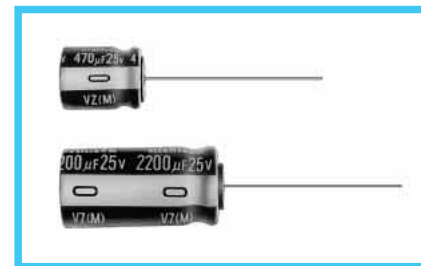
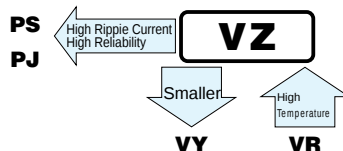


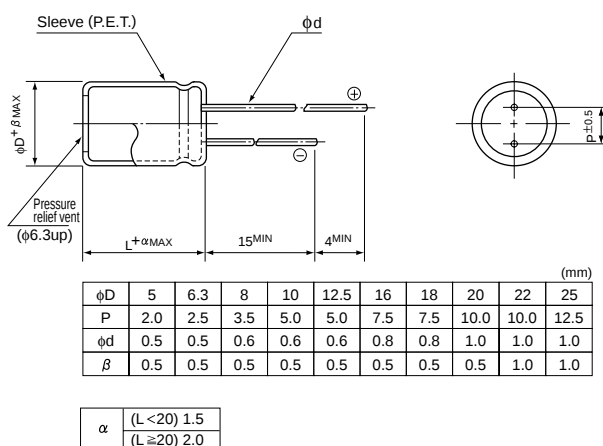
- Small case sizes as same as VR series, but operating over wide temperature range of $-55 \sim +105^{\circ}\text{C}$.



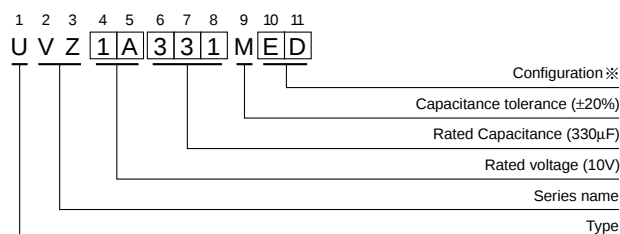
Specifications

Item	Performance Characteristics	
Category Temperature Range	$-55 \sim +105^{\circ}\text{C}$ (6.3 ~ 100V), $-40 \sim +105^{\circ}\text{C}$ (160 ~ 400V), $-25 \sim +105^{\circ}\text{C}$ (450V)	
Rated Voltage Range	6.3 ~ 450V	
Rated Capacitance Range	0.1 ~ 33000 μF	
Capacitance Tolerance	$\pm 20\%$ at 120Hz, 20°C	
Leakage Current	Rated voltage (V)	6.3 ~ 100
		160 ~ 450
tan δ	For capacitance of more than 1000 μF , add 0.02 for every increase of 1000 μF .	Measurement frequency : 120Hz, Temperature : 20°C
	Rated voltage (V)	6.3 10 16 25 35 50 63 100 160 ~ 200 250 ~ 350 400 450
Stability at Low Temperature	Impedance ratio	Z-25 $^{\circ}\text{C}$ / Z+20 $^{\circ}\text{C}$
	ZT / Z20 (MAX.)	Z-40 $^{\circ}\text{C}$ / Z+20 $^{\circ}\text{C}$
Endurance	After 1000 hours' application of rated voltage at 105°C , capacitors meet the characteristic requirements listed at right.	Capacitance change
		tan δ
Shelf Life	After leaving capacitors under no load at 105°C for 1000 hours, they meet the specified value for endurance characteristics listed above.	Leakage current
Marking	Printed with white color letter on black sleeve.	

Radial Lead Type



Type numbering system (Example : 10V 330 μF)



※ Configuration

φ D	Pb-free leadwire Pb-free PET sleeve	Sn-Pb finished leadwire PVC sleeve (containing Pb)
5	DD	DH
6.3	ED	EH
8 ~ 10	PD	PH
12.5 ~ 18	HD	HH
20 ~ 25	RD	RH

※ Please contact to us if other configurations are required.

Please refer to page 19, 20, 21 about the formed or taped product spec.
Please refer to page 3 for the minimum order quantity.

• Dimension table in next page.

■ Dimensions

φD×L (mm)

V		6.3		10		16		25		35		50	
Cap.(μF)	Code	0J		1A		1C		1E		1V		1H	
0.1	0R1											5×11	13
0.22	R22											5×11	29
0.33	R33											5×11	43
0.47	R47											5×11	7
1	010											5×11	13
2.2	2R2											5×11	20
3.3	3R3											5×11	25
4.7	4R7							5×11	25	5×11	28	5×11	30
10	100					5×11	35	5×11	36	5×11	41	5×11	46
22	220	5×11	45	5×11	45	5×11	54	5×11	58	5×11	61	5×11	68
33	330	5×11	55	5×11	58	5×11	65	5×11	68	5×11	75	5×11	90
47	470	5×11	65	5×11	68	5×11	79	5×11	83	5×11	93	6.3×11	115
100	101	5×11	95	5×11	105	5×11	115	6.3×11	140	6.3×11	150	8×11.5	190
220	221	5×11	145	6.3×11	175	6.3×11	190	8×11.5	240	10×12.5	275	10×12.5	300
330	331	6.3×11	195	6.3×11	210	8×11.5	265	10×12.5	315	10×12.5	350	10×16	410
470	471	6.3×11	230	6.3×11	250	8×11.5	315	10×12.5	380	10×16	460	12.5×20	530
1000	102	8×11.5	390	10×12.5	460	10×16	560	10×20	680	12.5×20	810	12.5×25	950
2200	222	10×20	710	10×20	760	12.5×20	920	12.5×25	1090	16×25	1260	16×35.5	1470
3300	332	10×20	840	12.5×20	1000	12.5×25	1170	16×25	1400	16×35.5	1610	18×35.5	1770
4700	472	12.5×20	1090	12.5×25	1260	16×25	1480	16×31.5	1710	18×35.5	1910	20×40	2100
6800	682	12.5×25	1350	16×25	1570	16×35.5	1780	18×35.5	2040	20×40	2150	22×50	2500
10000	103	16×25	1650	16×35.5	1890	18×35.5	2060	20×40	2150	22×50	2650	25×50	2850
15000	153	16×35.5	2010	18×35.5	2180	20×40	2430	22×50	2750	25×50	3100		
22000	223	18×40	2350	20×40	2650	22×50	3000	25×50	3250				
33000	333	22×50	2800	22×50	3250	25×50	3450					Case size	Rated ripple

V		63		100		160		200		250		315		350		400		450	
Cap.(μF)	Code	1J		2A		2C		2D		2E		2F		2V		2G		2W	
0.1	0R1			5×11	15														
0.22	R22			5×11	34														
0.33	R33			5×11	50														
0.47	R47			5×11	71	6.3×11	11	6.3×11	11	6.3×11	10								
1	010			5×11	15	6.3×11	16	6.3×11	16	6.3×11	15	6.3×11	15	6.3×11	15	8×11.5	17	8×11.5	13
2.2	2R2			5×11	21	6.3×11	25	6.3×11	25	6.3×11	23	8×11.5	26	8×11.5	26	10×12.5	30	10×12.5	23
3.3	3R3			5×11	29	6.3×11	30	6.3×11	30	8×11.5	32	10×12.5	38	10×12.5	38	10×12.5	38	10×16	31
4.7	4R7			5×11	32	6.3×11	34	8×11.5	39	8×11.5	39	10×12.5	45	10×12.5	45	10×16	50	10×20	40
10	100	5×11	46	6.3×11	54	8×11.5	41	10×12.5	65	10×16	74	10×20	80	10×20	80	12.5×20	90	12.5×20	65
22	220	5×11	71	6.3×11	93	10×16	100	10×20	120	12.5×20	130	12.5×20	115	12.5×25	115	16×25	165	16×25	115
33	330	6.3×11	100	8×11.5	130	10×20	145	12.5×20	160	12.5×20	160	16×25	195	16×25	195	16×31.5	215	16×35.5	165
47	470	6.3×11	120	10×12.5	165	12.5×20	195	12.5×20	195	12.5×25	210	16×25	230	16×35.5	270	16×35.5	270	18×40	185
100	101	10×12.5	215	10×20	265	12.5×25	215	16×31.5	375	16×31.5	365	18×35.5	395	18×40	420	20×40	450	22×40	270
220	221	10×16	335	12.5×25	440	16×35.5	570	18×35.5	575	20×40	600	22×50	620	22×50	620	25×50	660		
330	331	10×20	510	12.5×25	540	18×40	750	20×40	705	22×50	730	25×50	760						
470	471	12.5×20	640	16×25	715	22×40	900	22×50	840	25×50	870								
1000	102	16×25	930	18×40	985	25×50	1310												
2200	222	18×35.5	1650	22×50	1750														
3300	332	20×40	1950	25×50	2070														
4700	472	22×50	2450																
6800	682	25×50	2800															Case size	Rated ripple

Rated Ripple (mA rms) at 105°C 120Hz

● Frequency coefficient of rated ripple current

V	Frequency Cap. (μF)	50Hz	120Hz	300Hz	1 kHz	10 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