

VEC Series

Features

- 4 φ ~ 6.3 φ, 85°C, 2,000 hours assured
- Low Leakage Current Lead free reflow soldering is available
- Designed for surface mounting on high density PC board
- RoHS compliance
- AEC-Q200 Parts Available: Replace “S” Suffix with “KS” or “LS” Suffix



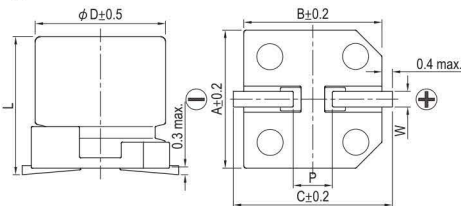
Marking color: Black

Specifications

Items	Performance						
Category Temperature Range	-40°C ~ +85°C						
Capacitance Tolerance	±20%						
(at 120 Hz, 20°C)							
Leakage Current (at 20°C)	I = 0.002CV or 0.5 (μA) whichever is greater (after 2 minutes) Where, C = rated capacitance in μF, V = rated DC working voltage in V						
Tan δ (at 120 Hz, 20°C)	Rated Voltage	6.3	10	16	25	35	50
	Tan δ (max)	0.28	0.24	0.20	0.14	0.12	0.10
Low Temperature Characteristics (at 120 Hz)	Impedance ratio shall not exceed the values given in the table below.						
	Rated Voltage	6.3	10	16	25	35	50
	Impedance Ratio Z(-25°C)/Z(+20°C)	3	3	2	2	2	2
	Impedance Ratio Z(-40°C)/Z(+20°C)	8	5	4	3	3	3
Endurance	Test Time	2,000 Hrs					
	Capacitance Change	Within ±20% of initial value					
	Tan δ	Less than 200% of specified value					
	Leakage Current	Within specified value					
* The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied for 2,000 hours at 85°C.							
Shelf Life Test	Test Time	1,000 Hrs					
	Capacitance Change	Within ±20% of initial value					
	Tan δ	Less than 200% of specified value					
	Leakage Current	Within specified value					
* The above specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 85°C without voltage applied.							
Ripple Current and Frequency Multipliers	Frequency (Hz)	50	120	1k	10k up		
	Multiplier	0.7	1.0	1.3	1.4		

SMD

Diagram of Dimensions

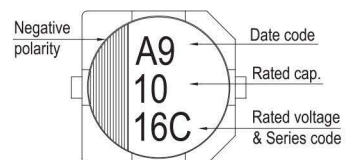


Lead Spacing and Diameter

Unit: mm

φ D	L	A	B	C	W	P ± 0.2
4	5.3 ± 0.2	4.3	4.3	5.1	0.5 ~ 0.8	1.0
5	5.3 ± 0.2	5.3	5.3	5.9	0.5 ~ 0.8	1.5
6.3	5.3 ± 0.2	6.6	6.6	7.2	0.5 ~ 0.8	2.0
6.3	7.7 ± 0.3	6.6	6.6	7.2	0.5 ~ 0.8	2.0

Marking



Dimension and Permissible Ripple Current

Dimension: φ D × L(mm)
Ripple Current: mA/rms at 120 Hz, 85°C

Rated Volt. (V _{DC})	6.3V (0J)		10V (1A)		16V (1C)		25V (1E)		35V (1V)		50V (1H)	
Cap. (μF) Contents	φ D × L	mA	φ D × L	mA	φ D × L	mA	φ D × L	mA	φ D × L	mA	φ D × L	mA
1 010											4×5.3	10
2.2 2R2											4×5.3	15
3.3 3R3											4×5.3	19
4.7 4R7							4×5.3	19	4×5.3	20	5×5.3	26
10 100			4×5.3	23	4×5.3	26	5×5.3	32	5×5.3	34	6.3×5.3	44
22 220	4×5.3	31	5×5.3	39	5×5.3	44	6.3×5.3	55	6.3×5.3	59	6.3×5.3	56
33 330	5×5.3	44	5×5.3	48	6.3×5.3	63	6.3×5.3	67	6.3×5.3	71		
47 470	5×5.3	52	6.3×5.3	67	6.3×5.3	75	6.3×5.3	79				
100 101	6.3×5.3	89	6.3×5.3	98	6.3×7.7	103	6.3×7.7	105				
150 151	6.3×7.7	125	6.3×7.7	135								

Part Numbering System

VEC Series	10μF	±20%	16V	Carrier Tape	4 φ × 5.3L
<u>VEC</u>	<u>100</u>	<u>M</u>	<u>1C</u>	<u>TR</u>	<u>0405</u>
Series Name	Capacitance	Capacitance Tolerance	Rated Voltage	Package Type	Terminal Type
					Case size
					Regional Code
					<u>S</u>

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