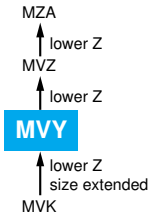


Alchip® MVY Series

- Expand up to $\phi 18$ case size
- Expand up to 100V_{dc}
- Low impedance, 105°C 1000 to 5000-hours-life
- For digital equipment, especially DC-DC converters and VRM
- Solvent-proof type except 80 & 100V_{dc} (see PRECAUTIONS AND GUIDELINES)

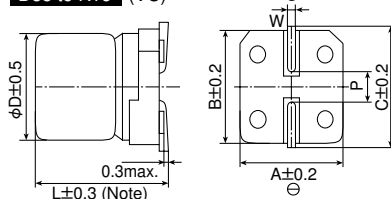


SPECIFICATIONS

Items	Characteristics											
Category												
Temperature Range	-55 to +105°C (6.3 to 63V _{dc}) -40 to +105°C (80 & 100V _{dc})											
Rated Voltage Range	6.3 to 100V _{dc}											
Capacitance Tolerance	±20% (M) (at 20°C, 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°C after 2 minutes)											
Dissipation Factor (tanδ)	Rated voltage (V _{dc})		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°C, 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 (V _{dc})		6.3V	10V	16V	25V	35V	50V	63V	80V	100V	(at 120Hz)
	Z(−40°C)/Z(+20°C)	D55 to J10	3	2	2	2	2	2	—	—	—	
		K14 to M22	10	8	6	4	3	3	3	3	3	
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for specified time at 105°C.											
	Time	D55 to F80 : 1000 hours H10 & J10 : 2000 hours K14 to M22 : 5000 hours										
	Rated voltage	6.3V _{dc} (D55 to J10)					6.3 to 100V _{dc}					
	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°C after exposing them for 1000 hours at 105°C without voltage applied.											
	Rated voltage	6.3V _{dc} (D55 to J10)					6.3 to 100V _{dc}					
	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					

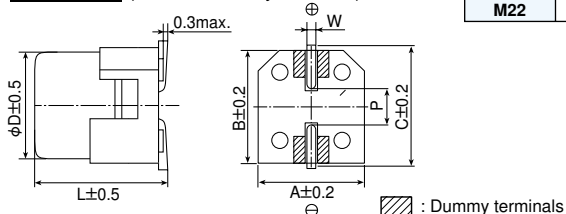
DIMENSIONS (Terminal Type=VC or VE) [mm]

D55 to K16 (VC)



Note : L±0.5 for H10, J10, K14 and K16

L17 to M22 (VE : with dummy terminals)



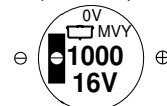
Case code	φD	L	A	B	C	W	P
D55	4	5.2	4.3	4.3	5.1	0.5 to 0.8	1.0
E55	5	5.2	5.3	5.3	5.9	0.5 to 0.8	1.4
F55	6.3	5.2	6.6	6.6	7.2	0.5 to 0.8	1.9
F80	6.3	7.7	6.6	6.6	7.2	0.5 to 0.8	1.9
H10	8	10.0	8.3	8.3	9.0	0.7 to 1.1	3.1
J10	10	10.0	10.3	10.3	11.0	0.7 to 1.1	4.5
K14	12.5	13.5	13.0	13.0	13.7	1.0 to 1.3	4.2
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

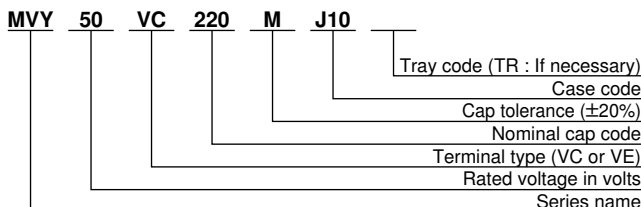
D55 to J10
EX) 6.3V100μF



K14 to M22
EX) 16V1000μF



PART NUMBERING SYSTEM



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

◆STANDARD RATINGS

$\mu F \backslash V_{dc}$	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
680	H10	0.30	450	J10	0.15	670	J10	0.15	670				L17	0.054	1,260
1,000	H10	0.30	450	J10	0.15	670	K14	0.070	820	L17	0.054	1,260	L17	0.054	1,260
1,500	J10	0.15	670				L17	0.054	1,260	M17	0.054	1,350	M17	0.054	1,350
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												

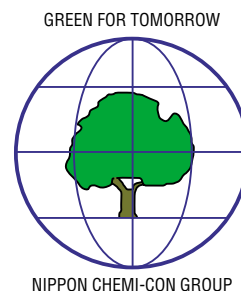
Rated ripple current (mArms) at 105°C, 100kHz
Impedance (Ω) at 20°C, 100kHz
Case code

Non solvent-proof												
$\mu F \backslash V_{dc}$	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									
10	F55	2.0	70									
22	F55	2.0	70									
33	F80	0.60	170									
47	F80	0.60	170									
68	H10	0.60	300	K14	0.19	500				K14	0.33	450
100	H10	0.60	300	K14	0.19	500	K14	0.33	450	K14	0.33	450
										L17	0.24	650
220	J10	0.30	500	K14	0.19	500	K16	0.26	550	L22	0.16	900
				L17	0.12	845				M17	0.24	700
330	K14	0.11	650	L17	0.12	845	L22	0.16	900	M22	0.16	950
	L17	0.087	900	M17	0.12	905	M17	0.24	700			
470	L17	0.087	900	L22	0.085	1,100						
	M17	0.087	1,060	M17	0.12	905	M22	0.16	950			
1,000	M22	0.050	1,520									

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

LEAD FREE & NON-PVC ALUMINUM ELECTROLYTIC CAPACITORS

Nippon Chemi-con aim at paying attention to global environments. In fact, our several factories already have received ISO-14000 certificate. In terms of raw materials of aluminum electrolytic capacitors, we are going to eliminate PVC and LEAD or replace other materials with these issued materials; then, we have commercialized environmentally friendly products.



◆Lead free and Non-PVC Products

1. Lead Wire (Plating)

Category		Plating material on lead wires	
		Standard	Pb-free type
Chip	Horizontal Type	Sn-Pb	Sn-Bi
	Vertical Type		
Radial	φ4×5L to φ6.3×5L		
	φ8×5L		
	φ4×7L to φ8×7L		
	φ5×11L to φ8×20L		
	φ10 and more		
Snap-in		Sn100%	
Screw-Mount		Originally lead free	Originally lead free

Note Pb : Lead, Sn : Tin, Bi : Bismuth

2. Sleeve

Category		Sleeve material	
		Standard	Non-PVC type
Chip	Horizontal Type	Sleeveless (Resin case)	Sleeveless (Resin case)
	Vertical Type	Sleeveless (Coating case)	Sleeveless (Coating case)
Radial	φ4X5L to φ6.3X5L	PVC	PET
	φ8X5L	Sleeveless (Coating case)	Sleeveless (Coating case)
	φ4X7L to φ8X7L	PVC	PET
	φ5X11L to φ8X20L		
	φ10 and more		
Snap-in		Polyolefin	
Screw-Mount			

Specifications in this bulletin are subject to change without notice.

LEAD FREE & NON-PVC ALUMINUM ELECTROLYTIC CAPACITORS

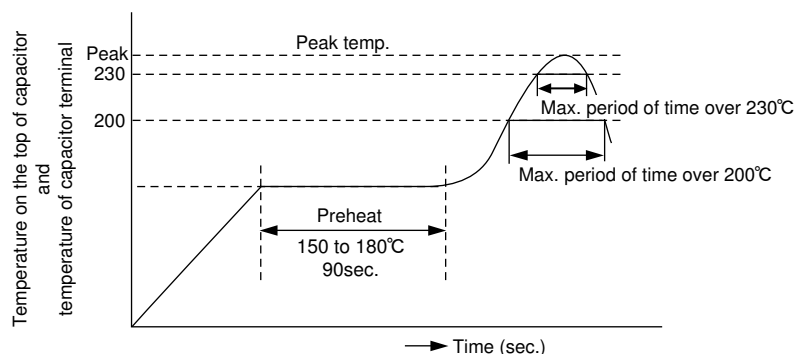
◆Reflow soldering condition

Generally speaking, lead free solder requires high heat reflow temperature. Therefore, more heat must stress to aluminum electrolytic capacitors. Especially for chip products, be sure to consider the reflow soldering condition mentioned below to avoid soldering problem.

●Soldering heat condition

Series	Size	Standard			Pb-free type		
		Time over 200°C	Time over 230°C	Peak temp.	Time over 200°C	Time over 230°C	Peak temp.
MF, MFK MFY, MFJ MF-BP MFK-BP	B6 to D13	20sec. max.	—	240°C max.	60sec. max.	30sec. max.	250°C max.
MV, MVK, MVJ, MVA, MVE, MVY, MVZ, MVS, MV-BP MVK-BP	B55 to F80	20sec. max.	—	240°C max.	60sec. max.	30sec. max.	250°C max.
	H63 to J10	20sec. max.	—	230°C max.	50sec. max.	20sec. max.	240°C max.
MVL, MVH	D60 to F80	20sec. max.	—	240°C max.	70sec. max.	40sec. max.	250°C max.
	H63 to J10	20sec. max.	—	230°C max.	50sec. max.	20sec. max.	240°C max.

- 1) MKA series has been also lined-up as an environmentally friendly standard series. Please refer to as Aluminum Electrolytic Capacitors Catalogue.
- 2) When you requires for harsher condition than our recommendation, please consult us.



◆Flow soldering condition

Radial and Snap-in types follow to the flow soldering condition mentioned below.

●Soldering heat condition

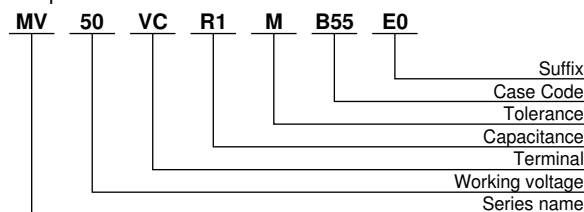
260±5°C for 10±1 seconds or 380±10°C for 3.0±0.5 seconds.

◆Lead free and Non-PVC products Part Numbering System

Please use suffix as mentioned below when ordering.

Vertical Chip Radial (φ8×5L, φ5×11L to φ8×20L) Snap-in	E0
Radial (Case Diameter : φ10 and more) Screw-Mount	E1
Radial (φ4×5L to φ6.3×5L, φ4×7L to φ8×7L)	E2

●Example



Specifications in this bulletin are subject to change without notice.