

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

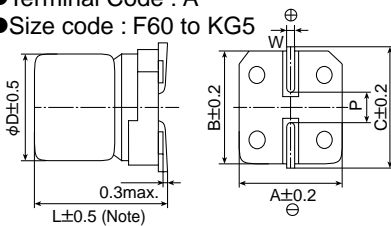


◆ **SPECIFICATIONS**

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					

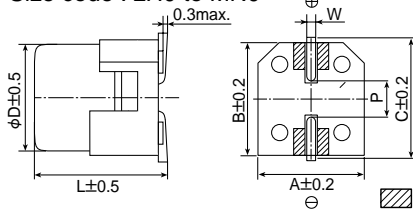
◆ **DIMENSIONS [mm]**

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



Note : L±0.3 for F60 and F80

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



▨ : Dummy terminals

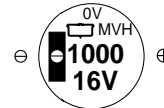
Size code	D	L	A	B	C	W	P
<b>F60</b>	6.3	5.7	6.6	6.6	7.2	0.5 to 0.8	1.9
<b>F80</b>	6.3	7.7	6.6	6.6	7.2	0.5 to 0.8	1.9
<b>H63</b>	8	6.3	8.3	8.3	9.0	0.5 to 0.8	2.3
<b>HA0</b>	8	10.0	8.3	8.3	9.0	0.7 to 1.1	3.1
<b>JA0</b>	10	10.0	10.3	10.3	11.0	0.7 to 1.1	4.5
<b>KE0</b>	12.5	13.5	13.0	13.0	13.7	1.0 to 1.3	4.2
<b>KG5</b>	12.5	16.0	13.0	13.0	13.7	1.0 to 1.3	4.2
<b>LH0</b>	16	16.5	17.0	17.0	18.0	1.0 to 1.3	6.5
<b>LN0</b>	16	21.5	17.0	17.0	18.0	1.0 to 1.3	6.5
<b>MH0</b>	18	16.5	19.0	19.0	20.0	1.0 to 1.3	6.5
<b>MN0</b>	18	21.5	19.0	19.0	20.0	1.0 to 1.3	6.5

◆ **MARKING**

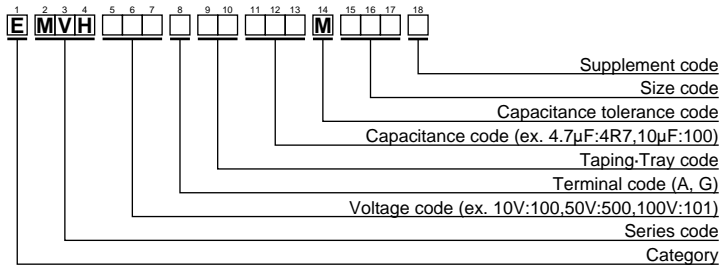
**F60 to JA0**  
EX) 35V47μF



**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.	
			20°C	-40°C	100kHz	120Hz		
10	100	F80	2.3	46.0	72	—	EMVH100ADA101MF80G	
	100	H63	2.3	46.0	72	—	EMVH100ADA101MH63G	
	220	HA0	1.0	20.0	136	—	EMVH100ADA221MHA0G	
	330	JA0	0.70	13.4	188	—	EMVH100ADA331MJA0G	
	1000	KE0	0.14	2.1	750	—	EMVH100A□□102MKE0S	
	2200	LH0	0.10	1.5	1000	—	EMVH100GTR222MLH0S	
	2200	MH0	0.10	1.5	1200	—	EMVH100GTR222MMH0S	
	3300	MH0	0.10	1.5	1200	—	EMVH100GTR332MMH0S	
	4700	MN0	0.058	0.87	1550	—	EMVH100GTR472MMN0S	
16	47	F60	3.3	66.0	43	—	EMVH160ADA470MF60G	
	470	KE0	0.14	2.1	750	—	EMVH160A□□471MKE0S	
	680	KE0	0.14	2.1	750	—	EMVH160A□□681MKE0S	
	680	LH0	0.10	1.5	1000	—	EMVH160GTR681MLH0S	
	1000	MH0	0.10	1.5	1200	—	EMVH160GTR102MMH0S	
	2200	MH0	0.10	1.5	1200	—	EMVH160GTR222MMH0S	
25	33	F60	3.3	66.0	45	—	EMVH250ADA330MF60G	
	47	F80	2.3	46.0	68	—	EMVH250ADA470MF80G	
	47	H63	2.3	46.0	68	—	EMVH250ADA470MH63G	
	100	HA0	1.0	20.0	126	—	EMVH250ADA101MHA0G	
	220	JA0	0.70	13.4	211	—	EMVH250ADA221MJA0G	
	330	KE0	0.14	2.1	750	—	EMVH250A□□331MKE0S	
	470	KE0	0.14	2.1	750	—	EMVH250A□□471MKE0S	
	470	LH0	0.10	1.5	1000	—	EMVH250GTR471MLH0S	
	680	LH0	0.10	1.5	1000	—	EMVH250GTR681MLH0S	
	680	MH0	0.10	1.5	1200	—	EMVH250GTR681MMH0S	
1000	MN0	0.058	0.87	1550	—	EMVH250GTR102MMN0S		
35	10	F60	3.3	66.0	27	—	EMVH350ADA100MF60G	
	22	F60	3.3	66.0	39	—	EMVH350ADA220MF60G	
	33	F80	2.3	46.0	62	—	EMVH350ADA330MF80G	
	33	H63	2.3	46.0	62	—	EMVH350ADA330MH63G	
	47	HA0	1.0	20.0	92	—	EMVH350ADA470MHA0G	
	100	JA0	0.70	13.4	151	—	EMVH350ADA101MJA0G	
	330	KE0	0.14	2.1	750	—	EMVH350A□□331MKE0S	
	330	LH0	0.10	1.5	1000	—	EMVH350GTR331MLH0S	
	470	KG5	0.11	1.5	900	—	EMVH350A□□471MKG5S	
	470	LH0	0.10	1.5	1000	—	EMVH350GTR471MLH0S	
680	MH0	0.10	1.5	1200	—	EMVH350GTR681MMH0S		
50	10	F60	3.3	66.0	38	—	EMVH500ADA100MF60G	
	22	F80	2.3	46.0	50	—	EMVH500ADA220MF80G	
	22	H63	2.3	46.0	50	—	EMVH500ADA220MH63G	
	33	HA0	1.0	20.0	83	—	EMVH500ADA330MHA0G	
50	47	JA0	0.70	13.4	111	—	EMVH500ADA470MJA0G	
	100	KE0	0.23	3.5	550	—	EMVH500A□□101MKE0S	
	220	KE0	0.23	3.5	550	—	EMVH500A□□221MKE0S	
	220	LH0	0.15	2.3	850	—	EMVH500GTR221MLH0S	
	330	KG5	0.18	2.7	700	—	EMVH500A□□331MKG5S	
	330	LH0	0.15	2.3	850	—	EMVH500GTR331MLH0S	
	470	MH0	0.15	2.3	920	—	EMVH500GTR471MMH0S	
	63	10	F80	2.3	115	42	—	EMVH630ADA100MF80G
		10	H63	2.3	115	42	—	EMVH630ADA100MH63G
		22	HA0	1.0	50.0	56	—	EMVH630ADA220MHA0G
33		JA0	0.70	35.0	71	—	EMVH630ADA330MJA0G	
100		KE0	0.25	12.5	500	—	EMVH630A□□101MKE0S	
220		KG5	0.20	10.0	600	—	EMVH630A□□221MKG5S	
330		LH0	0.18	9.0	820	—	EMVH630GTR331MLH0S	
470	LN0	0.11	5.5	1100	—	EMVH630GTR471MLN0S		
100	10	HA0	1.0	50.0	53	—	EMVH101ADA100MHA0G	
	22	JA0	0.70	35.0	63	—	EMVH101ADA220MJA0G	
	47	KE0	0.33	16.5	450	—	EMVH101A□□470MKE0S	
	68	KG5	0.26	13.0	550	—	EMVH101A□□680MKG5S	
	100	LH0	0.24	12.0	650	—	EMVH101GTR101MLH0S	
	220	MN0	0.16	8.0	950	—	EMVH101GTR221MMN0S	
160	10	KE0	—	—	—	100	EMVH161A□□100MKE0S	
	22	LH0	—	—	—	180	EMVH161GTR220MLH0S	
	33	MH0	—	—	—	245	EMVH161GTR330MMH0S	
	68	MN0	—	—	—	380	EMVH161GTR680MMN0S	
200	10	KE0	—	—	—	100	EMVH201A□□100MKE0S	
	22	LH0	—	—	—	180	EMVH201GTR220MLH0S	
	33	LN0	—	—	—	250	EMVH201GTR330MLN0S	
	33	MH0	—	—	—	245	EMVH201GTR330MMH0S	
	47	MN0	—	—	—	315	EMVH201GTR470MMN0S	
250	10	KG5	—	—	—	110	EMVH251A□□100MKG5S	
	22	LN0	—	—	—	200	EMVH251GTR220MLN0S	
	22	MH0	—	—	—	205	EMVH251GTR220MMH0S	
	33	MN0	—	—	—	260	EMVH251GTR330MMN0S	
400	4.7	KE0	—	—	—	70	EMVH401A□□47MKE0S	
	6.8	LH0	—	—	—	100	EMVH401GTR68MLH0S	
	10	LN0	—	—	—	140	EMVH401GTR100MLN0S	
450	10	MH0	—	—	—	135	EMVH401GTR100MMH0S	
	3.3	KG5	—	—	—	65	EMVH451A□□3R3MKG5S	
	4.7	LH0	—	—	—	85	EMVH451GTR4R7MLH0S	
	10	MN0	—	—	—	145	EMVH451GTR100MMN0S	

□□ : Taping / Tray code