NIPPON CHEMI-CON

SURFACE MOUNT ALUMINUM ELECTROLYTIC CAPACITORS

Low impedance, 105℃

Alchip®-MVY Series

- Expand up to ϕ18 case size
- Expand up to 100Vdc
- Low impedance, 105℃ 1000 to 5000-hours-life
- For digital equipment, especially DC-DC converters and VRM

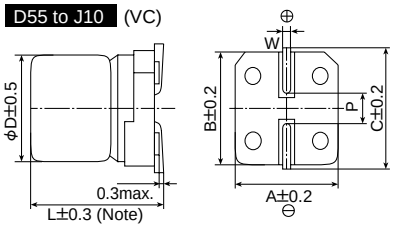
MVY
↑ lower Z size extended
MVK

◆SPECIFICATIONS

Items	Characteristics											
Category Temperature Range	−55 to +105℃ (6.3 to 63Vdc)　-40 to +105℃ (80 & 100Vdc)											
Rated Voltage Range	6.3 to 100Vdc											
Capacitance Tolerance	±20% (M)											(at 20℃, 120Hz)
Leakage Current	I=0.01CV or 3μA, whichever is greater. Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)											(at 20℃ after 2 minutes)
Dissipation Factor (tanδ)	Rated voltage (Vdc)		6.3V	10V	16V	25V	35V	50V	63V	80V	100V	When nominal capacitance exceeds 1000μF, add 0.02 to the value above for each 1000μF increase. (at 20℃, 120Hz)
	tanδ (Max.)	D55 to F80	0.24	0.20	0.16	0.14	0.12	0.12	—	—	—	
		H10 & J10	0.28	0.24	0.20	0.16	0.14	0.12	—	—	—	
		K14 to M22	0.26	0.22	0.18	0.16	0.14	0.12	0.14	0.10	0.10	
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (Vdc)		6.3V	10V	16V	25V	35V	50V	63V	80V	100V	
	Z(−40℃)/Z(+20℃)	D55 to J10	3	2	2	2	2	2	—	—	—	
		K14 to M22	10	8	6	4	3	3	3	3	3	(at 120Hz)
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage is applied for specified time at 105℃.											
	Time	D55 to F80 : 1000 hours H10 & J10 : 2000 hours K14 to M22 : 5000 hours										
	Rated voltage	6.3Vdc (D55 to J10)	6.3 to 100Vdc									
	Capacitance change	≦±30% of the initial value	≦±20% of the initial value									
	D.F. (tanδ)	≦300% of the initial specified value	≦200% of the initial specified value									
	Leakage current	≦The initial specified value	≦The initial specified value									
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1000 hours at 105℃ without voltage applied.											
	Rated voltage	6.3Vdc (D55 to J10)	6.3 to 50Vdc									
	Capacitance change	≦±30% of the initial value	≦±20% of the initial value									
	D.F. (tanδ)	≦300% of the initial specified value	≦200% of the initial specified value									
	Leakage current	≦The initial specified value	≦The initial specified value									

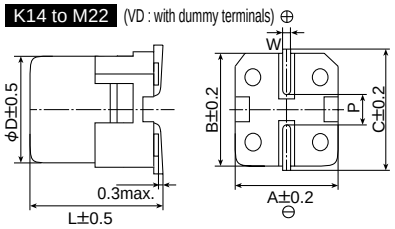
◆DIMENSIONS (Terminal Type=VC or VD) [mm]

D55 to J10 (VC)



Note : L±0.5 for H10 to K16

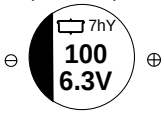
K14 to M22 (VD : with dummy terminals)



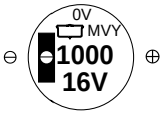
Case code	ϕD	L	A	B	C	W	P
D55	4.0	5.2	4.3	4.3	5.1	0.5 to 0.8	1.0
E55	5.0	5.2	5.3	5.3	5.9	0.5 to 0.8	1.4
F55	6.3	5.2	6.6	6.6	7.2	0.5 to 0.8	1.9
F80	6.3	7.7	6.6	6.6	7.2	0.5 to 0.8	1.9
H10	8	10.0	8.3	8.3	9.0	0.7 to 1.1	3.1
J10	10	10.0	10.3	10.3	11.0	0.7 to 1.1	4.5
K14	12.5	13.5	13.0	13.0	13.7	1.0 to 1.3	4.2
K16	12.5	16.0	13.0	13.0	13.7	1.0 to 1.3	4.2
L17	16	16.5	17.0	17.0	18.0	1.0 to 1.3	6.5
L22	16	21.5	17.0	17.0	18.0	1.0 to 1.3	6.5
M17	18	16.5	19.0	19.0	20.0	1.0 to 1.3	6.5
M22	18	21.5	19.0	19.0	20.0	1.0 to 1.3	6.5

◆MARKING

D55 to J10
EX) 6.3V100μF



K14 to M22
EX) 16V1000μF



◆PART NUMBERING SYSTEM

MVY 50 VC 220 M J10 ___

- Tray code (TR : If necessary)
- Case code
- Cap tolerance (±20%)
- Nominal cap code
- Terminal type (VC or VD)
- Rated voltage in volts
- Series name

Capacitance	Code
1.0μF	1
4.7μF	4R7
10μF	10
100μF	100
1000μF	1000

Alchip® MVY Series

◆STANDARD RATINGS

μF \ Vdc	6.3			10			16			25			35		
4.7													D55	3.0	60
10							D55	3.0	60	E55	1.8	95	E55	1.8	95
22	D55	3.0	60	E55	1.8	95	E55	1.8	95	F55	1.0	140	F55	1.0	140
33	E55	1.8	95	E55	1.8	95	F55	1.0	140	F55	1.0	140	F55	1.0	140
47	E55	1.8	95	F55	1.0	140	F55	1.0	140	F55	1.0	140	F55	1.0	140
68													F80	0.34	280
100	F55	1.0	140	F55	1.0	140	F55	1.0	140	F80	0.34	280	H10	0.30	450
220	F55	1.0	140	F80	0.34	280	F80	0.34	280	H10	0.30	450	H10	0.30	450
330	F80	0.34	280	H10	0.30	450	H10	0.30	450	H10	0.30	450	J10	0.15	670
470	H10	0.30	450	H10	0.30	450	H10	0.30	450	J10	0.15	670	K14	0.070	820
													L17	0.054	1,260
680	H10	0.30	450	J10	0.15	670	J10	0.15	670						
1,000	H10	0.30	450	J10	0.15	670	K14	0.070	820	L17	0.054	1,260	L17	0.054	1,260
							L17	0.054	1,260	M17	0.054	1,350	M17	0.054	1,350
1,500	J10	0.15	670												
2,200	K14	0.070	820	K16	0.060	950	L17	0.054	1,260	L22	0.038	1,630	M22	0.038	1,750
	L17	0.054	1,260	L17	0.054	1,260	M17	0.054	1,350	M22	0.038	1,750			
3,300	K16	0.060	950	L17	0.054	1,260	L22	0.038	1,630	M22	0.038	1,750			
	M17	0.054	1,350	M17	0.054	1,350	M17	0.054	1,350						
4,700	L22	0.038	1,630	L22	0.038	1,630	M22	0.038	1,750						
	M17	0.054	1,350	M22	0.038	1,750									
6,800	L22	0.038	1,630	M22	0.038	1,750									
	M22	0.038	1,750												
8,200	M22	0.038	1,750												

Rated ripple current (mArms) at 105℃, 100kHz
Impedance (Ω) at 20℃, 100kHz
Case code

Non solvent-proof

μF \ Vdc	50			63			80			100		
1.0	D55	5.0	30									
2.2	D55	5.0	30									
3.3	D55	5.0	30									
4.7	E55	3.0	50							K14	0.33	450
10	F55	2.0	70							K14	0.33	450
22	F55	2.0	70							K14	0.33	450
33	F80	0.60	170							L17	0.24	650
47	F80	0.60	170	K14	0.19	500	K14	0.33	450	L22	0.16	900
68	H10	0.60	300	L17	0.12	845	K16	0.26	550	M17	0.24	700
100	H10	0.60	300	K14	0.11	650	L17	0.12	845	L22	0.16	900
				L17	0.087	900	M17	0.12	905	M17	0.24	700
220	J10	0.30	500	L17	0.087	900	L22	0.085	1,100	M22	0.16	950
				M17	0.087	1,060	M17	0.12	905			
330	K14	0.11	650	M17	0.087	1,060	M22	0.16	950			
	L17	0.087	900									
470	L17	0.087	900									
	M17	0.087	1,060									
1,000	M22	0.050	1,520									

Case code
Impedance (Ω) at 20℃, 100kHz
Rated ripple current (mArms) at 105℃, 100kHz