

Solid Aluminum Capacitors With Organic Semiconductor Electrolyte

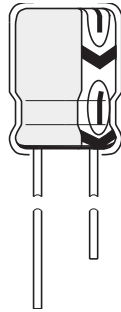


Fig.1 Component outline.

FEATURES

- Designed for general use.
- Superior high frequency characteristics.
- 94SC capacitors are suitable for use in noise limiters and switching power supplies.

PART MARKING

- Sleeve color: Blue. Marking: White
- Polarity -
 - Rated voltage
 - Capacitance
 - Vishay OS-CON
 - Lot number
 - Maximum operating temperature (+ 105 °C)

QUICK REFERENCE DATA

DESCRIPTION	VALUE		
Operating Temperature Range	- 55 °C to + 105 °C		
Capacitance Tolerance at 120 Hz	X0 = ± 20 %		
Tangent of Loss Angle (tan δ) at 120 Hz	≤ Values in Standard Ratings Table		
Leakage Current (μA/2 minutes)(or less)*	6.3 to 25 WV: 0.01 CV or 0.5 30WV: 0.02 CV or 0.1 (Whichever is greater)		
Equivalent Series Resistance (Ω), (100 k to 300 kHz)	≤ Values in Standard Ratings Table		
Temperature Characteristics	- 55 °C	Z/Z _{20 °C}	1.0 to 1.25
Impedance Ratio at 100 kHz	+ 105 °C	Z/Z _{20 °C}	0.75 to 1.0
High Temperature Load (+ 105 °C, 2000 hours)	ΔC/C	Within ± 20 % of the initial value	
Rated Voltage Applied	tan δ	≤ 1.5 x the value of Tangent of Loss Angle	
(25 WV - 20 V applied)**	Leakage Current	≤ The Value of Leakage Current	
Moisture Resistance	ΔC/C	Within ± 10 % of the initial value	
(+ 60 °C, 90 to 95 % RH, 1000 hours, no voltage)	tan δ	≤ 1.5 x the value of Tangent of Loss Angle	
	Leakage Current	≤ The Value of Leakage Current	
Reverse Voltage Guarantee	Temporary: ≤ 20 % of the rated voltage Continuous: ≤ 10 % of the rated voltage		

* If any doubt arises, measure the current after applying voltage (voltage treatment) for 30 minutes at + 105 °C. The rated voltage should be applied for 6.3 to 16.3 WV, while temperature reduction voltage should be applied for 25 WV.

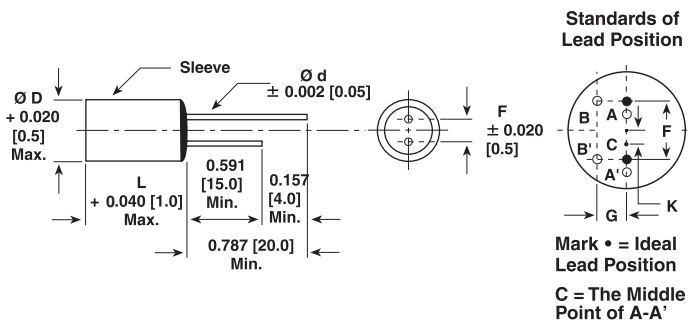
** To use a Vishay OS-CON capacitor when the operating temperature exceeds + 85 °C on a component with a rated voltage of 25 V, reduce the voltage by 0.25 V for every degree (1 °C) relative to the value at + 85 °C (25 V).

TEMPERATURE COEFFICIENT RIPPLE CURRENT

Ambient Temperature	Coefficient
~ + 45 °C	1.0
+ 85 °C	0.7
+ 95 °C	0.4
+ 105 °C	0.25

DIMENSIONS in inches [millimeters]

CASE CODE	NOMINAL CASE SIZE Ø D x L	F	Ø d	G (Max.)	K (Max.)
A	0.157 x 0.268 [4.0 x 6.8]	0.079 [2.0]	0.018 [0.45]	0.020 [0.5]	0.020 [0.5]
B	0.197 x 0.268 [5.0 x 6.8]	0.079 [2.0]	0.018 [0.45]	0.020 [0.5]	0.020 [0.5]
C	0.248 x 0.268 [6.3 x 6.8]	0.098 [2.5]	0.018 [0.45]	0.020 [0.5]	0.020 [0.5]
D	0.248 x 0.386 [6.3 x 9.8]	0.098 [2.5]	0.236 [0.60]	0.020 [0.5]	0.020 [0.5]
E	0.315 x 0.413 [8.0 x 10.5]	0.138 [3.5]	0.236 [0.60]	0.031 [0.8]	0.031 [0.8]
F	0.394 x 0.413 [10.0 x 10.5]	0.20 [5.0]	0.236 [0.60]	0.031 [0.8]	0.031 [0.8]

DIMENSIONS in inches [millimeters]**CASE CODE LIST**

CAPACITANCE (μ F)	WV*** (SV)****	6.3 (7.3)	10 (11.5)	16 (18.4)	25 (25)	30 (34.5)
1.0		-	-	-	-	A
1.5		-	-	-	A	B
2.2		-	-	A	-	B
3.3		-	-	A	B	C
4.7		-	A	B	C	D
6.8		A	-	B	C	D
10.0		-	B	-	C	E
15.0		B	-	C	D	-
22.0		-	C	D	E	F
33.0		C	-	D	F	-
47.0		-	D	-	F	-

WV = Rated Voltage. *(SV) = Surge Voltage (at room temperature).

STANDARD RATINGS

CASE CODE	PART NUMBER*	RATED VOLTAGE (V)	NOMINAL CAPACITANCE (μ F)	MAX. ALLOWABLE RIPPLE CURRENT (mAmps) at 100 kHz, + 45 °C	MAX. LEAKAGE CURRENT (μ A) (After 2 Minutes)	MAX. TANGENT OF LOSS ANGLE	MAX. ESR 100 k to 300 kHz (m Ω)
A	94SC105X0030ABP	30.0	1.0	430	1.00	0.03	350
	94SC155X0025ABP	25.0	1.5	435	0.50	0.03	300
	94SC225X0016ABP	16.0	2.2	450	0.50	0.04	280
	94SC335X0016ABP	16.0	3.3	500	0.53	0.04	280
	94SC475X0010ABP	10.0	4.7	540	0.50	0.05	280
	94SC685X06R3ABP	6.3	6.8	560	0.50	0.05	250
B	94SC155X0030BBP	30.0	1.5	435	1.00	0.03	300
	94SC225X0030BBP	30.0	2.2	695	1.32	0.03	250
	94SC335X0025BBP	25.0	3.3	700	0.83	0.03	200
	94SC475X0016BBP	16.0	4.7	720	0.75	0.04	180
	94SC685X0016BBP	16.0	6.8	745	1.09	0.04	150
	94SC106X0010BBP	10.0	10.0	780	1.00	0.05	150
	94SC156X06R3BBP	6.3	15.0	815	0.95	0.05	120

*Part Numbers shown are for $\pm 20\%$ capacitance tolerance (X0).

94SC106X0016...Part Number is complete with Case Code and 2 character Package or Process Code. BP as shown indicates Bulk Pack.

**STANDARD RATINGS**

CASE CODE	PART NUMBER*	RATED VOLTAGE (V)	NOMINAL CAPACITANCE (μ F)	MAX. ALLOWABLE RIPPLE CURRENT (mAmps) at 100 kHz, + 45 °C	MAX. LEAKAGE CURRENT (μ A) (After 2 Minutes)	MAX. TANGENT OF LOSS ANGLE	MAX. ESR 100 k to 300 kHz (m Ω)
C	94SC335X0030CBP	30.0	3.3	820	1.98	0.03	200
	94SC475X0025CBP	25.0	4.7	1130	1.18	0.03	100
	94SC685X0025CBP	25.0	6.8	1140	1.70	0.03	100
	94SC106X0025CBP	25.0	10.0	1150	2.50	0.03	90
	94SC156X0016CBP	16.0	15.0	1230	2.40	0.04	90
	94SC226X0010CBP	10.0	22.0	1270	2.20	0.05	70
	94SC336X06R3CBP	6.3	33.0	1320	2.08	0.05	70
D	94SC475X0030DBP	30.0	4.7	1300	2.82	0.04	120
	94SC685X0030DBP	30.0	6.8	1340	4.08	0.04	120
	94SC156X0025DBP	25.0	15.0	1650	3.75	0.04	70
	94SC226X0016DBP	16.0	22.0	1800	3.52	0.05	70
	94SC336X0016DBP	16.0	33.0	1900	5.28	0.06	70
	94SC476X0010DBP	10.0	47.0	2020	4.70	0.06	60
E	94SC106X0030EBP	30.0	10.0	1380	6.00	0.06	110
	94SC226X0025EBP	25.0	22.0	2330	5.50	0.06	40
F	94SC336X0025FBP	25.0	33.0	2900	8.25	0.06	35
	94SC476X0025FBP	25.0	47.0	2980	11.75	0.06	35
	94SC226X0030FBP	30.0	22.0	1830	13.20	0.06	80

*Part Numbers shown are for $\pm 20\%$ capacitance tolerance (X0).

94SC106X0016... Part Number is complete with Case Code and 2 character Package or Process Code. BP as shown indicates Bulk Pack.