

Solid Aluminum Capacitors with Organic Semiconductor Electrolyte

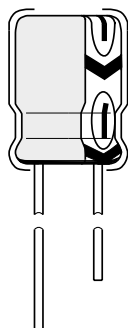


Fig.1 Component outline

FEATURES

- High capacitance
- Miniaturized
- 94SA capacitors are suitable for high frequency switching power supplies, etc
- Radial lead
- Compliant to RoHS directive 2002/95 EC



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) ⁽¹⁾	0.02 CV (0.04 CV for G, H size)		
Equivalent series resistance (Ω), (100 kHz to 300 kHz)	≤ values in standard ratings table		
Temperature characteristics at high temperature and low temperature 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) (Ø D ≥ 12.5, 1000 hours) Rated voltage applied	ΔC/C	within ± 20 % of the initial value	
	tan δ	≤ 1.5 x the value of tangent of loss angle	
	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		

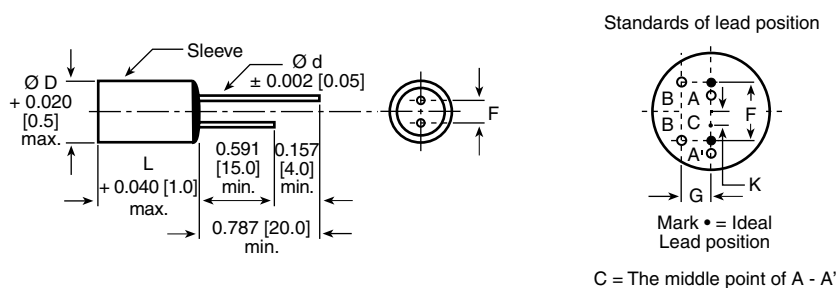
Note

⁽¹⁾ 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 $\varnothing D \times L$	F	$\varnothing d$	G (max.)	K (max.)
C	0.248 x 0.268 [6.3 x 6.8]	0.098 $\pm$ 0.020 [2.5 $\pm$ 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 $\pm$ 0.020 [2.5 $\pm$ 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 $\pm$ 0.020 [3.5 $\pm$ 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 $\pm$ 0.020 [5.0 $\pm$ 0.5]	0.024 [0.60]	0.031 [0.8]	0.031 [0.8]
G	0.492 $\pm$ 0.866 [12.5 $\pm$ 22.0]	0.197 $\pm$ 0.040 [5.0 $\pm$ 1.0]	0.031 [0.80]	0.031 [0.8]	0.031 [0.8]
H	0.630 $\pm$ 0.984 [16.0 $\pm$ 25.0]	0.295 $\pm$ 0.040 [7.5 $\pm$ 1.0]	0.031 [0.80]	0.031 [0.8]	0.031 [0.8]

DIMENSIONS in inches (millimeters)**CASE CODE LIST**

WV ⁽¹⁾	(SV) ⁽²⁾	6.3	6.3	6.3	6.3
CAPACITANCE (μ F)		(7.2)	(7.2)	(7.2)	(7.2)
15.0		-	-	-	-
22.0		-	-	-	-
33.0		-	-	-	-
47.0		C	C	C	C
68.0		-	-	-	-
100.0		-	-	-	-
150.0		E	E	E	E
220.0		-	-	-	-
330.0		F	F	F	F
470.0		-	-	-	-
1000.0		-	-	-	-
2200.0		H	H	H	H

Notes

(1) WV = Rated Voltage.

(2) (SV) = Surge Voltage (at room temperature).

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Vishay OS-CON

STANDARD RATINGS							
CASE CODE	PART NUMBER ⁽¹⁾	RATED VOLTAGE (V)	NOMINAL CAPACITANCE (μF)	MAX. ALLOWABLE RIPPLE CURRENT (mA) at 100 kHz, + 45 °C	MAX. LEAKAGE CURRENT (μA) (after 2 min)	MAX. TANGENT OF LOSS ANGLE	MAX. ESR 100 kHz to 300 kHz (mΩ)
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

Note

⁽¹⁾ Part Numbers shown are for ± 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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