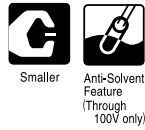
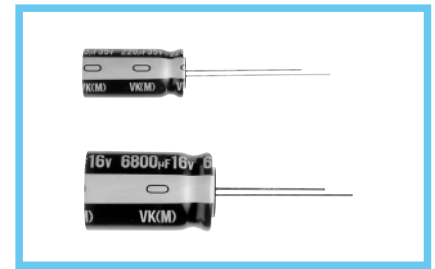
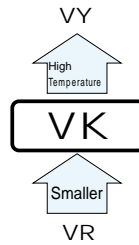


VK Miniature Sized series



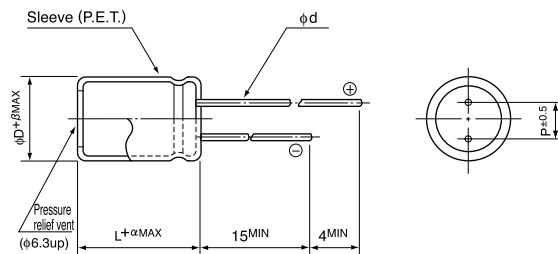
- One rank smaller case sizes than VR series.
- Adapted to the RoHS directive (2002/95/EC).



Specifications

Item	Performance Characteristics	
Category Temperature Range	-40 ~ +85°C (6.3V ~ 400V), -25°C ~ +85°C (450V)	
Rated Voltage Range	6.3 ~ 450V	
Rated Capacitance Range	0.1 ~ 68000µF	
Capacitance Tolerance	±20% at 120Hz, 20°C	
Leakage Current	Rated voltage (V)	6.3 ~ 100V
		160 ~ 450V
tan δ	For capacitance of more than 1000µF, add 0.02 for every increase of 1000µF. Measurement frequency : 120Hz, Temperature : 20°C	
	Rated voltage (V)	6.3 10 16 25 35 50 63 100 160~250 350~450
Stability at Low Temperature	Measurement frequency : 120Hz	
	Rated voltage (V)	6.3 10 16 25 35 50~100 160~200 250~350 400 450
Endurance	After 2000 hours' application of rated voltage at 85°C, capacitors meet the characteristic requirements listed at right.	
	Capacitance change	tan δ
Shelf Life	After storing the capacitors under no load at 85°C for 1000 hours, and after performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they will meet the specified value for endurance characteristics listed above.	
	Printed with white color letter on black sleeve.	

Radial Lead Type

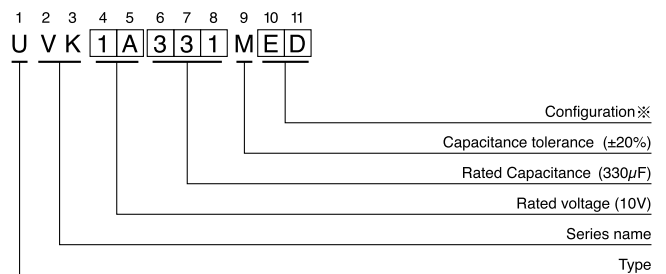


	5	6.3	8	10	12.5	16	18	20	22	25
φD	5	6.3	8	10	12.5	16	18	20	22	25
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0	10.0	12.5
φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8	1.0	1.0	1.0
β	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0

α	(L < 20)	1.5
	(L ≥ 20)	2.0

- Please refer to page 21 about the end seal configuration.

Type numbering system (Example : 10V 330µF)



※ Configuration

φ D	Pb-free leadwire Pb-free PET sleeve
5	DD
6.3	ED
8 · 10	PD
12.5 ~ 18	HD
20 ~ 25	RD

Please refer to page 21, 22, 23 about the formed or taped product spec.
Please refer to page 3 for the minimum order quantity.

● Dimension table in next page.

■ Dimensions

Cap.(μF)	Code	V		6.3		10		16		25		35		50		63		
		0J	1A	1C	1E	1V	1H	1J										
0.1	0R1													5×11	1.3			
0.22	R22													5×11	2.9			
0.33	R33													5×11	4.3			
0.47	R47													5×11	6.2			
1	010													5×11	17			
2.2	2R2													5×11	28			
3.3	3R3													5×11	35			
4.7	4R7													5×11	40			
10	100													5×11	60			
22	220													5×11	95	5×11	100	
33	330													5×11	125	6.3×11	140	
47	470											5×11	130	6.3×11	155	6.3×11	170	
68	680											6.3×11	160	6.3×11	210	8×11.5	220	
100	101								5×11	180	6.3×11	210	8×11.5	260	8×11.5	280		
220	221			5×11	220	6.3×11	260	6.3×11	280	8×11.5	350	10×12.5	430	10×16	490			
330	331			6.3×11	290	6.3×11	320	8×11.5	390	10×12.5	490	10×16	590	10×20	710			
470	471			6.3×11	350	8×11.5	440	10×12.5	550	10×16	650	10×20	760	12.5×20	900			
1000	102	8×11.5	540	10×12.5	650	10×12.5	700	10×16	860	12.5×20	1150	12.5×25	1350	16×25	1300			
2200	222	10×16	890	10×16	990	10×20	1000	12.5×25	1550	16×25	1800	16×31.5	1980	18×35.5	2300			
3300	332	10×20	1190	12.5×20	1450	12.5×25	1700	16×25	1980	16×31.5	2100	18×35.5	2500	20×40	2700			
4700	472	12.5×20	1550	12.5×25	1800	16×25	2100	16×25	2200	16×35.5	2500	20×40	2900	22×50	3400			
6800	682	12.5×25	1920	16×25	2250	16×25	2250	16×35.5	2600	18×40	2800	22×50	3500	25×50	3900			
10000	103	16×25	2350	16×31.5	2550	16×35.5	2710	18×40	2800	22×50	3700	25×50	4000					
15000	153	16×31.5	2550	16×35.5	2880	18×40	3100	22×50	3800	25×50	4300							
22000	223	18×35.5	3200	18×40	3400	22×40	3800	25×50	4500									
33000	333	20×40	3500	22×50	4500	25×50	4800											
47000	473	22×50	3900	25×50	5000													
68000	683	25×50	4300															
																	Case size φD×L (mm)	Rated ripple

Cap.(μF)	Code	V		100		160		200		250		350		400		450		
		2A	2C	2D	2E	2V	2G	2W										
0.1	0R1	5×11	2.1			6.3×11	2.1											
0.22	R22	5×11	4.7			6.3×11	4.7											
0.33	R33	5×11	7			6.3×11	7											
0.47	R47	5×11	10			6.3×11	15							6.3×11	12			
1	010	5×11	21			6.3×11	22							6.3×11	20			
2.2	2R2	5×11	30			6.3×11	33			6.3×11	30	8×11.5	38	8×11.5	28			
3.3	3R3	5×11	40			6.3×11	40	6.3×11	40	8×11.5	43	8×11.5	48	10×12.5	40			
4.7	4R7	5×11	45			6.3×11	50	6.3×11	50	8×11.5	55	10×12.5	60	10×12.5	46			
10	100	5×11	70	8×11.5	80	8×11.5	80	10×12.5	100	10×12.5	90	10×16	90	10×20	80			
22	220	6.3×11	130	10×12.5	130	10×16	150	10×20	150	12.5×20	150	12.5×25	200	12.5×25	140			
33	330	8×11.5	180	10×16	180	10×20	200	10×20	200	12.5×25	240	16×25	240	16×25	180			
47	470	8×11.5	200	10×20	210	12.5×20	270	12.5×20	270	16×25	300	16×25	280	16×31.5	220			
68	680	10×12.5	270	12.5×20	350	12.5×25	350	16×25	380	16×25	400	16×31.5	340	18×35.5	260			
100	101	10×16	340	12.5×25	430	16×25	450	16×25	440	18×35.5	520	18×35.5	440	18×40	280			
220	221	12.5×20	550	16×31.5	580	16×35.5	700	18×35.5	680	22×50	760	22×50	650	25×50	350			
330	331	12.5×25	760	18×35.5	800	18×40	950	20×40	1000	25×50	1000							
470	471	16×25	1000	18×40	1200	22×40	1300	22×50	1400									
1000	102	18×35.5	1350	25×50	1900													
2200	222	22×50	2400															
3300	332	25×50	2900															
																	Case size φD×L (mm)	Rated ripple

Rated Ripple (mA rms) at 85°C 120Hz

● Frequency coefficient of rated ripple current

V	Cap.(μF)	Frequency				
		~ 68	50Hz	120Hz	300Hz	1 kHz
6.3 ~ 100	~ 68	0.75	1.00	1.35	1.57	2.00
	100 ~ 470	0.80	1.00	1.23	1.34	1.50
	1000 ~ 68000	0.85	1.00	1.10	1.13	1.15
160 ~ 450	0.1 ~ 220	0.80	1.00	1.25	1.40	1.60
	330 ~ 1000	0.90	1.00	1.10	1.13	1.15