

Alchip® **MVH** Series

- Endurance : 125°C 1000 to 5000 hours
- Suitable to fit for automotive equipment
- Solvent-proof type (10 to 50V) (see PRECAUTIONS AND GUIDELINES)

MVH

↑
125°C
size extended
MVK

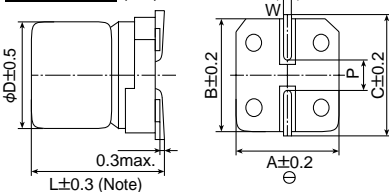


◆SPECIFICATIONS

Items	Characteristics										
Category	-40 to +125°C										
Temperature Range											
Rated Voltage Range	10 to 450V _{dc}										
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)										
Leakage Current	10 to 100V _{dc}					160 to 450V _{dc}					
	I=0.03CV or 4μA, whichever is greater.					I=0.04CV+100 (160 to 450V _{dc})					
	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})	10V	16V	25V	35V	50V	63V	100V	160 to 250V	400 & 450V	
	tanδ (Max.)	F60 to J10	0.24	0.20	0.16	0.14	0.14	0.18	0.18	—	
		K14 to M22	0.22	0.18	0.16	0.14	0.12	0.14	0.10	0.20	
When nominal capacitance exceeds 1000μF, add 0.02 to the value above for each 1000μF increase. (at 20°C, 120Hz)											
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V _{dc})	10V	16V	25V	35V	50V	63V	100V	160 to 250V	400 & 450V	
	F60 to J10	Z(-25°C)/Z(+20°C)	4	3	2	2	2	2	2	—	—
		Z(-40°C)/Z(+20°C)	10	8	6	4	4	4	4	—	—
	K14 to M22	Z(-25°C)/Z(+20°C)	4	3	2	2	2	2	2	3	6
Z(-40°C)/Z(+20°C)		8	6	4	3	3	3	3	6	10	
(at 120Hz)											
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for the specified time at 125°C.										
	Time	F60 to H63 (10 to 100V _{dc}) : 1000hours H10 to J10 (10 to 100V _{dc}) : 2000hours K14 to M22 (10 to 100V _{dc}) : 5000hours K14 to M22 (160 to 450V _{dc}) : 2000hours									
	Capacitance change	≤±30% of the initial value									
	D.F. (tanδ)	≤300% of the initial specified value									
	Leakage current	≤The initial specified value									
	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1000 hours (500 hours for 350 to 450VV) at 125°C without voltage applied.										
Shelf Life	Rated voltage(V _{dc})	10 to 50V _{dc}					63 to 450V _{dc}				
	Capacitance change	≤±30% of the initial value					≤±30% of the initial value				
	D.F. (tanδ)	≤300% of the initial specified value					≤300% of the initial specified value				
	Leakage current	≤The initial specified value					≤500% of the initial specified value				

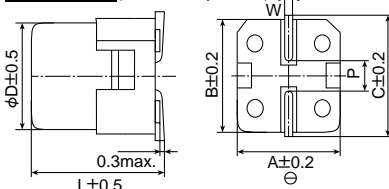
◆DIMENSIONS (Terminal Type=VC or VD) [mm]

F60 to K16 (VC)



Note : L±0.5 for H63 to K16

L17 to M22 (VD : with dummy terminals)

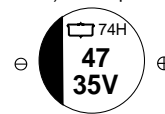


Case code	D	L	A	B	C	W	P
F60	6.3	5.7	6.6	6.6	7.2	0.5 to 0.8	1.9
F80	6.3	7.7	6.6	6.6	7.2	0.5 to 0.8	1.9
H63	8	6.3	8.3	8.3	9.0	0.5 to 0.8	2.3
H10	8	10.0	8.3	8.3	9.0	0.7 to 1.1	3.1
J10	10	10.0	10.3	10.3	11.0	0.7 to 1.1	4.5
K14	12.5	13.5	13.0	13.0	13.7	1.0 to 1.3	4.2
K16	12.5	16.0	13.0	13.0	13.7	1.0 to 1.3	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

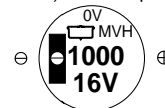
F60 to J10

EX) 35V47μF



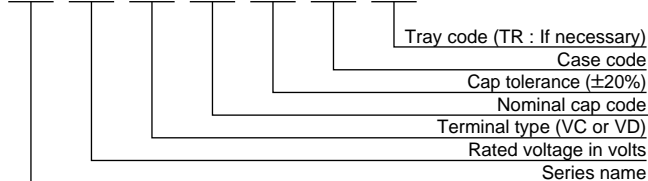
K14 to M22

EX) 16V1000μF



◆PART NUMBERING SYSTEM

MVH 35 VC 47 M H10



Capacitance	Code
10μF	10
100μF	100
1000μF	1000



◆ **STANDARD RATINGS**

μF \ V_{dc}	10				16				25				35			
10													F60	27	3.3	66.0
22													F60	39	3.3	66.0
33									F60	45	3.3	66.0	H63	62	2.3	46.0
47					F60	43	3.3	66.0	H63	68	2.3	46.0	F80	62	2.3	46.0
100	H63	72	2.3	46.0					H10	126	1.0	20.0	H10	92	1.0	20.0
220	F80	72	2.3	46.0					J10	211	0.7	13.4	J10	151	0.7	13.4
330	H10	136	1.0	20.0					K14	750	0.14	2.1	K14	750	0.14	2.1
470	J10	188	0.7	13.4					K14	750	0.14	2.1	L17	1,000	0.10	1.5
680					K14	750	0.14	2.1	L17	1,000	0.10	1.5	K16	900	0.11	1.5
1,000					L17	1,000	0.10	1.5	M17	1,200	0.10	1.5	L17	1,000	0.10	1.5
2,200	K14	750	0.14	2.1	M17	1,200	0.10	1.5	M22	1,550	0.058	0.87	M17	1,200	0.10	1.5
3,300	L17	1,000	0.10	1.5	M17	1,200	0.10	1.5								
4,700	M17	1,200	0.10	1.5												
	M22	1,550	0.058	0.87												

ESR (Ω max.) at -40°C, 100kHz
 ESR (Ω max.) at 20°C, 100kHz
 Rated Ripple current (mA rms) at 125°C, 100kHz
 Case code

Non-solvent proof												
μF \ V_{dc}	50				63				100			
10	F60	38	3.3	66.0	H63	42	2.3	115	H10	53	1.0	50
22	H63	50	2.3	46.0	F80	42	2.3	115	H10	56	1.0	50.0
33	F80	50	2.3	46.0	H10	56	1.0	50.0	J10	63	0.70	35
47	H10	83	1.0	20.0	J10	71	0.7	35.0				
68	J10	111	0.7	13.4					K14	450	0.33	16.5
100									K16	550	0.26	13.0
220	K14	550	0.23	3.5	K14	500	0.25	12.5	L17	650	0.24	12.0
330	K14	550	0.23	3.5	K16	600	0.20	10.0	M22	950	0.16	8.0
470	L17	850	0.15	2.3	L17	820	0.18	9.0				
	K16	700	0.18	2.7	L22	1,100	0.11	5.5				
	L17	850	0.15	2.3								
	M17	920	0.15	2.3								

ESR (Ω max.) at -40°C, 100kHz
 ESR (Ω max.) at 20°C, 100kHz
 Rated Ripple current (mA rms) at 125°C, 100kHz
 Case code

Non-solvent proof										
μF \ V_{dc}	160		200		250		400		450	
3.3									K16	65
4.7							K14	70	L17	85
6.8							L17	100		
10	K14	100	K14	100	K16	110	L22	140	M22	145
22	L17	180	L17	180	L22	205	M17	135		
33	M17	245	L22	250	M17	200				
47			M17	245	M22	260				
68	M22	380	M22	315						

Rated Ripple current (mA rms) at 125°C, 120Hz
 Case code