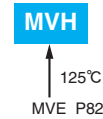


Alchip™-MVH Series

- Lower ESR, Higher ripple current
- Endurance : 1,000 to 5,000 hours at 125°C
- Suitable to fit for automotive equipment
- Solvent resistant type except 63 to 450V_{dc} (see PRECAUTIONS AND GUIDELINES)
- Vibration resistant structure
- RoHS Compliant



SPECIFICATIONS

Items	Characteristics											
Category	-40 to +125°C											
Temperature Range	-40 to +125°C											
Rated Voltage Range	10 to 450V _{dc}											
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)											
Leakage Current	Rated voltage (V _{dc})	10 to 100V _{dc}					160 to 450V _{dc}					
	F60 to JA0	I=0.01CV or 3μA, whichever is greater.					I=0.04CV+100					
	KE0 to MN0	I=0.03CV or 4μA, 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 (tan δ)	Rated voltage (V _{dc})	10V	16V	25V	35V	50V	63V	80V	100V	160 to 250V	400 & 450V	
	tan δ (Max.)	F60 to JA0	0.24	0.20	0.16	0.14	0.14	0.12	0.12	0.10	—	—
		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 1,000μF, add 0.02 to the value above for each 1,000μF increase. (at 20°C, 120Hz)											
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V _{dc})	10V	16V	25V	35V	50V	63V	80V	100V	160 to 250V	400 & 450V	
	F60 to JA0	Z(-25°C)/Z(+20°C)	3	2	2	2	2	2	2	2	—	—
		Z(-40°C)/Z(+20°C)	6	4	4	3	3	3	3	3	—	—
	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}) : 1,000hours HA0 to JA0 (10 to 100V _{dc}) : 2,000hours KE0 to MN0 (10 to 100V _{dc}) : 5,000hours KE0 to MN0 (160 to 450V _{dc}) : 2,000hours										
	Capacitance change	≤ ±30% of the initial value										
	D.F. (tan δ)	≤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 1,000 hours (500 hours for 400 to 450V _{dc}) at 125°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4.											
	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. (tan δ)	≤300% of the initial specified value					≤300% of the initial specified value					
	Leakage current	≤The initial specified value					≤500% of the initial specified value					

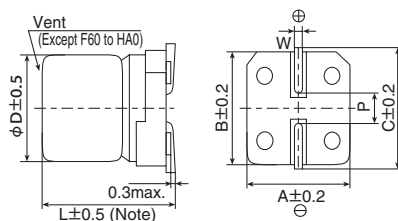
DIMENSIONS [mm]

- Terminal Code : A

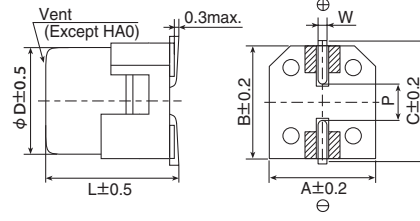
- Size code : F60 to MN0

- Terminal Code : G(Vibration resistant structure)

- Size code : HA0 to MN0



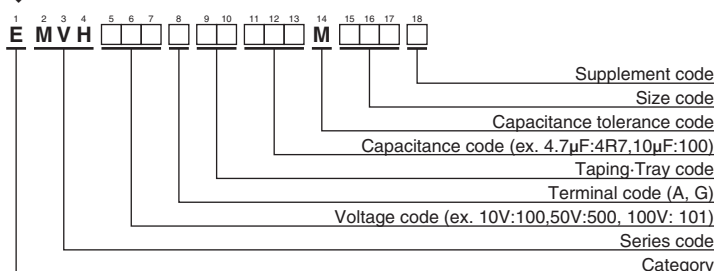
Note : L±0.3 for F60 and F80



⊘ : 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

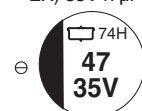
PART NUMBERING SYSTEM



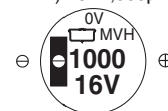
Please refer to "Product code guide (surface mount type)"

MARKING

F60 to JA0
EX) 35V47μF



KE0 to MN0
EX) 16V1,000μF



Alchip™-MVH Series

◆STANDARD RATINGS

□ is not solvent resistant (63 to 450V_{dc}).

WV (V _{dc})	Cap (μF)	Size code	ESR (Ω max./ 100kHz)		Rated ripple current (mA rms/125°C)		Part No.
			20°C	-40°C	100kHz	120Hz	
10	100	F80	0.90	14.0	110	—	EMVH100ADA101MF80G
	100	H63	0.90	14.0	110	—	EMVH100ADA101MH63G
	220	F80	0.90	14.0	110	—	EMVH100ADA221MF80G
	220	H63	0.90	14.0	110	—	EMVH100ADA221MH63G
	220	HA0	0.40	6.0	220	—	EMVH100□DA221MHA0G
	330	HA0	0.40	6.0	220	—	EMVH100□DA331MHA0G
	330	JA0	0.30	4.5	296	—	EMVH100□DA331MJA0G
	470	JA0	0.30	4.5	296	—	EMVH100□DA471MJA0G
	1,000	KE0	0.14	2.1	750	—	EMVH100□RA102MKE0S
	2,200	LH0	0.10	1.5	1,000	—	EMVH100□DA222MLH0S
16	2,200	MH0	0.10	1.5	1,200	—	EMVH100□DA222MMH0S
	3,300	MH0	0.10	1.5	1,200	—	EMVH100□DA332MMH0S
	4,700	MN0	0.058	0.87	1,550	—	EMVH100□DA472MMN0S
	47	F60	1.6	24.0	69	—	EMVH160ADA470MF60G
	100	HA0	0.40	6.0	220	—	EMVH160□DA101MHA0G
	220	HA0	0.40	6.0	220	—	EMVH160□DA221MHA0G
	220	JA0	0.30	4.5	296	—	EMVH160□DA221MJA0G
	330	JA0	0.30	4.5	296	—	EMVH160□DA331MJA0G
	470	KE0	0.14	2.1	750	—	EMVH160□RA471MKE0S
	680	KE0	0.14	2.1	750	—	EMVH160□RA681MKE0S
25	680	LH0	0.10	1.5	1,000	—	EMVH160□DA681MLH0S
	1,000	MH0	0.10	1.5	1,200	—	EMVH160□DA102MMH0S
	2,200	MH0	0.10	1.5	1,200	—	EMVH160□DA222MMH0S
	33	F60	1.6	24.0	69	—	EMVH250ADA330MF60G
	47	F80	0.90	14.0	110	—	EMVH250ADA470MF80G
	47	H63	0.90	14.0	110	—	EMVH250ADA470MH63G
	100	F80	0.90	14.0	110	—	EMVH250ADA101MF80G
	100	H63	0.90	14.0	110	—	EMVH250ADA101MH63G
	100	HA0	0.40	6.0	220	—	EMVH250□DA101MHA0G
	220	HA0	0.40	6.0	220	—	EMVH250□DA221MHA0G
35	220	JA0	0.30	4.5	296	—	EMVH250□DA221MJA0G
	330	JA0	0.30	4.5	296	—	EMVH250□DA331MJA0G
	330	KE0	0.14	2.1	750	—	EMVH250□RA331MKE0S
	470	KE0	0.14	2.1	750	—	EMVH250□RA471MKE0S
	470	LH0	0.10	1.5	1,000	—	EMVH250□DA471MLH0S
	680	LH0	0.10	1.5	1,000	—	EMVH250□DA681MLH0S
	680	MH0	0.10	1.5	1,200	—	EMVH250□DA681MMH0S
	1,000	MN0	0.058	0.87	1,550	—	EMVH250□DA102MMN0S
	10	F60	1.6	24.0	69	—	EMVH350ADA100MF60G
	22	F60	1.6	24.0	69	—	EMVH350ADA220MF60G
50	33	F80	0.90	14.0	110	—	EMVH350ADA330MF80G
	33	H63	0.90	14.0	110	—	EMVH350ADA330MH63G
	47	F80	0.90	14.0	110	—	EMVH350ADA470MF80G
	47	H63	0.90	14.0	110	—	EMVH350ADA470MH63G
	47	HA0	0.40	6.0	220	—	EMVH350□DA470MHA0G
	100	HA0	0.40	6.0	220	—	EMVH350□DA101MHA0G
	100	JA0	0.30	4.5	296	—	EMVH350□DA101MJA0G
	220	JA0	0.30	4.5	296	—	EMVH350□DA221MJA0G
	330	KE0	0.14	2.1	750	—	EMVH350□RA331MKE0S
	330	LH0	0.10	1.5	1,000	—	EMVH350□DA331MLH0S
100	470	KG5	0.11	1.5	900	—	EMVH350□RA471MKG5S
	470	LH0	0.10	1.5	1,000	—	EMVH350□DA471MLH0S
	680	MH0	0.10	1.5	1,200	—	EMVH350□DA681MMH0S
	10	F60	2.8	42.0	51	—	EMVH500ADA100MF60G
	10	H63	1.6	30.0	83	—	EMVH500ADA100MH63G
	22	F80	2.0	30.0	83	—	EMVH500ADA220MF80G
	22	H63	1.6	30.0	83	—	EMVH500ADA220MH63G
	33	F80	0.90	14.0	110	—	EMVH500ADA330MF80G
	33	H63	0.90	14.0	110	—	EMVH500ADA330MH63G
	47	F80	0.90	14.0	110	—	EMVH500ADA470MF80G
160	47	H63	0.90	14.0	110	—	EMVH500ADA470MH63G
	47	HA0	0.40	6.0	220	—	EMVH500□DA470MHA0G
	100	HA0	0.40	6.0	220	—	EMVH500□DA101MHA0G
	100	JA0	0.30	4.5	296	—	EMVH500□DA101MJA0G
	220	JA0	0.30	4.5	296	—	EMVH500□DA221MJA0G
	330	KE0	0.14	2.1	750	—	EMVH500□RA331MKE0S
	330	LH0	0.10	1.5	1,000	—	EMVH500□DA331MLH0S
	470	KG5	0.11	1.5	900	—	EMVH500□RA471MKG5S
	470	LH0	0.10	1.5	1,000	—	EMVH500□DA471MLH0S
	680	MH0	0.10	1.5	1,200	—	EMVH500□DA681MMH0S
250	10	F60	2.8	42.0	51	—	EMVH500ADA100MF60G
	10	H63	1.6	30.0	83	—	EMVH500ADA100MH63G
	22	F80	2.0	30.0	83	—	EMVH500ADA220MF80G
	22	H63	1.6	30.0	83	—	EMVH500ADA220MH63G
	33	F80	0.90	14.0	110	—	EMVH500ADA330MF80G
	33	H63	0.90	14.0	110	—	EMVH500ADA330MH63G
	47	F80	0.90	14.0	110	—	EMVH500ADA470MF80G
	47	H63	0.90	14.0	110	—	EMVH500ADA470MH63G
	47	HA0	0.40	6.0	220	—	EMVH500□DA470MHA0G
	100	HA0	0.40	6.0	220	—	EMVH500□DA101MHA0G
400	100	JA0	0.30	4.5	296	—	EMVH500□DA101MJA0G
	220	JA0	0.30	4.5	296	—	EMVH500□DA221MJA0G
	330	KE0	0.14	2.1	750	—	EMVH500□RA331MKE0S
	330	LH0	0.10	1.5	1,000	—	EMVH500□DA331MLH0S
	470	KG5	0.11	1.5	900	—	EMVH500□RA471MKG5S
	470	LH0	0.10	1.5	1,000	—	EMVH500□DA471MLH0S
	680	MH0	0.10	1.5	1,200	—	EMVH500□DA681MMH0S
	10	F60	2.8	42.0	51	—	EMVH500ADA100MF60G
	10	H63	1.6	30.0	83	—	EMVH500ADA100MH63G
	22	F80	2.0	30.0	83	—	EMVH500ADA220MF80G
450	22	H63	1.6	30.0	83	—	EMVH500ADA220MH63G
	33	F80	0.90	14.0	110	—	EMVH500ADA330MF80G
	33	H63	0.90	14.0	110	—	EMVH500ADA330MH63G
	47	F80	0.90	14.0	110	—	EMVH500ADA470MF80G
	47	H63	0.90	14.0	110	—	EMVH500ADA470MH63G
	47	HA0	0.40	6.0	220	—	EMVH500□DA470MHA0G
	100	HA0	0.40	6.0	220	—	EMVH500□DA101MHA0G
	100	JA0	0.30	4.5	296	—	EMVH500□DA101MJA0G
	220	JA0	0.30	4.5	296	—	EMVH500□DA221MJA0G
	330	KE0	0.14	2.1	750	—	EMVH500□RA331MKE0S
500	330	LH0	0.10	1.5	1,000	—	EMVH500□DA331MLH0S
	470	KG5	0.11	1.5	900	—	EMVH500□RA471MKG5S
	470	LH0	0.10	1.5	1,000	—	EMVH500□DA471MLH0S
	680	MH0	0.10	1.5	1,200	—	EMVH500□DA681MMH0S
	10	F60	2.8	42.0	51	—	EMVH500ADA100MF60G
	10	H63	1.6	30.0	83	—	EMVH500ADA100MH63G
	22	F80	2.0	30.0	83	—	EMVH500ADA220MF80G
	22	H63	1.6	30.0	83	—	EMVH500ADA220MH63G
	33	F80	0.90	14.0	110	—	EMVH500ADA330MF80G
	33	H63	0.90	14.0	110	—	EMVH500ADA330MH63G
630	47	F80	0.90	14.0	110	—	EMVH500ADA470MF80G
	47	H63	0.90	14.0	110	—	EMVH500ADA470MH63G
	47	HA0	0.40	6.0	220	—	EMVH500□DA470MHA0G
	100	HA0	0.40	6.0	220	—	EMVH500□DA101MHA0G
	100	JA0	0.30	4.5	296	—	EMVH500□DA101MJA0G
	220	JA0	0.30	4.5	296	—	EMVH500□DA221MJA0G
	330	KE0	0.14	2.1	750	—	EMVH500□RA331MKE0S
	330	LH0	0.10	1.5	1,000	—	EMVH500□DA331MLH0S
	470	KG5	0.11	1.5	900	—	EMVH500□RA471MKG5S
	470	LH0	0.10	1.5	1,000	—	EMVH500□DA471MLH0S
800	680	MH0	0.10	1.5	1,200	—	EMVH500□DA681MMH0S
	10	F60	2.8	42.0	51	—	EMVH500ADA100MF60G
	10	H63	1.6	30.0	83	—	EMVH500ADA100MH63G
	22	F80	2.0	30.0	83	—	EMVH500ADA220MF80G
	22	H63	1.6	30.0	83	—	EMVH500ADA220MH63G
	33	F80	0.90	14.0	110	—	EMVH500ADA330MF80G
	33	H63	0.90	14.0	110	—	EMVH500ADA330MH63G
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	47	H63	0.90	14.0	110	—	EMVH500ADA470MH63G
	47	HA0	0.40	6.0	220	—	EMVH500□DA470MHA0G
1000	100	HA0	0.40	6.0	220	—	EMVH500□DA101MHA0G
	100	JA0	0.30	4.5	296	—	EMVH500□DA101MJA0G
	220	JA0	0.30	4.5	296	—	EMVH500□DA221MJA0G
	330	KE0	0.14	2.1	750	—	EMVH500□RA331MKE0S
	330	LH0	0.10	1.5	1,000	—	EMVH500□DA331MLH0S
	470	KG5	0.11	1.5	900	—	EMVH500□RA471MKG5S
	470	LH0	0.10	1.5	1,000	—	EMVH500□DA471MLH0S
	680	MH0	0.10	1.5	1,200	—	EMVH500□DA681MMH0S
	10	F60	2.8	42.0	51	—	EMVH500ADA100MF60G
	10	H63	1.6	30.0	83	—	EMVH500ADA100MH63G
1250	22	F80	2.0	30.0	83	—	EMVH500ADA220MF80G
	22	H63	1.6	30.0	83	—	EMVH500ADA220MH63G
	33	F80	0.90	14.0	110	—	EMVH500ADA330MF80G
	33	H63	0.90	14.0	110	—	EMVH500ADA330MH63G
	47	F80	0.90	14.0	110	—	EMVH500ADA470MF80G
	47	H63	0.90	14.0	110	—	EMVH500ADA470MH63G
	47	HA0	0.40	6.0	220	—	EMVH500□DA470M

Mouser Electronics

Authorized Distributor

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United Chemi-Con (UCC):

<u>EMVH630GTR471MLN0S</u>	<u>EMVH630GTR721MMN0S</u>	<u>EMVH350GTR681MMH0S</u>	<u>EMVH101ADA330MJA0G</u>
<u>EMVH201GTR470MMN0S</u>	<u>EMVH350GTR331MLH0S</u>	<u>EMVH250ADA331MJA0G</u>	<u>EMVH250ADA330MF60G</u>
<u>EMVH350ADA470MHA0G</u>	<u>EMVH500ADA470MJA0G</u>	<u>EMVH100GDA222MMH0S</u>	<u>EMVH100GDA472MMN0S</u>
<u>EMVH500GDA471MMH0S</u>	<u>EMVH350ARA471MKG5S</u>	<u>EMVH250ARA471MKE0S</u>	<u>EMVH250ADA470MF80G</u>
<u>EMVH101GDA101MLH0S</u>	<u>EMVH201ARA100MKE0S</u>	<u>EMVH161ARA100MKE0S</u>	<u>EMVH500GDA221MLH0S</u>
<u>EMVH101ADA220MJA0G</u>	<u>EMVH630ADA100MH63G</u>	<u>EMVH160GDA681MLH0S</u>	<u>EMVH250GDA681MMH0S</u>
<u>EMVH350GDA331MLH0S</u>	<u>EMVH160ARA681MKE0S</u>	<u>EMVH500GDA331MLH0S</u>	<u>EMVH101ARA470MKE0S</u>
<u>EMVH201GDA470MMN0S</u>	<u>EMVH100GDA332MMH0S</u>	<u>EMVH500ADA330MHA0G</u>	<u>EMVH500ARA331MKG5S</u>
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<u>EMVH250ARA331MKE0S</u>	<u>EMVH630GDA471MLN0S</u>	<u>EMVH401GDA6R8MLH0S</u>	<u>EMVH350ADA220MF60G</u>
<u>EMVH250ADA221MJA0G</u>	<u>EMVH101GDA221MMN0S</u>	<u>EMVH630GDA331MLH0S</u>	<u>EMVH630ADA330MJA0G</u>
<u>EMVH250ADA470MH63G</u>	<u>EMVH451ARA3R3MKG5S</u>	<u>EMVH630ADA220MHA0G</u>	<u>EMVH630ARA221MKG5S</u>
<u>EMVH630ARA101MKE0S</u>	<u>EMVH500ARA101MKE0S</u>	<u>EMVH100ADA101MH63G</u>	<u>EMVH500ADA100MF60G</u>
<u>EMVH100ARA102MKE0S</u>	<u>EMVH160ADA470MF60G</u>	<u>EMVH250GDA471MLH0S</u>	<u>EMVH160ARA471MKE0S</u>
<u>EMVH350GDA471MLH0S</u>	<u>EMVH350GDA681MMH0S</u>	<u>EMVH250GDA681MLH0S</u>	<u>EMVH160GDA222MMH0S</u>
<u>EMVH500ADA220MH63G</u>	<u>EMVH250ADA221MHA0G</u>	<u>EMVH800ADA470MJA0G</u>	<u>EMVH500GTR471MMH0S</u>
<u>EMVH630ADA470MHA0G</u>	<u>EMVH350ADA101MHA0G</u>	<u>EMVH630ADA470MJA0G</u>	<u>EMVH250ADA101MF80G</u>
<u>EMVH161ATR680MMN0S</u>	<u>EMVH160ADA101MHA0G</u>	<u>EMVH500ADA330MF80G</u>	<u>EMVH101GDA330MJA0G</u>
<u>EMVH101ATR101MLH0S</u>	<u>EMVH500GRA221MKE0S</u>	<u>EMVH500ADA470MHA0G</u>	<u>EMVH100ADA101MF80G</u>
<u>EMVH350ADA221MJA0G</u>	<u>EMVH100ADA331MJA0G</u>		