Type AVEZ –55 °C to +105 °C
Low Impedance SMT Aluminum Electrolytic Capacitors
For Filtering, Bypassing and Power Supply Decoupling

Type AVEZ Capacitors are rated for 1000 hours at 105 ºC with low impedance characteristics. They are ideal for high density PC board packaging. The Type AVEZ offers a low in-place-cost for a high quality performer. The vertical cylindrical cases facilitate automatic mounting and reflow soldering into the same footprint of like-rated tantalum capacitors except without the need for voltage derating.

Type AVEZ is RoHS compliant.

Highlights

- +105 °C, Up to 1000 Hours Load Life
- Capacitance Range: 1.0 µF to 220 µF
- Voltage Range: 6.3 Vdc to 50 Vdc

Specifications

Capacitance Range	1.0 µF to 220 µF
Capacitance Tolerance	±20% @ 120 Hz and +20 °C
Rated Voltage	6.3, 10, 16, 25, 35, 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 C = rated capacitance in µF, V = rated DC working voltage
Dissipation Factor (Tan d at 120 Hz, 20 ºC)	

Rated Voltage	6.3	10	16	25	35	50
Tan δ Max	0.30	0.26	0.22	0.16	0.13	0.12

Low Temperature Characteristics @ 120 Hz

Rated Voltage		**6.3**	**10**	**16**	**25**	**35**	**50**
Impedance Ratio	Z(–25 ºC) / Z(+20 ºC)	4	3	2	2	2	2
	Z(–40 ºC) / Z(+20 ºC)	8	5	4	3	3	3

Ripple Curent Multipliers

Vdc / **Freq. (Hz)**	**50, 60**	**120**	**1 k**	**10 k up**
6.3 ~ 50	0.64	0.80	0.93	1.00

Load Life Test

Test Time	1,000 Hours
Capacitance Change	Within ±20% of initial value
Dissipation Factor	Less than 200% of specified value
Leakage Current	Within specified value

The above specifications shall be satisfied when the capacitors are restored to 20 ºC after the rated voltage is applied for 1,000 hrs at 105 ºC

Shelf Life Test	Test time: 1000 hours; other items are the same as those for life test.
RoHS Compliant	

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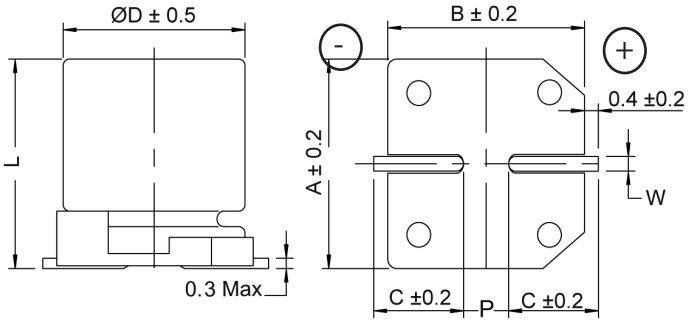
Outline Drawing, Case Code & Dimensions Table

Fig. 1



Case Code	Ø D (mm)	L (mm)	A (mm)	B (mm)	C (mm)	W (mm)	P ±0.2 (mm)
B	4.0	5.3 ±0.2	4.3	4.3	2.0	0.5 to 0.8	1.0
C	5.0	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

Part Numbering System

AVEZ	106	M	25	C	12T	–F
Type	Capacitance	Capacitance Tolerance	Voltage Code	Case Code	Packaging Code	RoHS Compliant
AVEZ	**105** = 1.0 µF	**M** = ±20%	**06** = 6.3 Vdc **25** = 25 Vdc	See	**12** = Carrier Tape	
	106 = 10.0 µF		**10** = 10 Vdc **35** = 35 Vdc	Table	Width (mm)	
	107 = 100.0 µF		**16** = 16 Vdc **50** = 50 Vdc		**T** = Tape & Reel	

Ratings

Cap (µF)	Catalog Part Number	Max DCL 2 min. (µA)	Max DF 120 Hz 20 °C	Max Impedance 100 kHz 20 °C (ohms)	Max Ripple Current 100 kHz 105 °C (mA)	Case Code	Size D x L (mm)	Quantity per Reel (each)
			6.3 Vdc (8 Vdc Surge)					
22	AVEZ226M06B12T-F	3.0	0.28	3.20	65	B	4 x 5.3	2000
33	AVEZ336M06C12T-F	3.0	0.28	1.50	110	C	5 x 5.3	1000
47	AVEZ476M06C12T-F	3.0	0.28	1.50	110	C	5 x 5.3	1000
100	AVEZ107M06D16T-F	6.3	0.28	0.85	170	D	6.3 x 5.3	1000
150	AVEZ157M06X16T-F	9.5	0.28	0.50	255	X	6.3 x 7.7	1000
220	AVEZ227M06X16T-F	13.9	0.28	0.50	255	X	6.3 x 7.7	1000
			10 Vdc (13 Vdc Surge)					
10	AVEZ106M10B12T-F	3.0	0.24	3.20	65	B	4 x 5.3	2000
22	AVEZ226M10C12T-F	3.0	0.24	1.50	110	C	5 x 5.3	1000
33	AVEZ336M10C12T-F	3.0	0.24	1.50	110	C	5 x 5.3	1000
47	AVEZ476M10D16T-F	3.0	0.24	0.85	170	D	6.3 x 5.3	1000
100	AVEZ107M10D16T-F	6.3	0.24	0.85	170	D	6.3 x 5.3	1000
150	AVEZ157M10X16T-F	9.5	0.24	0.50	255	X	6.3 x 7.7	1000
220	AVEZ227M10X16T-F	13.9	0.24	0.50	255	X	6.3 x 7.7	1000

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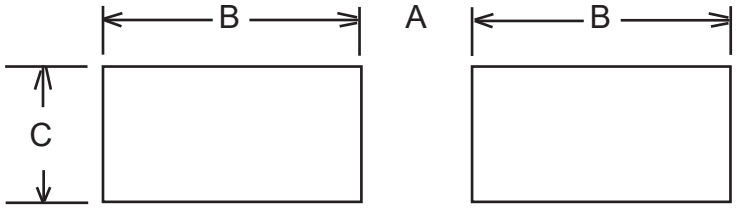
Cap (µF)	Catalog Part Number	Max DCL 2 min. (µA)	Max DF 120 Hz 20 ºC	Max Impedance 100 kHz 20 ºC (ohms)	Max Ripple Current 100 kHz 105 °C (mA)	Case Code	Size D x L (mm)	Quantity per Reel (each)
16 Vdc (13 Vdc Surge)								
10	AVEZ106M16B12T-F	3.0	0.2	3.20	65	B	4 x 5.3	2000
22	AVEZ226M16C12T-F	3.0	0.2	1.50	110	C	5 x 5.3	1000
33	AVEZ336M16D16T-F	3.0	0.2	0.85	170	D	6.3 x 5.3	1000
47	AVEZ476M16D16T-F	3.0	0.2	0.85	170	D	6.3 x 5.3	1000
100	AVEZ107M16D16T-F	6.3	0.2	0.85	170	D	6.3 x 5.3	1000
150	AVEZ157M16X16T-F	9.5	0.2	0.50	255	X	6.3 x 7.7	1000
220	AVEZ227M16X16T-F	13.9	0.2	0.50	255	X	6.3 x 7.7	1000
25 Vdc (31 Vdc Surge)								
4.7	AVEZ475M25B12T-F	3.0	0.16	3.20	65	B	4 x 5.3	2000
10	AVEZ106M25C12T-F	3.0	0.16	1.50	110	C	5 x 5.3	1000
22	AVEZ226M25D16T-F	3.0	0.16	0.85	170	D	6.3 x 5.3	1000
33	AVEZ336M25D16T-F	3.0	0.16	0.85	170	D	6.3 x 5.3	1000
47	AVEZ476M25D16T-F	3.0	0.16	0.85	170	D	6.3 x 5.3	1000
100	AVEZ107M25X16T-F	6.3	0.16	0.5	255	X	6.3 x 7.7	1000
35 Vdc (44 Vdc Surge)								
4.7	AVEZ475M35B12T-F	3.0	0.14	3.20	65	B	4 x 5.3	2000
10	AVEZ106M35C12T-F	3.0	0.14	1.50	110	C	5 x 5.3	1000
22	AVEZ226M35D16T-F	3.0	0.14	0.85	170	D	6.3 x 5.3	1000
33	AVEZ336M35D16T-F	3.0	0.14	0.85	170	D	6.3 x 5.3	1000
47	AVEZ476M35X16T-F	3.0	0.14	0.50	255	X	6.3 x 7.7	1000
50 Vdc (63 Vdc Surge)								
1.0	AVEZ105M50B12T-F	3.0	0.12	5.0	30	B	4 x 5.3	2000
2.2	AVEZ225M50B12T-F	3.0	0.12	5.0	30	B	4 x 5.3	2000
3.3	AVEZ335M50B12T-F	3.0	0.12	5.0	30	B	4 x 5.3	2000
4.7	AVEZ475M50C12T-F	3.0	0.12	3.0	50	C	5 x 5.3	1000
10	AVEZ106M50D16T-F	3.0	0.12	2.0	70	D	6.3 x 5.3	1000
22	AVEZ226M50D16T-F	3.0	0.12	3.0	70	D	6.3 x 5.3	1000
33	AVEZ336M50X16T-F	3.0	0.12	1.0	170	X	6.3 x 7.7	1000

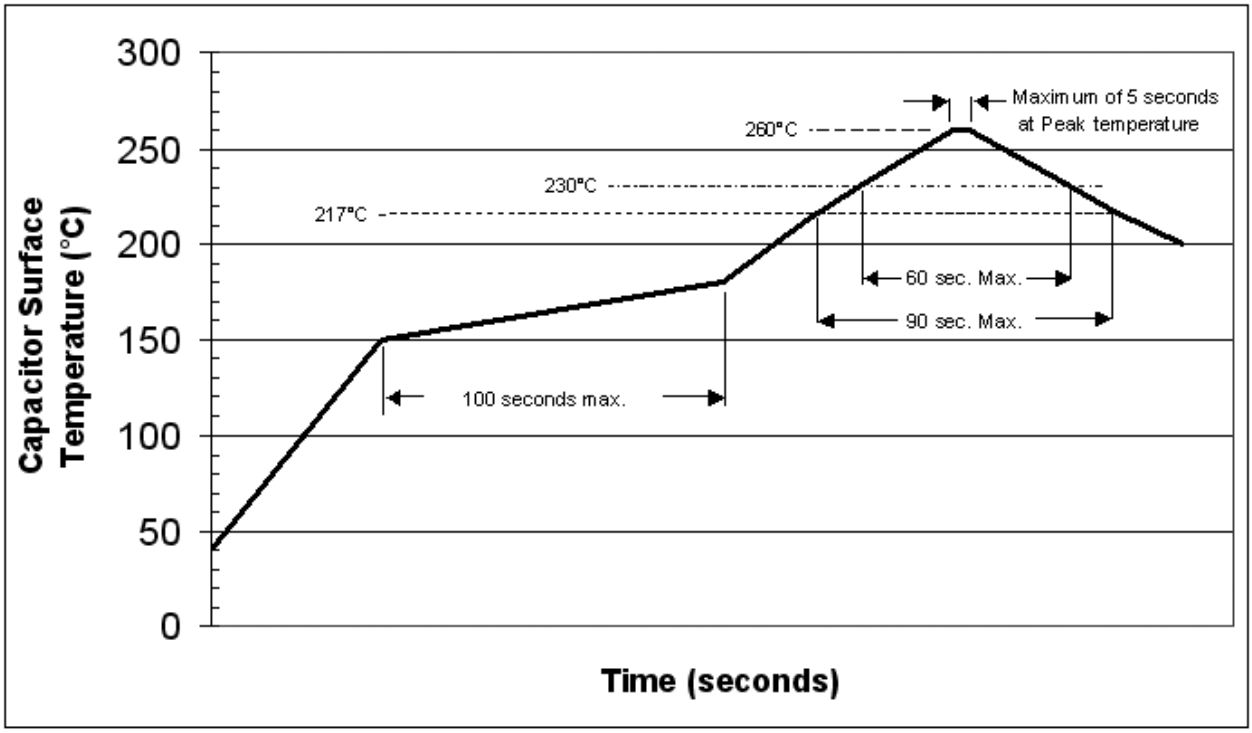
Recommended Land Patterns by case size for AVEZ series



Case Code	Case Size	Land Dimensions (mm)		
		C	B	A
B	4x5.3	1.6	2.6	1
C	5x5.3	1.6	3	1.4
D	6.3x5.3	1.6	3.5	1.9
X	6.3x7.7	1.6	3.5	1.9

Recommended Soldering Methods

Recommended Reflow Soldering Profile:



Parts should be subjected to just one reflow soldering process.

Soldering with a solder iron should be performed with a maximum soldering iron tip temperature of 350±5°C for 3 to 4 seconds.

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