ALUMINUM ELECTROLYTIC CAPACITORS

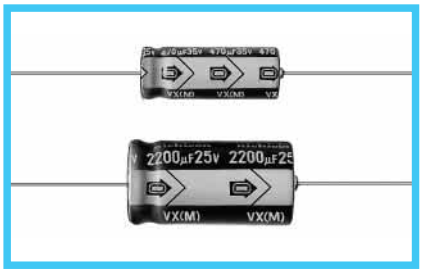
nichicon

VX Standard, For General Purposes - Axial Lead Type

(02 type) series

Anti-Solvent Feature
(Through 100V only)

● Axial lead type of standard series for general purposes.



■Specifications

Item	Performance Characteristics
Category Temperature Range	–40 ~ +85°C (6.3 ~ 250V), –25 ~ +85°C (315 ~ 450V)
Rated Voltage Range	6.3 ~ 450V
Rated Capacitance Range	0.47 ~ 10000μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	Rated voltage (V): 6.3 ~ 100 — Leakage current: After 1 minute's application of rated voltage, not more than 0.03CV or 4 (μA), whichever is greater. After 2 minutes' application of rated voltage, not more than 0.01CV or 3 (μA), whichever is greater. / 160 ~ 450 — In case of CV ≦ 1000: After 1 minute's application of rated voltage, not more than 0.1CV+40 (μA). In case of CV > 1000: After 1 minute's application of rated voltage, not more than 0.04CV+100 (μA).
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
tan δ (MAX.)	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.20	0.25

Stability at Low Temperature — Measurement frequency : 120Hz

Rated voltage (V)		6.3	10	16	25	35 ~ 100	160 ~ 250	315 · 350	400 · 450
Impedance ratio ZT / Z20 (MAX.)	Z–25°C / Z+20°C	4	3	2	2	2	4	6	15
	Z–40°C / Z+20°C	10	8	6	4	3	12	—	—

Endurance — After 2000 hours' application of rated voltage at 85°C, capacitors meet the characteristic requirements listed at right.

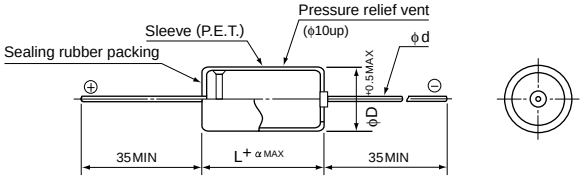
Capacitance change	Within ±20% of initial value
tan δ	200% or less of initial specified value
Leakage current	Initial specified value or less

Shelf Life — After leaving capacitors under no load at 85°C for 1000 hours, they meet the characteristic requirements at right.

Capacitance change	Within ±20% of initial value
tan δ	200% or less of initial specified value
Leakage current	Initial specified value or less

Marking	Printed with white color letter on black sleeve.

■Axial Lead Type



α	(φD < 10) 1
	(φD ≧ 10) 2

(mm)

φD	5 ~ 13	16 ~ 18
φd	0.6	0.8

Type numbering system (Example : 10V 330μF)

1	2	3	4	5	6	7	8	9	10	11
T	V	X	1	A	3	3	1	M	A	D

Configuration※
Capacitance tolerance (±20%)
Rated Capacitance (330μF)
Rated voltage (10V)
Series name
Type

※Configuration

φD	Pb-free leadwire Pb-free PET sleeve	Sn-Pb finished leadwire PVC sleeve (containing Pb)
5 ~ 8	AD	AA
10 ~ 18	CD	CA

※ 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.

VX (02 type) series

■Dimensions

ϕD×L (mm)

Cap.(μF) \ V	Code	6.3		10		16		25		35		50		63		100	
		0J		1A		1C		1E		1V		1H		1J		2A	
0.47	R47											5×12	5			5×12	10
1	010											5×12	10			5×12	18
2.2	2R2											5×12	23			5×12	28
3.3	3R3											5×12	28			5×12	34
4.7	4R7											5×12	34			5×12	40
10	100											5×12	50	5×12	55	6.3×12	60
22	220									5×12	70	6.3×12	85	6.3×12	90	8×16	120
33	330							5×12	80	6.3×12	90	6.3×16	110	6.3×16	120	8×16	150
47	470					5×12	85	6.3×12	100	6.3×16	120	6.3×16	130	8×16	160	8×20	190
100	101	5×12	110	6.3×12	130	6.3×16	160	6.3×16	170	8×16	210	8×16	220	8×20	260	10×26	340
220	221	6.3×16	200	6.3×16	210	8×16	260	8×16	280	8×20	340	10×21	410	10×26	480	13×26	560
330	331	6.3×16	250	8×16	300	8×16	320	8×20	380	10×21	460	10×26	560	13×26	650	13×31.5	750
470	471	8×16	330	8×16	350	8×20	430	10×26	510	10×26	610	13×26	730	13×31.5	840	16×31.5	970
1000	102	10×21	600	10×21	640	10×26	770	13×26	900	13×31.5	1060	16×31.5	1260	16×31.5	1330		
2200	222	13×26	1020	13×26	1090	13×31.5	1180	16×31.5	1480	16×31.5	1580	18×41	1920				
3300	332	13×26	1200	13×31.5	1390	16×31.5	1620	16×41.5	1710	16×41.5	2050						
4700	472	16×31.5	1500	16×31.5	1730	16×41.5	1840	18×41	2170								
6800	682	16×31.5	1840	16×41.5	1930	18×41	2310										
10000	103	16×41.5	2260	18×41	2350												

Cap.(μF) \ V	Code	160		200		250		315		350		400		450	
		2C		2D		2E		2F		2V		2G		2W	
1	010	6.3×12	13	6.3×12	13	6.3×16	14	6.3×16	14	6.3×16	12	8×16	14	8×16	14
2.2	2R2	6.3×16	23	6.3×16	23	8×16	27	8×16	27	8×16	24	8×20	28	10×21	31
3.3	3R3	8×16	33	8×16	33	8×16	33	8×20	36	8×20	32	10×21	38	10×21	38
4.7	4R7	8×16	39	8×16	39	8×20	45	8×20	45	10×21	46	10×21	46	10×26	50
10	100	8×20	60	10×21	70	10×21	70	10×26	80	13×26	85	13×26	85	13×26	85
22	220	10×26	120	13×26	140	13×26	140	13×31.5	150	13×31.5	140	16×31.5	150	16×31.5	150
33	330	13×26	170	13×26	170	13×31.5	190	16×31.5	210	16×31.5	190	16×41.5	210	18×41	230
47	470	13×31.5	230	13×31.5	230	16×31.5	260	16×31.5	260	16×41.5	260	18×41	290		Rated ripple
100	101	16×41.5	430	16×41.5	430	16×41.5	430							Case size	

Rated Ripple (mA rms) at 85°C 120Hz

●Frequency coefficient of rated ripple current

V	Cap.(μF) \ Frequency(Hz)	120	300	1k	10k ~
6.3 ~ 100	~ 47	1.00	1.35	1.57	2.00
	100 ~ 470	1.00	1.23	1.34	1.50
	1000 ~ 10000	1.00	1.10	1.13	1.15
160 ~ 450	1 ~ 100	1.00	1.25	1.40	1.60