



# SURFACE MOUNT ALUMINUM ELECTROLYTIC CAPACITORS

High heat resistance, 125°C

## 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)
- Pb-free design

MVH

↑ 125°C size extended  
MVK

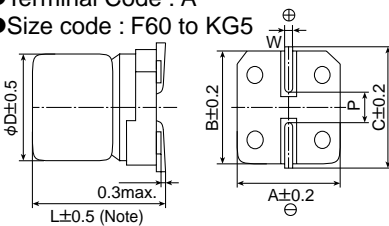


### ◆ SPECIFICATIONS

Items	Characteristics										
<b>Category</b> Temperature Range	-40 to +125°C										
<b>Rated Voltage Range</b>	10 to 450V <sub>dc</sub>										
<b>Capacitance Tolerance</b>	±20% (M) (at 20°C, 120Hz)										
<b>Leakage Current</b>	10 to 100V <sub>dc</sub>					160 to 450V <sub>dc</sub>					
	I=0.03CV or 4μA, whichever is greater.					I=0.04CV+100max					
	Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 2 minutes)										
<b>Dissipation Factor (tanδ)</b>	Rated voltage (V <sub>dc</sub> )	10V	16V	25V	35V	50V	63V	100V	160 to 250V	400 & 450V	
	tanδ (Max.)	F60 to JA0	0.24	0.20	0.16	0.14	0.14	0.18	0.18	—	—
		KE0 to MN0	0.22	0.18	0.16	0.14	0.12	0.14	0.10	0.20	0.24
When nominal capacitance exceeds 1000μF, add 0.02 to the value above for each 1000μF increase. (at 20°C, 120Hz)											
<b>Low Temperature Characteristics (Max. Impedance Ratio)</b>	Rated voltage (V <sub>dc</sub> )	10V	16V	25V	35V	50V	63V	100V	160 to 250V	400 & 450V	
	F60 to JA0	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	—	—
	KE0 to MN0	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)											
<b>Endurance</b>	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 <sub>dc</sub> ) : 1000hours HA0 to JA0 (10 to 100V <sub>dc</sub> ) : 2000hours KE0 to MN0 (10 to 100V <sub>dc</sub> ) : 5000hours KE0 to MN0 (160 to 450V <sub>dc</sub> ) : 2000hours									
	Capacitance change	≤±30% of the initial value									
	D.F. (tanδ)	≤300% of the initial specified value									
	Leakage current	≤The initial specified value									
	<b>Shelf Life</b>										
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.											
Rated voltage (V <sub>dc</sub> )	10 to 50V <sub>dc</sub>					63 to 450V <sub>dc</sub>					
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					

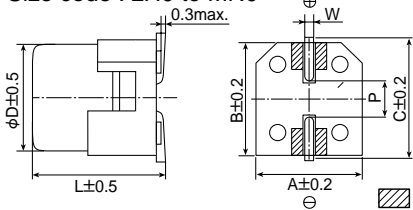
### ◆ DIMENSIONS [mm]

- Terminal Code : A
- Size code : F60 to KG5



Size 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
HA0	8	10.0	8.3	8.3	9.0	0.7 to 1.1	3.1
JA0	10	10.0	10.3	10.3	11.0	0.7 to 1.1	4.5
KE0	12.5	13.5	13.0	13.0	13.7	1.0 to 1.3	4.2
KG5	12.5	16.0	13.0	13.0	13.7	1.0 to 1.3	4.2
LH0	16	16.5	17.0	17.0	18.0	1.0 to 1.3	6.5
LN0	16	21.5	17.0	17.0	18.0	1.0 to 1.3	6.5
MH0	18	16.5	19.0	19.0	20.0	1.0 to 1.3	6.5
MN0	18	21.5	19.0	19.0	20.0	1.0 to 1.3	6.5

- Terminal Code : G
- Size code : LH0 to MN0



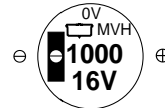
▨ : Dummy terminals

### ◆ MARKING

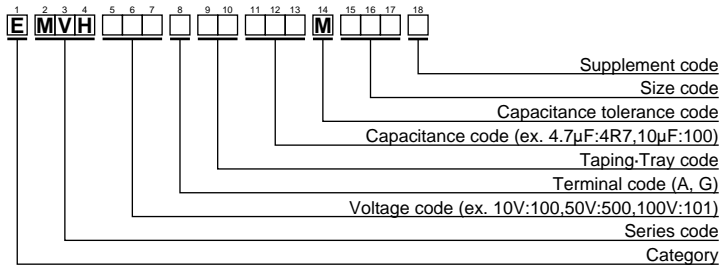
F60 to JA0  
EX) 35V47μF



KE0 to MN0  
EX) 16V1000μF



◆ **PART NUMBERING SYSTEM**



Please refer to "A guide to global code (surface mount type)"

◆ **STANDARD RATINGS**

□□ is non solvent-proof (63 to 450V<sub>dc</sub>).

WV (V <sub>dc</sub> )	Cap (μF)	Size code	ESR (Ω <sub>max</sub> /100kHz)		Rated ripple current (mArms/125°C)		Part No.	WV (V <sub>dc</sub> )	Cap (μF)	Size code	ESR (Ω <sub>max</sub> /100kHz)		Rated ripple current (mArms/125°C)		Part No.	
			20°C	-40°C	100kHz	120Hz					20°C	-40°C	100kHz	120Hz		
10	100	F80	2.3	46.0	72	—	EMVH100ADA101MF80G	50	47	JA0	0.70	13.4	111	—	EMVH500ADA470MJA0G	
	100	H63	2.3	46.0	72	—	EMVH100ADA101MH63G		100	KE0	0.23	3.5	550	—	EMVH500A□□101MKE0S	
	220	HA0	1.0	20.0	136	—	EMVH100ADA221MHA0G		220	KE0	0.23	3.5	550	—	EMVH500A□□221MKE0S	
	330	JA0	0.70	13.4	188	—	EMVH100ADA331MJA0G		220	LH0	0.15	2.3	850	—	EMVH500GTR221MLH0S	
	1000	KE0	0.14	2.1	750	—	EMVH100A□□102MKE0S		330	KG5	0.18	2.7	700	—	EMVH500A□□331MKG5S	
	2200	LH0	0.10	1.5	1000	—	EMVH100GTR222MLH0S		330	LH0	0.15	2.3	850	—	EMVH500GTR331MLH0S	
	2200	MH0	0.10	1.5	1200	—	EMVH100GTR222MMH0S		470	MH0	0.15	2.3	920	—	EMVH500GTR471MMH0S	
	3300	MH0	0.10	1.5	1200	—	EMVH100GTR332MMH0S		63	10	F80	2.3	115	42	—	EMVH630ADA100MF80G
	4700	MN0	0.058	0.87	1550	—	EMVH100GTR472MMN0S			10	H63	2.3	115	42	—	EMVH630ADA100MH63G
16	47	F60	3.3	66.0	43	—	EMVH160ADA470MF60G	22		HA0	1.0	50.0	56	—	EMVH630ADA220MHA0G	
	470	KE0	0.14	2.1	750	—	EMVH160A□□471MKE0S	33		JA0	0.70	35.0	71	—	EMVH630ADA330MJA0G	
	680	KE0	0.14	2.1	750	—	EMVH160A□□681MKE0S	100		KE0	0.25	12.5	500	—	EMVH630A□□101MKE0S	
	680	LH0	0.10	1.5	1000	—	EMVH160GTR681MLH0S	220		KG5	0.20	10.0	600	—	EMVH630A□□221MKG5S	
	1000	MH0	0.10	1.5	1200	—	EMVH160GTR102MMH0S	330		LH0	0.18	9.0	820	—	EMVH630GTR331MLH0S	
	2200	MH0	0.10	1.5	1200	—	EMVH160GTR222MMH0S	470		LN0	0.11	5.5	1100	—	EMVH630GTR471MLN0S	
25	33	F60	3.3	66.0	45	—	EMVH250ADA330MF60G	100		10	HA0	1.0	50.0	53	—	EMVH101ADA100MHA0G
	47	F80	2.3	46.0	68	—	EMVH250ADA470MF80G		22	JA0	0.70	35.0	63	—	EMVH101ADA220MJA0G	
	47	H63	2.3	46.0	68	—	EMVH250ADA470MH63G		47	KE0	0.33	16.5	450	—	EMVH101A□□470MKE0S	
	100	HA0	1.0	20.0	126	—	EMVH250ADA101MHA0G		68	KG5	0.26	13.0	550	—	EMVH101A□□680MKG5S	
	220	JA0	0.70	13.4	211	—	EMVH250ADA221MJA0G		100	LH0	0.24	12.0	650	—	EMVH101GTR101MLH0S	
	330	KE0	0.14	2.1	750	—	EMVH250A□□331MKE0S		220	MN0	0.16	8.0	950	—	EMVH101GTR221MMN0S	
	470	KE0	0.14	2.1	750	—	EMVH250A□□471MKE0S	160	10	KE0	—	—	—	100	EMVH161A□□100MKE0S	
	470	LH0	0.10	1.5	1000	—	EMVH250GTR471MLH0S		22	LH0	—	—	—	180	EMVH161GTR220MLH0S	
	680	LH0	0.10	1.5	1000	—	EMVH250GTR681MLH0S		33	MH0	—	—	—	245	EMVH161GTR330MMH0S	
	680	MH0	0.10	1.5	1200	—	EMVH250GTR681MMH0S		68	MN0	—	—	—	380	EMVH161GTR680MMN0S	
1000	MN0	0.058	0.87	1550	—	EMVH250GTR102MMN0S	200	10	KE0	—	—	—	100	EMVH201A□□100MKE0S		
35	10	F60	3.3	66.0	27	—		EMVH350ADA100MF60G	22	LH0	—	—	—	180	EMVH201GTR220MLH0S	
	22	F60	3.3	66.0	39	—		EMVH350ADA220MF60G	33	LN0	—	—	—	250	EMVH201GTR330MLN0S	
	33	F80	2.3	46.0	62	—		EMVH350ADA330MF80G	33	MH0	—	—	—	245	EMVH201GTR330MMH0S	
	33	H63	2.3	46.0	62	—		EMVH350ADA330MH63G	47	MN0	—	—	—	315	EMVH201GTR470MMN0S	
	47	HA0	1.0	20.0	92	—		EMVH350ADA470MHA0G	10	KG5	—	—	—	110	EMVH251A□□100MKG5S	
	100	JA0	0.70	13.4	151	—	EMVH350ADA101MJA0G	250	22	LN0	—	—	—	200	EMVH251GTR220MLN0S	
	330	KE0	0.14	2.1	750	—	EMVH350A□□331MKE0S		22	MH0	—	—	—	205	EMVH251GTR220MMH0S	
	330	LH0	0.10	1.5	1000	—	EMVH350GTR331MLH0S		33	MN0	—	—	—	260	EMVH251GTR330MMN0S	
	470	KG5	0.11	1.5	900	—	EMVH350A□□471MKG5S		400	4.7	KE0	—	—	—	70	EMVH401A□□477MKE0S
	470	LH0	0.10	1.5	1000	—	EMVH350GTR471MLH0S	6.8		LH0	—	—	—	100	EMVH401GTR688MLH0S	
680	MH0	0.10	1.5	1200	—	EMVH350GTR681MMH0S	10	LN0		—	—	—	140	EMVH401GTR100MLN0S		
50	10	F60	3.3	66.0	38	—	EMVH500ADA100MF60G	10		MH0	—	—	—	135	EMVH401GTR100MMH0S	
	22	F80	2.3	46.0	50	—	EMVH500ADA220MF80G	450	3.3	KG5	—	—	—	65	EMVH451A□□3R3MKG5S	
	22	H63	2.3	46.0	50	—	EMVH500ADA220MH63G		4.7	LH0	—	—	—	85	EMVH451GTR4R7MLH0S	
	33	HA0	1.0	20.0	83	—	EMVH500ADA330MHA0G		10	MN0	—	—	—	145	EMVH451GTR100MMN0S	

□□ : Taping / Tray code



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- Подбор аналогов;
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- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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