

Solid Aluminum Capacitors With Organic Semiconductor Electrolyte

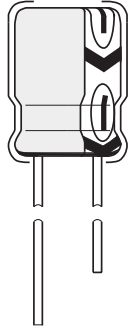


Fig. 1 Component outline

FEATURES

- High capacitance
- Miniaturized
- 94SA capacitors are suitable for high frequency switching power supplies, etc


RoHS
COMPLIANT
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)*	0.02 CV (0.04 CV for G, H size)		
Equivalent Series Resistance (Ω), (100 k to 300 kHz)	≤ Values in Standard Ratings Table		
Temperature Characteristics at high temp. and low temp. Impedance Ratio at 100 kHz	- 55 °C	Z/Z _{20 °C}	1.0 to 1.25
	+ 105 °C	Z/Z _{20 °C}	0.75 to 1.0
High Temperature Load (+ 105 °C, 2000 hours) (∅ D ≥ 12.5, 1000 hours)	ΔC/C	Within ± 20 % of the initial value	
	tan δ	≤ 1.5 x the value of Tangent of Loss Angle	
Rated Voltage Applied	Leakage Current	≤ The Value of Leakage Current	
Moisture Resistance (+ 60 °C, 90 to 95 % RH, 1000 hours, no voltage)	ΔC/C	Within ± 10 % of the initial value	
	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 for all WV.

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]

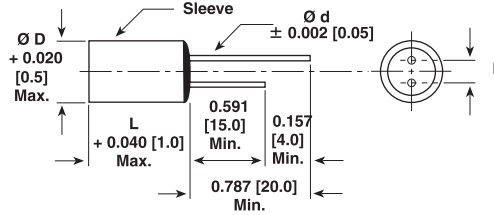
CASE CODE	NOMINAL CASE SIZE ∅ D x L	F	∅ d	G (Max.)	K (Max.)
C	0.248 x 0.268 [6.3 x 6.8]	0.098 ± 0.020 [2.5 ± 0.5]	0.018 [0.45]	0.020 [0.5]	0.020 [0.5]
D	0.248 x 0.386 [6.3 x 9.8]	0.098 ± 0.020 [2.5 ± 0.5]	0.024 [0.60]	0.020 [0.5]	0.020 [0.5]
E	0.315 x 0.413 [8.0 x 10.5]	0.138 ± 0.020 [3.5 ± 0.5]	0.024 [0.60]	0.031 [0.8]	0.031 [0.8]
F	0.394 x 0.413 [10.0 x 10.5]	0.197 ± 0.020 [5.0 ± 0.5]	0.024 [0.60]	0.031 [0.8]	0.031 [0.8]
G	0.492 ± 0.866 [12.5 ± 22.0]	0.197 ± 0.040 [5.0 ± 1.0]	0.031 [0.80]	0.031 [0.8]	0.031 [0.8]
H	0.630 ± 0.984 [16.0 ± 25.0]	0.295 ± 0.040 [7.5 ± 1.0]	0.031 [0.80]	0.031 [0.8]	0.031 [0.8]



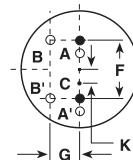
**Solid Aluminum Capacitors
With Organic Semiconductor Electrolyte**

94SA
Vishay OS-CON

DIMENSIONS in inches [millimeters]



Standards of
Lead Position



Mark • = Ideal
Lead Position
C = The Middle
Point of A-A'

CASE CODE LIST					
CAPACITANCE (μ F)	WV**	6.3	10	16	20
	(SV)***	(7.2)	(11.5)	(18.4)	(23)
15.0		-	-	-	C
22.0		-	-	-	C
33.0		-	-	C	D
47.0		C	-	D	E
68.0		-	D	-	E
100.0		-	-	E	F
150.0		E	-	F	-
220.0		-	F	-	-
330.0		F	-	-	-
470.0		-	-	G	-
1000.0		-	-	H	-
2200.0		H	-	-	-

** 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)
C	94SA156X0020CBP	20.0	15.0	1200	6.00	0.06	90
	94SA226X0020CBP	20.0	22.0	1300	8.80	0.06	70
	94SA336X0016CBP	16.0	33.0	1370	10.56	0.06	70
	94SA476X06R3CBP	6.3	47.0	1430	5.92	0.07	60
D	94SA336X0020DBP	20.0	33.0	1710	13.20	0.06	70
	94SA476X0016DBP	16.0	47.0	1830	15.04	0.06	60
	94SA686X0010DBP	10.0	68.0	2000	13.60	0.07	50
E	94SA476X0020EBP	20.0	47.0	2450	18.80	0.06	40
	94SA686X0020EBP	20.0	68.0	2600	27.20	0.06	36
	94SA107X0016EBP	16.0	100.0	2740	32.00	0.06	30
	94SA157X06R3EBP	6.3	150.0	2780	18.90	0.07	30
F	94SA107X0020FBP	20.0	100.0	3210	40.00	0.06	30
	94SA157X0016FBP	16.0	150.0	3260	48.00	0.06	28
	94SA227X0010FBP	10.0	220.0	3370	44.00	0.07	27
	94SA337X06R3FBP	6.3	330.0	3500	41.58	0.07	25
G	94SA477X0016GBP	16.0	470.0	6080	300.80	0.08	20
H	94SA108X0016HBP	16.0	1000.0	9750	640.00	0.09	15
	94SA228X06R3HBP	6.3	2200.0	9750	554.40	0.13	15

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

94SA156X0020... Part Number is complete with Case Code and 2 character Package or Process Code. BP as shown indicates Bulk Pack.



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