

Solid Aluminum Capacitors With Organic Semiconductor Electrolyte



FEATURES

- Miniaturized version of Types 94SA, 94SC, 94SL.
- 94SS capacitors are used where a compact design is needed for switching supplies, etc.

STANDARD RATINGS							
CASE CODE	PART* NUMBER	RATED VOLTAGE (V)	NOMINAL CAPACITANCE (μ F)	MAX. ALLOWABLE RIPPLE CURRENT (mArms) (@ 100kHz, + 45°C)	MAX. LEAKAGE CURRENT (μ A) (After 2 Minutes)	MAX. TANGENT OF LOSS ANGLE	MAX. ESR 100k ~ 300kHz (m Ω)
A'	94SS225X0020ABP	20.0	2.2	450	2.20	0.05	400
	94SS335X0020ABP	20.0	3.3	500	3.30	0.06	400
	94SS475X0016ABP	16.0	4.7	540	3.76	0.06	400
	94SS685X0016ABP	16.0	6.8	540	5.44	0.06	400
	94SS106X0010ABP	10.0	10.0	560	5.00	0.06	350
	94SS156X06R3ABP	6.3	15.0	560	4.73	0.06	350
B'	94SS475X0020BBP	20.0	4.7	720	4.70	0.05	250
	94SS685X0020BBP	20.0	6.8	745	6.80	0.05	180
	94SS106X0016BBP	16.0	10.0	780	8.00	0.05	150
	94SS156X0016BBP	16.0	15.0	780	12.00	0.05	150
	94SS226X0010BBP	10.0	22.0	780	11.00	0.05	150
	94SS336X06R3BBP	6.3	33.0	780	10.40	0.05	150
C'	94SS106X0020CBP	20.0	10.0	1150	10.00	0.06	100
	94SS156X0020CBP	20.0	15.0	1230	15.00	0.06	100
	94SS226X0020CBP	20.0	22.0	1230	22.00	0.06	100
	94SS336X0016CBP	16.0	33.0	1230	26.40	0.06	100
	94SS686X0004CBP	4.0	68.0	1430	13.60	0.06	70
D	94SS476X0020DBP	20.0	47.0	1830	47.00	0.06	60
	94SS686X0016DBP	16.0	68.0	2000	54.40	0.07	50
	94SS107X0010DBP	10.0	100.0	2100	50.00	0.07	40
	94SS157X0004DBP	4.0	150.0	2100	30.00	0.08	40
E	94SS107X0020EBP	20.0	100.0	2740	100.00	0.07	30
	94SS157X0010EBP	10.0	150.0	2780	75.00	0.07	30
	94SS227X06R3EBP	6.3	220.0	3000	69.30	0.07	30
F	94SS157X0020FBP	20.0	150.0	3200	150.00	0.07	30
	94SS337X0010FBP	10.0	330.0	3500	165.00	0.07	25
	94SS477X0004FBP	4.0	470.0	3500	94.00	0.07	25

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

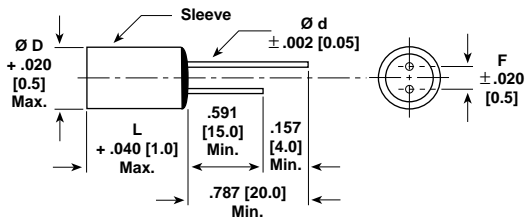
94SS106X0016_ _ _ Part Number is complete with Case Code and 2 character Package or Process Code. BP as shown indicates Bulk Pack.

Type 94SS

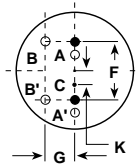
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DIMENSIONS in inches (millimeters)



Standards of Lead Position



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

CASE CODE	$\varnothing D \times L$	F	$\varnothing d$	G (Max.)	K (Max.)
A'	.158 x .197 [4.0 x 5.0]	.059 [1.5]	.018 [0.45]	.020 [0.5]	.020 [0.5]
B'	.197 x .197 [5.0 x 5.0]	.079 [2.0]	.018 [0.45]	.020 [0.5]	.020 [0.5]
C'	.248 x .197 [6.3 x 5.0]	.098 [2.5]	.018 [0.45]	.020 [0.5]	.020 [0.5]
D	.248 x .386 [6.3 x 9.8]	.098 [2.5]	.234 [6.0]	.020 [0.5]	.020 [0.5]
E	.315 x .413 [8.0 x 10.5]	.138 [3.5]	.234 [6.0]	.031 [0.8]	.031 [0.8]
F	.394 x .413 [10.0 x 10.5]	.197 [5.0]	.234 [6.0]	.031 [0.8]	.031 [0.8]

ENVIRONMENTAL PERFORMANCE			
ITEMS	CHARACTERISTICS		
1. Operating Temperature Range	- 55°C ~ + 105°C		
2. Capacitance Tolerance @ 120Hz	X0 = ± 20%		
3. Tangent of Loss Angle (tan δ) @ 120Hz	≤ Values in Standard Ratings Table		
4. Maximum Leakage Current ($\mu A/2$ minutes)*	0.05 CV		
5. Equivalent Series Resistance (Ω) (100k ~ 300kHz)	≤ Values in Standard Ratings Table		
6. Temperature Characteristics Impedance Ratio at 100kHz	- 55°C	Z/Z _{20°C}	1.0 ~ 1.25
	+ 105°C	Z/Z _{20°C}	0.75 ~ 1.0
7. High Temperature Load (+ 105°C, 1,000 hours) Rated Voltage Applied	Δ C/C	Within ± 20% of the initial value	
	tan δ	≤ 1.5 times the value of Item 3	
	Leakage Current	≤ The value of Item 4	
8. Moisture Resistance (+ 60°C, 90 ~ 95% RH, 1,000 hours, no voltage)	Δ C/C	Within ± 20% of the initial value	
	tan δ	≤ 2 times the value of Item 3	
	Leakage Current	≤ The value of Item 4	
9. Reverse Voltage Guarantee	Temporary: Less than 20% of the rated voltage Continuous: Less than 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 all WV.

CASE CODE LIST						
CAPACITANCE (μF)	WV**	4	6.3	10	16	20
	(SV)***	(4.6)	(7.2)	(11.5)	(18.4)	(23)
2.2		—	—	—	—	A'
3.3		—	—	—	—	A'
4.7		—	—	—	A'	B'
6.8		—	—	—	A'	B'
10.0		—	—	A'	B'	C'
15.0		—	A'	—	B'	C'
22.0		—	—	B'	—	C'
33.0		—	B'	—	C'	—
47.0		—	—	—	—	D
68.0		C'	—	—	D	—
100.0		—	—	D	—	E
150.0		D	—	E	—	F
220.0		—	E	—	—	—
330.0		—	—	F	—	—
470.0		F	—	—	—	—

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

TEMPERATURE COEFFICIENT FOR RIPPLE CURRENT				
Ambient Temperature	~ + 45°C	+ 85°C	+ 95°C	+ 105°C
Coefficient	1.0	0.7	0.4	0.25

PART MARKING****
— Polarity \ominus
— Rated voltage
— Capacitance
— OS-CON
— Lot number
— Type
— Maximum operating temperature (+ 105°C)

****Sleeve color: Blue. Marking: White.