pattern

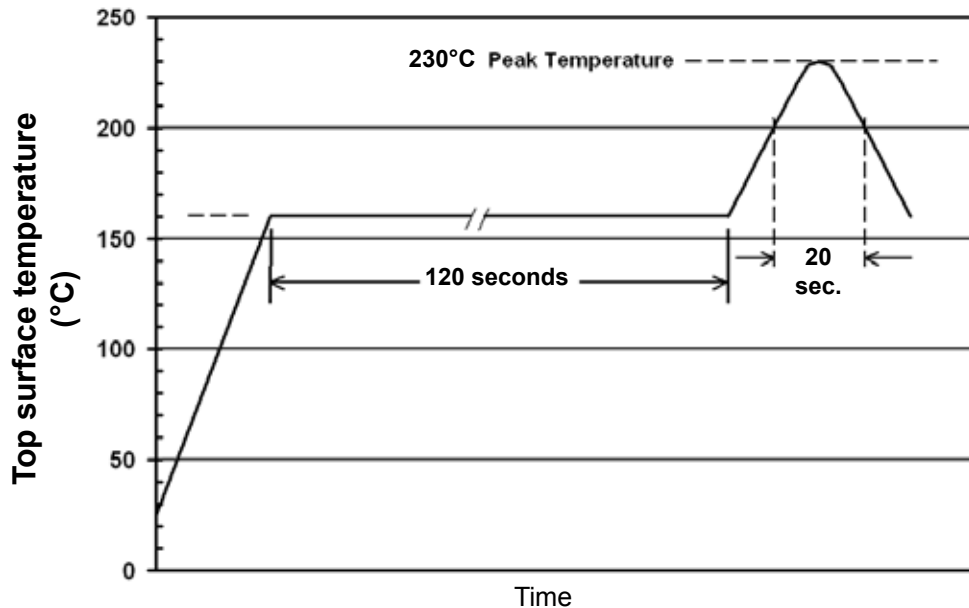


Case Code	Case Dia. (mm)	A (mm)	B (mm)	C (mm)
J	10	4.0	4.5	2.0
K	10	4.0	4.5	2.0
L	12.5	4.0	5.7	2.0
P	16	6.0	6.5	2.5
U	16	6.0	6.5	2.5
R	18	6.0	7.5	2.5
S	18	6.0	7.5	2.5

### 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.)

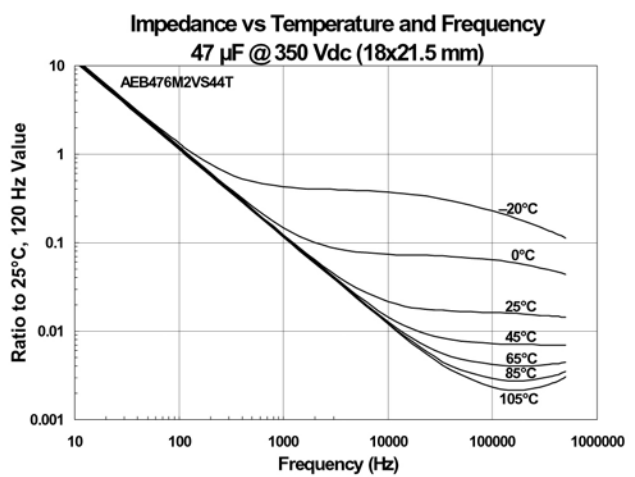
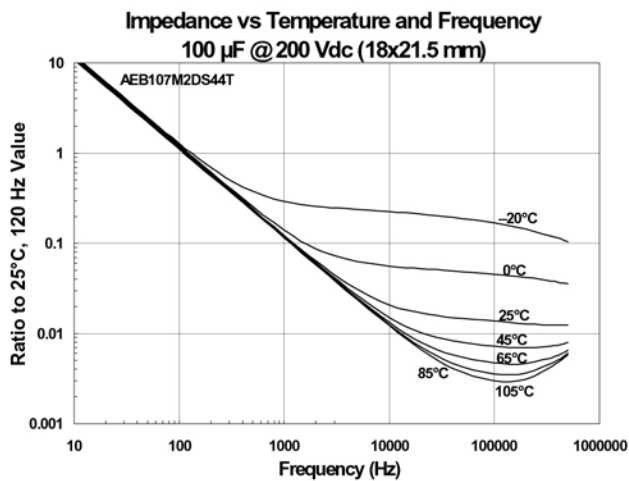
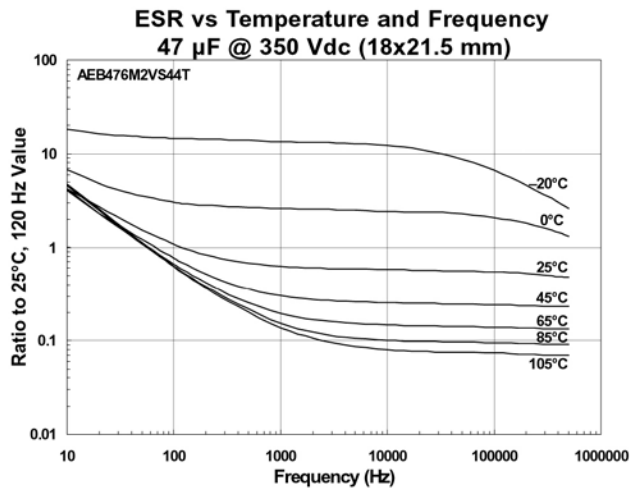
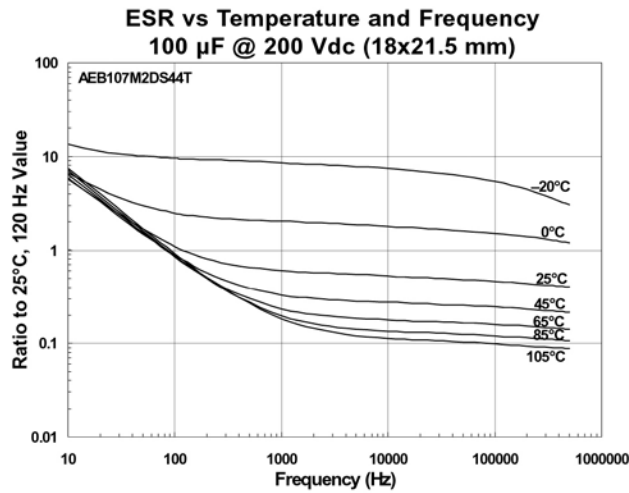
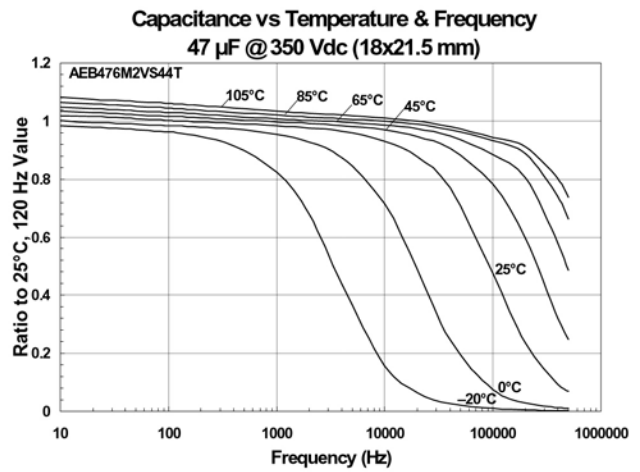
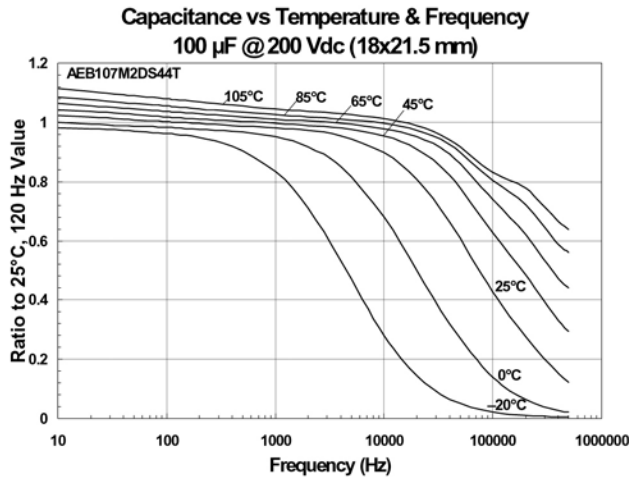


Max. top surface temperature during reflow soldering	230°C
Maximum time at peak temperature	5 seconds
Maximum time at or above 200°C	20 seconds
Number of reflow processes	1
Terminal Material	copper clad iron

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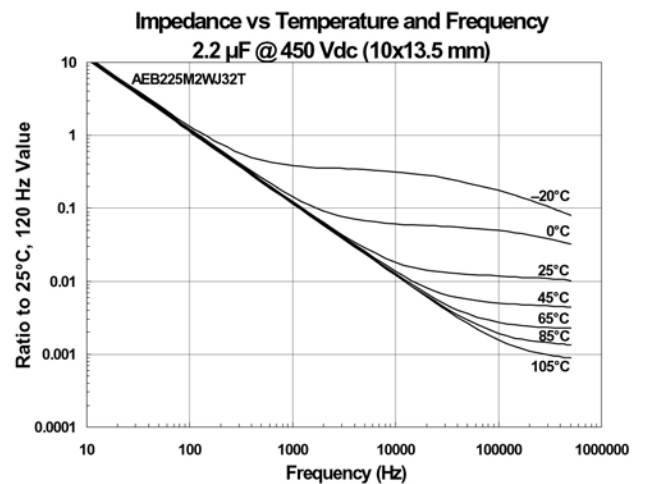
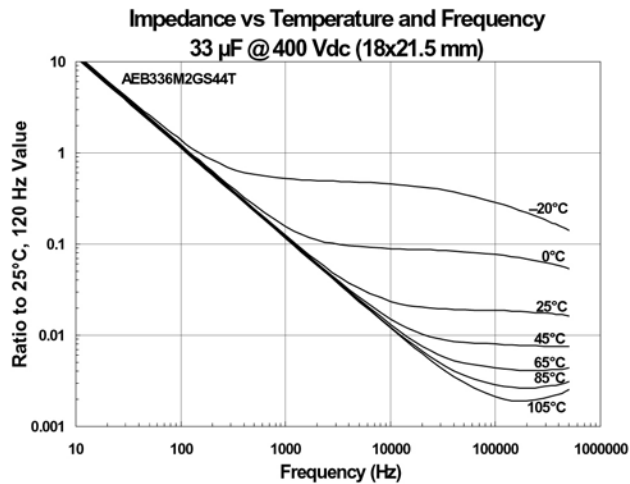
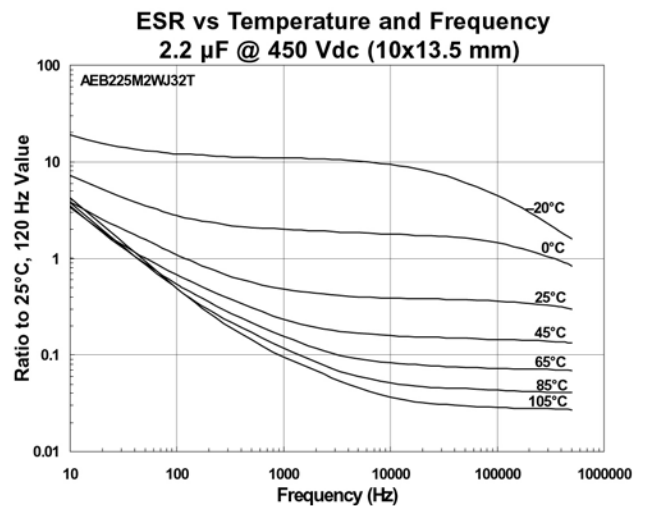
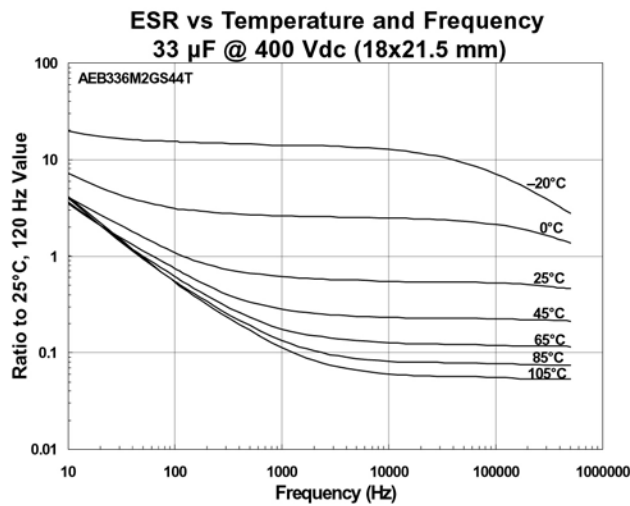
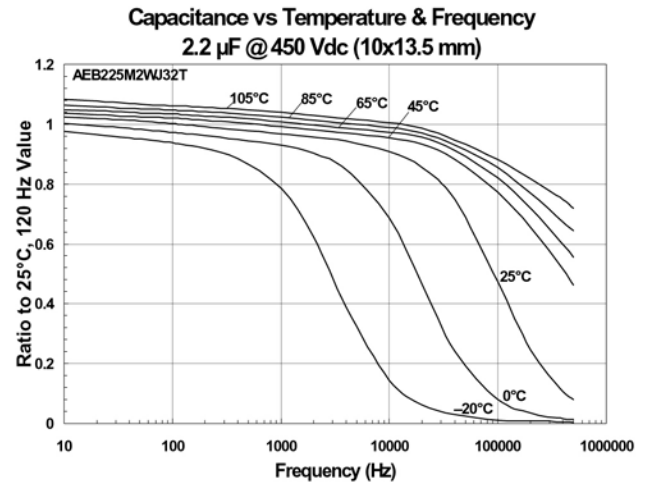
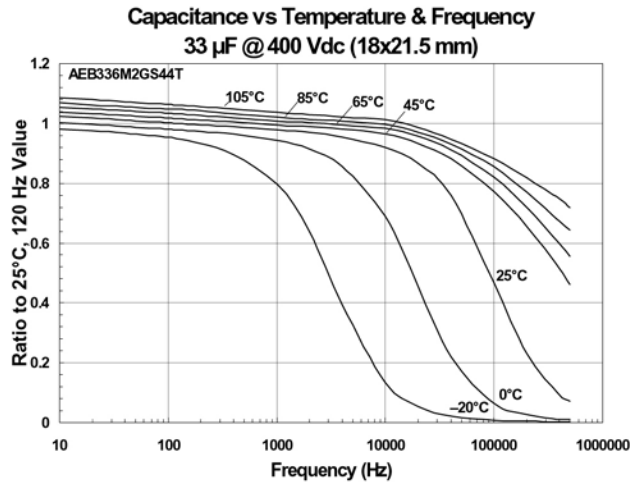
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### Typical Performance Curves



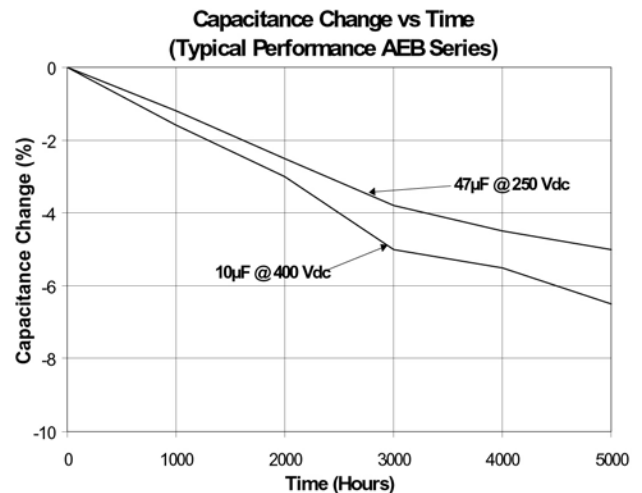
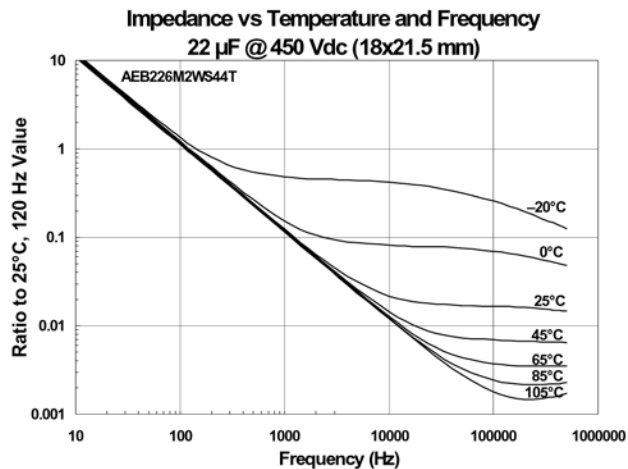
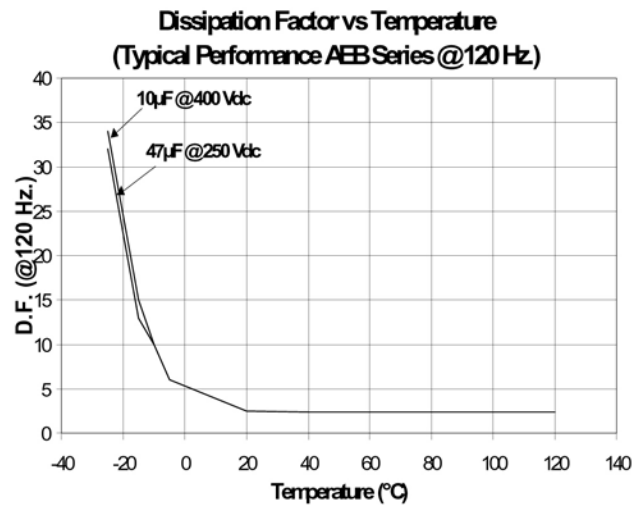
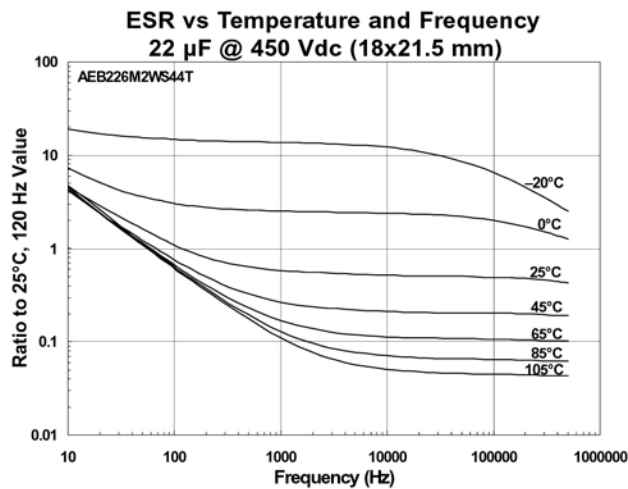
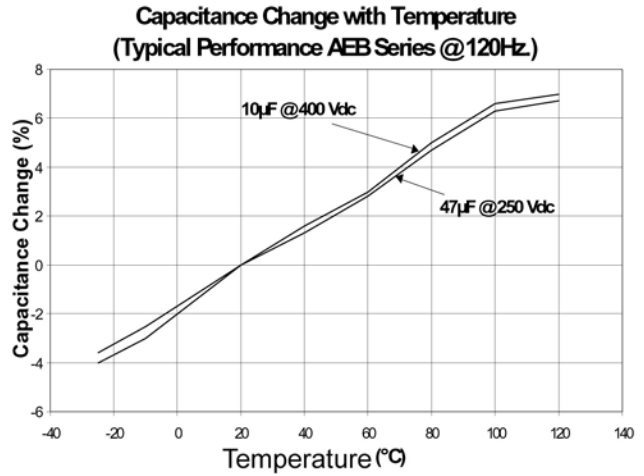
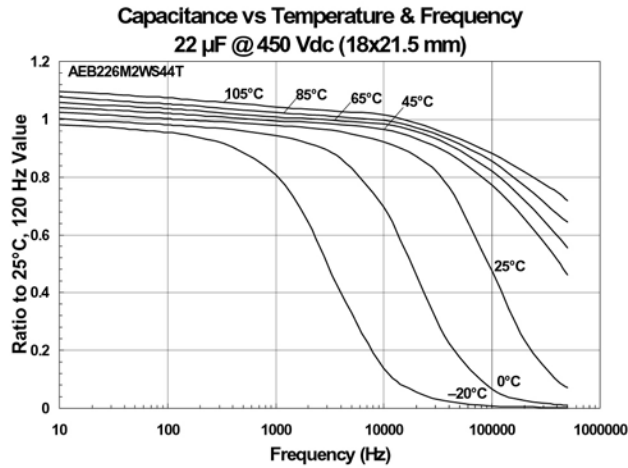
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