VSS Series

Features

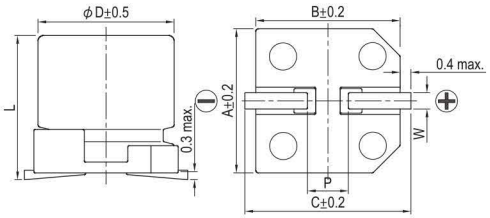
- 4φ ~ 6.3φ, 85℃, 2,000 hours assured
- Vertical chip type miniaturized for 4.5mm height capacitor
- Designed for surface mounting on high density PC board
- RoHS compliance
- AEC-Q200 Parts Avaliable: Replace “S” Suffix with “KS” or “LS” Suffix

Marking color: Black

Specifications

Items	Performance
Category Temperature Range	-40℃ ~ +85℃
Capacitance Tolerance	±20% (at 120 Hz, 20℃)
Leakage Current (at 20℃)	I = 0.01CV or 3 (μA) whichever is greater (after 2 minutes) Where, C = rated capacitance in μF, V = rated DC working voltage in V
Tanδ (at 120 Hz, 20℃)	Rated Voltage: 4 / 6.3 / 10 / 16 / 25 / 35 / 50 Tanδ (max): 0.50 / 0.30 / 0.24 / 0.19 / 0.16 / 0.14 / 0.14
Low Temperature Characteristics (at 120 Hz)	Impedance ratio shall not exceed the values given in the table below. Rated Voltage: 4 / 6.3 / 10 / 16 / 25 / 35 / 50 Impedance Ratio Z(-25℃)/Z(+20℃): 7 / 4 / 3 / 2 / 2 / 2 / 2 Impedance Ratio Z(-40℃)/Z(+20℃): 15 / 8 / 5 / 4 / 3 / 3 / 3
Endurance	Test Time: 2,000 Hrs Capacitance Change: Within ±30% of initial value for 4 ~ 6.3V; Within ±25% of initial value for 10 ~ 50V Tanδ: Less than 300% of specified value Leakage Current: Within specified value * The above specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 2,000 hours at 85℃.
Shelf Life Test	Test time: 1,000 hours; other items are the same as those for the Endurance.
Ripple Current and Frequency Multipliers	Frequency(Hz): 50 / 120 / 1k / 10k up Multiplier: 0.7 / 1.0 / 1.3 / 1.4

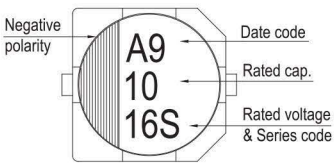
Diagram of Dimensions



Lead Spacing and Diameter Unit: mm

φD	L	A	B	C	W	P ± 0.2
4	4.5 ± 0.2	4.3	4.3	5.1	0.5 ~ 0.8	1.0
5	4.5 ± 0.2	5.3	5.3	5.9	0.5 ~ 0.8	1.5
6.3	4.5 ± 0.2	6.6	6.6	7.2	0.5 ~ 0.8	2.0

Marking



Dimension and Permissible Ripple Current

Dimension: φD × L(mm)
Ripple Current: mA/rms at 120 Hz, 85℃

Rated Volt. (VDC) / Cap. (μF)	Contents	4V (0G)		6.3V (0J)		10V (1A)		16V (1C)		25V (1E)		35V (1V)		50V (1H)	
		φD×L	mA	φD×L	mA	φD×L	mA	φD×L	mA	φD×L	mA	φD×L	mA	φD×L	mA
0.47	R47													4×4.5	4.0
1	010													4×4.5	8.4
2.2	2R2													4×4.5	13
3.3	3R3													4×4.5	17
4.7	4R7									4×4.5	16	4×4.5	18	5×4.5	20
10	100							4×4.5	23	5×4.5	27	5×4.5	29	6.3×4.5	33
22	220			4×4.5	23	5×4.5	33	5×4.5	37	6.3×4.5	42	6.3×4.5	46		
33	330	4×4.5	28	5×4.5	37	5×4.5	41	6.3×4.5	49	6.3×4.5	52				
47	470	4×4.5	33	5×4.5	45	6.3×4.5	70	6.3×4.5	58						
100	101	5×4.5	56	6.3×4.5	70										

Part Numbering System

	VSS Series	10μF	±20%	16V	Carrier Tape		4φ×4.5L	
	VSS	**100**	**M**	**1C**	**TR**	**-**	**0404**	**S**
	Series Name	Capacitance	Capacitance Tolerance	Rated Voltage	Package Type	Terminal Type	Case size	Regional Code

Note: For more details, please refer to “Part Numbering System (SMD Type)” on page 15.

All product specifications in the catalog are subject to change without notice. (CAT. 2021E1)