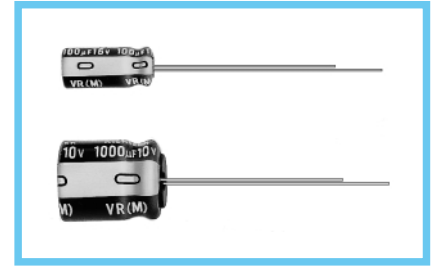
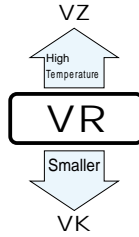


VR Miniature Sized series



Anti-Solvent Feature (Through 100V only)

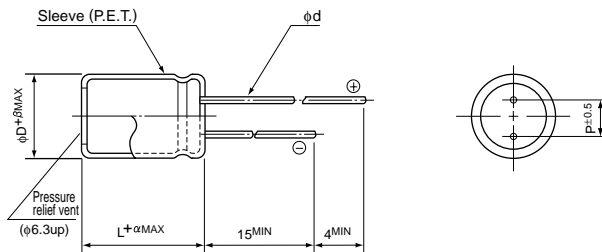
- One rank smaller case sizes than VX series.
- Adapted to the RoHS directive (2002/95/EC).



Specifications

Item	Performance Characteristics											
Category Temperature Range	-40 ~ +85°C (6.3V ~ 400V), -25 ~ +85°C (450V)											
Rated Voltage Range	6.3 ~ 450V											
Rated Capacitance Range	0.1 ~ 33000µF											
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 ~ 315	350 ~ 450	
Stability at Low Temperature	Measurement frequency : 120Hz											
	Impedance ratio	Z-25°C / Z+20°C	5	4	3	2	2	2	2	3	4	6
Endurance	After 2000 hours' application of rated voltage at 85°C, capacitors meet the characteristic requirements listed at right.											
	Capacitance change	Within ±20% of initial value										
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.											
	After 1000 hours' application of rated voltage at 85°C, capacitors meet the characteristic requirements listed at right.											
Marking	Printed with white color letter on black sleeve.											
	Leakage current											
Initial specified value or less												

Radial Lead Type

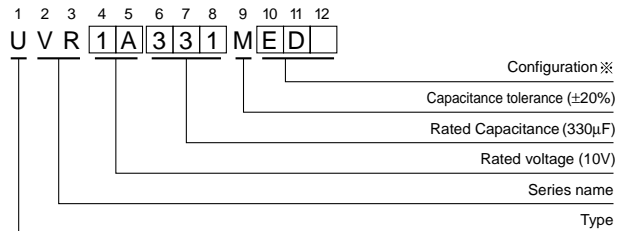


	φD	4	5	6.3	8	10	12.5	16	18	20	22	25
P	1.5	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0	10.0	12.5	
φd	0.45	0.5	0.5	0.6	0.6	0.6	0.8	0.8	1.0	1.0	1.0	
β	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	

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
4	DD6
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)	V Code	6.3		10		16		25		35		50		63		100	
		0J		1A		1C		1E		1V		1H		1J		2A	
0.1	0R1											• 5 × 11	13			5 × 11	2.1
0.22	R22											• 5 × 11	2.9			5 × 11	4.7
0.33	R33											• 5 × 11	4.3			5 × 11	7
0.47	R47											• 5 × 11	6.2			5 × 11	10
1	010											• 5 × 11	17			5 × 11	21
2.2	2R2											• 5 × 11	28			5 × 11	30
3.3	3R3											• 5 × 11	35			5 × 11	40
4.7	4R7							• 5 × 11	35	• 5 × 11	40	• 5 × 11	40			5 × 11	45
10	100					• 5 × 11	50	• 5 × 11	55	• 5 × 11	60	• 5 × 11	60	5 × 11	65	6.3 × 11	75
22	220	• 5 × 11	65	• 5 × 11	65	• 5 × 11	75	• 5 × 11	80	• 5 × 11	90	• 5 × 11	95	5 × 11	100	6.3 × 11	130
33	330	• 5 × 11	80	• 5 × 11	85	• 5 × 11	90	• 5 × 11	95	5 × 11	105	5 × 11	125	6.3 × 11	140	8 × 11.5	180
47	470	• 5 × 11	95	• 5 × 11	100	• 5 × 11	110	• 5 × 11	115	5 × 11	130	6.3 × 11	155	6.3 × 11	170	10 × 12.5	230
100	101	• 5 × 11	135	• 5 × 11	145	5 × 11	160	6.3 × 11	190	6.3 × 11	210	8 × 11.5	260	10 × 12.5	300	10 × 20	370
220	221	5 × 11	200	6.3 × 11	240	6.3 × 11	260	8 × 11.5	330	10 × 12.5	385	10 × 12.5	430	10 × 16	490	12.5 × 25	620
330	331	6.3 × 11	270	6.3 × 11	290	8 × 11.5	370	10 × 12.5	440	10 × 12.5	490	10 × 16	590	10 × 20	710	12.5 × 25	760
470	471	6.3 × 11	320	6.3 × 11	350	8 × 11.5	440	10 × 12.5	550	10 × 16	650	12.5 × 20	760	12.5 × 20	900	16 × 25	1000
1000	102	8 × 11.5	540	10 × 12.5	650	10 × 16	790	10 × 20	960	12.5 × 20	1150	12.5 × 25	1350	16 × 25	1300	18 × 40	1380
2200	222	10 × 20	1000	10 × 20	1100	12.5 × 20	1300	12.5 × 25	1550	16 × 25	1800	16 × 35.5	2100	18 × 35.5	2300	22 × 50	2400
3300	332	10 × 20	1190	12.5 × 20	1450	12.5 × 25	1700	16 × 25	1980	16 × 35.5	2280	18 × 35.5	2500	20 × 40	2700	25 × 50	2900
4700	472	12.5 × 20	1550	12.5 × 25	1800	16 × 25	2100	16 × 31.5	2450	18 × 35.5	2700	20 × 40	2900	22 × 50	3400		
6800	682	12.5 × 25	1920	16 × 25	2250	16 × 35.5	2650	18 × 35.5	2900	20 × 40	3000	22 × 50	3500	25 × 50	3900		
10000	103	16 × 25	2350	16 × 35.5	2700	18 × 35.5	2950	20 × 40	3000	22 × 50	3700	25 × 50	4000				
15000	153	16 × 35.5	2850	18 × 35.5	3100	20 × 40	3400	22 × 50	3800	25 × 50	4300						
22000	223	18 × 40	3350	20 × 40	3700	22 × 50	4200	25 × 50	4500								
33000	333	22 × 50	3900	22 × 50	4500	25 × 50	4800										Case size φ D × L (mm)

Cap.(μF)	V Code	160		200		250		315		350		400		450		
		2C		2D		2E		2F		2V		2G		2W		
0.47	R47	6.3 × 11	15	6.3 × 11	15	6.3 × 11	15									
1	010	6.3 × 11	22	6.3 × 11	22	6.3 × 11	22	6.3 × 11	22	6.3 × 11	22	8 × 11.5	25	8 × 11.5	23	
2.2	2R2	6.3 × 11	33	6.3 × 11	33	6.3 × 11	33	8 × 11.5	33	8 × 11.5	38	10 × 12.5	45	10 × 12.5	35	
3.3	3R3	6.3 × 11	40	6.3 × 11	40	8 × 11.5	46	10 × 12.5	55	10 × 12.5	55	10 × 12.5	55	10 × 16	45	
4.7	4R7	6.3 × 11	50	8 × 11.5	55	8 × 11.5	55	10 × 12.5	65	10 × 12.5	65	10 × 16	70	10 × 20	55	
10	100	8 × 11.5	80	10 × 12.5	95	10 × 16	105	10 × 20	115	10 × 20	115	12.5 × 20	130	12.5 × 20	90	
22	220	10 × 16	155	10 × 20	170	12.5 × 20	190	12.5 × 20	190	12.5 × 25	200	16 × 25	240	16 × 25	165	
33	330	10 × 20	205	12.5 × 20	230	12.5 × 20	230	16 × 25	275	16 × 25	275	16 × 31.5	300	16 × 35.5	230	
47	470	12.5 × 20	270	12.5 × 20	270	12.5 × 25	300	16 × 25	340	16 × 35.5	380	16 × 35.5	370	18 × 40	300	
100	101	12.5 × 25	430	16 × 31.5	530	16 × 31.5	520	18 × 35.5	560	18 × 40	590	20 × 40	550	22 × 40	350	
220	221	16 × 35.5	800	18 × 35.5	810	20 × 40	740	22 × 50	850	22 × 50	850	25 × 50	750			
330	331	18 × 40	940	20 × 40	1130	22 × 50	1170	25 × 50	1250	25 × 50	1250					
470	471	22 × 40	1410	22 × 50	1490	25 × 50	1600									
1000	102	25 × 50	1900													Case size φ D × L (mm)

Size 4×11 is available for capacitors marked "•"

In this case, [6] will be put at 12th digit of type numbering system "▲"

Rated Ripple (mArms) at 85°C 120Hz

● Frequency coefficient of rated ripple current

V	Cap.(μF)	Frequency				
		~ 47	50Hz	120Hz	300Hz	1 kHz
6.3 ~ 100	~ 47	0.75	1.00	1.35	1.57	2.00
	100 ~ 470	0.80	1.00	1.23	1.34	1.50
	1000 ~ 33000	0.85	1.00	1.10	1.13	1.15
160 ~ 450	0.47 ~ 220	0.80	1.00	1.25	1.40	1.60
	330 ~ 1000	0.90	1.00	1.10	1.13	1.15