



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

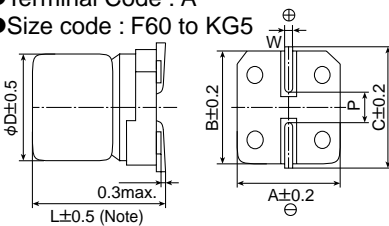


◆ SPECIFICATIONS

Items	Characteristics										
Category Temperature Range	-40 to +125°C										
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+100max					
	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 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)											
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V _{dc})	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)											
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 HA0 to JA0 (10 to 100V _{dc}) : 2000hours KE0 to MN0 (10 to 100V _{dc}) : 5000hours KE0 to MN0 (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									
	Shelf Life										
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 _{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					

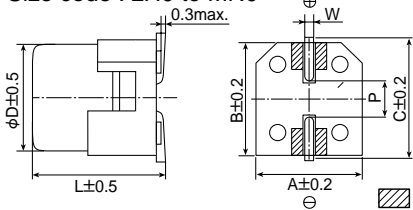
◆ DIMENSIONS [mm]

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



Note : L±0.3 for F60 and F80

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

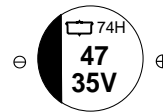


▨ : Dummy terminals

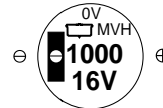
Size code	D	L	A	B	C	W	P
F60	6.3	5.7	6.6	6.6	7.2	0.5 to 0.8	1.9
F80	6.3	7.7	6.6	6.6	7.2	0.5 to 0.8	1.9
H63	8	6.3	8.3	8.3	9.0	0.5 to 0.8	2.3
HA0	8	10.0	8.3	8.3	9.0	0.7 to 1.1	3.1
JA0	10	10.0	10.3	10.3	11.0	0.7 to 1.1	4.5
KE0	12.5	13.5	13.0	13.0	13.7	1.0 to 1.3	4.2
KG5	12.5	16.0	13.0	13.0	13.7	1.0 to 1.3	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

◆ MARKING

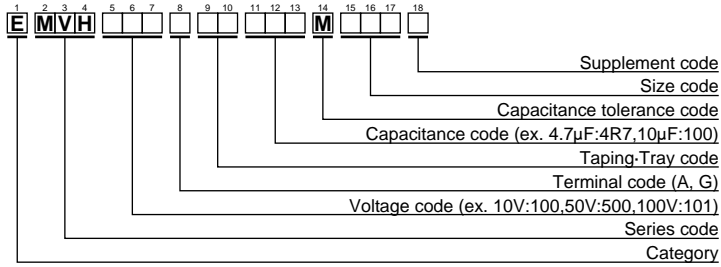
F60 to JA0
EX) 35V47μF



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_{dc}).

WV (V _{dc})	Cap (μF)	Size code	ESR (Ω _{max} /100kHz)		Rated ripple current (mArms/125°C)		Part No.	WV (V _{dc})	Cap (μF)	Size code	ESR (Ω _{max} /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	
	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		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	63	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	450	10	MH0	—	—	—	135	EMVH401GTR100MMH0S
	22	F80	2.3	46.0	50	—	EMVH500ADA220MF80G		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