VUK Series

Features

- 8φ ~ 18φ, 125℃, 3,000 ~ 5,000 hours assured
- Chip type high temperature range, for +125℃ use
- For automobile modules and other high temperature applications
- RoHS compliant
- AEC-Q200 compliant

Marking color: Black

Specifications

Items	Performance
Category Temperature Range	-40℃ ~ +125℃
Capacitance Tolerance	±20% (at 120 Hz, 20℃)
Leakage Current (at 20℃)	I = 0.03CV or 4 (μA) whichever is greater (after 1 minutes) Where, C = rated capacitance in μF, V = rated DC working voltage in V
Tanδ (at 120 Hz, 20℃)	Rated Voltage: 10 / 16 / 25 / 35 / 50 / 63 Tanδ (max): 0.22 / 0.18 / 0.16 / 0.14 / 0.12 / 0.12 When the capacitance exceeds 1,000μF, 0.02 shall be added every 1,000μF increase.
Low Temperature Characteristics (at 120 Hz)	Impedance ratio shall not exceed the values given in the table below. Rated Voltage: 10 / 16 / 25 / 35 / 50 / 63 Impedance Ratio Z(-25℃)/Z(+20℃): 6 / 5 / 4 / 3 / 3 / 3 Impedance Ratio Z(-40℃)/Z(+20℃): 12 / 8 / 6 / 4 / 4 / 4
Endurance	Test Time: 3,000 Hrs for φD ≦ 10 mm; 5,000 Hrs for φD ≧ 12.5 mm Capacitance Change: Within ±30% of initial value 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 3,000 / 5,000 hours at 125℃.
Shelf Life Test	Test Time: 1,000 Hrs Capacitance Change: Within ±30% of initial value 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 exposing them for 1,000 hours at 125℃ without voltage applied.
Ripple Current and Frequency Multipliers	Cap.(μF) \ Freq.(Hz): 50 / 120 / 1k / 10k up ≦ 330: 0.80 / 1.0 / 1.25 / 1.40 330 < C ≦ 3,300: 0.85 / 1.0 / 1.20 / 1.30

Diagram of Dimensions

Fig. 1

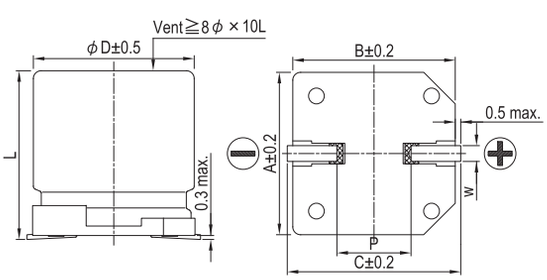
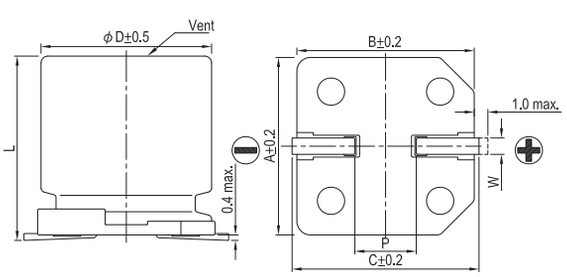


Fig. 2

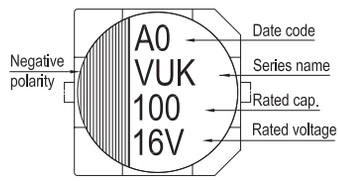


Lead Spacing and Diameter Unit: mm

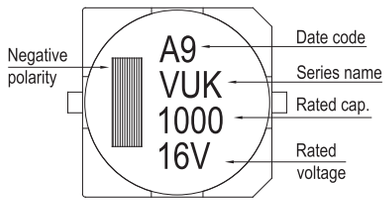
φD	L	A	B	C	W	P ± 0.2	Fig. No.
8	10 ± 0.5	8.3	8.3	9.0	0.7 ~ 1.1	3.1	1
10	10 ± 0.5	10.3	10.3	11.0	0.7 ~ 1.3	4.7	1
12.5	13.5 ± 0.5	13.0	13.0	13.7	1.1 ~ 1.4	4.4	2
12.5	16 ± 0.5	13.0	13.0	13.7	1.1 ~ 1.4	4.4	2
16	16.5 ± 0.5	17.0	17.0	18.0	1.1 ~ 1.4	6.4	2
18	16.5 ± 0.5	19.0	19.0	20.0	1.1 ~ 1.4	6.4	2
18	21.5 ± 0.5	19.0	19.0	20.0	1.1 ~ 1.4	6.4	2

Marking

ϕD = 8 ~ 10 mm



ϕD ≧ 12.5 mm



Dimension and Permissible Ripple Current

Dimension: ϕD × L(mm)
Ripple Current: mA/rms at 120 Hz, 125℃

Rated Volt. (V_{DC}) / Cap. (μF)	Contents	10V (1A)		16V (1C)		25V (1E)		35V (1V)		50V (1H)		63V (1J)	
		ϕD×L	mA	ϕD×L	mA	ϕD×L	mA	ϕD×L	mA	ϕD×L	mA	ϕD×L	mA
100	101			8×10	85	8×10	85	10×10	110	12.5×13.5	170	12.5×13.5	150
220	221	8×10	85	10×10	150	10×10	150	12.5×13.5	200	16×16.5	250	16×16.5	230
330	331	10×10	150	12.5×13.5	230	12.5×13.5	230	16×16.5	280	18×16.5	340	18×16.5	320
470	471	12.5×13.5	230	12.5×13.5	250	16×16.5	310	18×16.5	380	18×21.5	430	18×21.5	410
680	681	12.5×13.5	250	12.5×13.5	280	16×16.5	350	18×16.5	450				
1,000	102	12.5×16	350	16×16.5	440	18×21.5	540						
1,500	152	12.5×16	350	16×16.5	460								
2,200	222	18×16.5	620	18×21.5	710								
3,300	332	18×21.5	770										

Part Numbering System

VUK Series	330μF	±20%	16V	Carrier Tape		12.5ϕ×13.5L	General Purpose
VUK	**331**	**M**	**1C**	**TR**	**-**	**1313**	
Series Name	Capacitance	Capacitance Tolerance	Rated Voltage	Package Type	Terminal Type	Case Size	Application

Note: For more details, please refer to “Part Numbering System - SMD Type” on page 106.