Alchip® MVH Series

- Lower ESR, Higher ripple current
- Endurance : 125℃ 1000 to 5000 hours
- Suitable to fit for automotive equipment
- Solvent-proof type (10 to 50V)
- Pb-free design

MVH
↑ 125℃ size extended
MVK

◆SPECIFICATIONS

Items	Characteristics
Category Temperature Range	-40 to +125℃
Rated Voltage Range	10 to 450Vdc
Capacitance Tolerance	±20% (M) (at 20℃, 120Hz)
Leakage Current	Rated voltage (Vdc): 10 to 100Vdc / 160 to 450Vdc 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℃ after 2 minutes)

Dissipation Factor (tanδ)

Rated voltage (Vdc)		10V	16V	25V	35V	50V	63V	80V	100V	160 to 250V	400 & 450V
tanδ (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℃, 120Hz)

Low Temperature Characteristics (Max. Impedance Ratio)

Rated voltage (Vdc)		10V	16V	25V	35V	50V	63V	80V	100V	160 to 250V	400 & 450V
F60 to JA0	Z(−25℃)/Z(+20℃)	3	2	2	2	2	2	2	2	—	—
	Z(−40℃)/Z(+20℃)	6	4	4	3	3	3	3	3	—	—
KE0 to MN0	Z(−25℃)/Z(+20℃)	4	3	2	2	2	2	—	2	3	6
	Z(−40℃)/Z(+20℃)	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℃ after the rated voltage is applied for the specified time at 125℃.

Time	F60 to H63 (10 to 100Vdc) : 1,000hours HA0 to JA0 (10 to 100Vdc) : 2,000hours KE0 to MN0 (10 to 100Vdc) : 5,000hours KE0 to MN0 (160 to 450Vdc) : 2,000hours
Capacitance change	≦±30% of the initial value
D.F. (tanδ)	≦300% of the initial specified value
Leakage current	≦The initial specified value

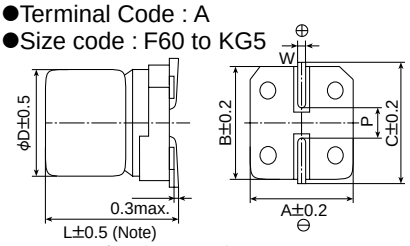
Shelf Life

The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours (500 hours for 350 to 450WV) at 125℃ without voltage applied.

Rated voltage(Vdc)	10 to 50Vdc	63 to 450Vdc
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

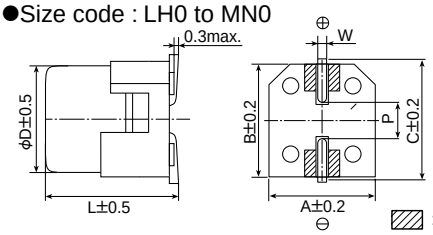
◆DIMENSIONS [mm]

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



Note : L±0.3 for F60 and F80

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

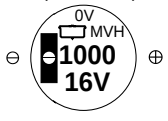


Size code	D	L	A	B	C	W	P
F60	6.3	5.7	6.6	6.6	7.2	0.5 to 0.8	1.9
F80	6.3	7.7	6.6	6.6	7.2	0.5 to 0.8	1.9
H63	8	6.3	8.3	8.3	9.0	0.5 to 0.8	2.3
HA0	8	10.0	8.3	8.3	9.0	0.7 to 1.1	3.1
JA0	10	10.0	10.3	10.3	11.0	0.7 to 1.1	4.5
KE0	12.5	13.5	13.0	13.0	13.7	1.0 to 1.3	4.2
KG5	12.5	16.0	13.0	13.0	13.7	1.0 to 1.3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



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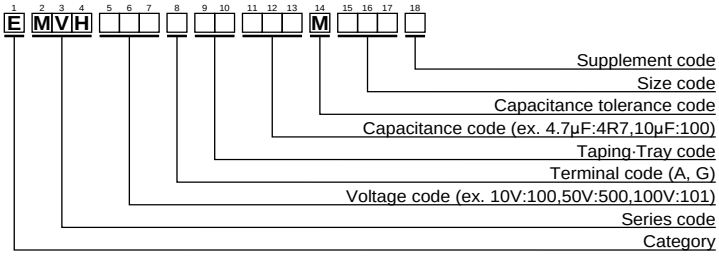
Alchip® MVH Series

◆PART NUMBERING SYSTEM



◆STANDARD RATINGS

is non solvent-proof (63 to 450Vdc).

WV (Vdc)	Cap (μF)	Size code	ESR (Ωmax/ 100kHz)		Rated ripple current (mArms/125℃)		Part No.
			20℃	-40℃	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	—	EMVH100ADA221MHA0G
	330	HA0	0.40	6.0	220	—	EMVH100ADA331MHA0G
	330	JA0	0.30	4.5	296	—	EMVH100ADA331MJA0G
	470	JA0	0.30	4.5	296	—	EMVH100ADA471MJA0G
	1,000	KE0	0.14	2.1	750	—	EMVH100A□□102MKE0S
	2,200	LH0	0.10	1.5	1,000	—	EMVH100GTR222MLH0S
	2,200	MH0	0.10	1.5	1,200	—	EMVH100GTR222MMH0S
	3,300	MH0	0.10	1.5	1,200	—	EMVH100GTR332MMH0S
	4,700	MN0	0.058	0.87	1,550	—	EMVH100GTR472MMN0S
16	47	F60	1.6	24.0	69	—	EMVH160ADA470MF60G
	100	HA0	0.40	6.0	220	—	EMVH160ADA101MHA0G
	220	HA0	0.40	6.0	220	—	EMVH160ADA221MHA0G
	220	JA0	0.30	4.5	296	—	EMVH160ADA221MJA0G
	330	JA0	0.30	4.5	296	—	EMVH160ADA331MJA0G
	470	KE0	0.14	2.1	750	—	EMVH160A□□471MKE0S
	680	KE0	0.14	2.1	750	—	EMVH160A□□681MKE0S
	680	LH0	0.10	1.5	1,000	—	EMVH160GTR681MLH0S
	1,000	MH0	0.10	1.5	1,200	—	EMVH160GTR102MMH0S
	2,200	MH0	0.10	1.5	1,200	—	EMVH160GTR222MMH0S
25	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	—	EMVH250ADA101MHA0G
	220	HA0	0.40	6.0	220	—	EMVH250ADA221MHA0G
	220	JA0	0.30	4.5	296	—	EMVH250ADA221MJA0G
	330	JA0	0.30	4.5	296	—	EMVH250ADA331MJA0G
	330	KE0	0.14	2.1	750	—	EMVH250A□□331MKE0S
	470	KE0	0.14	2.1	750	—	EMVH250A□□471MKE0S
	470	LH0	0.10	1.5	1,000	—	EMVH250GTR471MLH0S
	680	LH0	0.10	1.5	1,000	—	EMVH250GTR681MLH0S
	680	MH0	0.10	1.5	1,200	—	EMVH250GTR681MMH0S
	1,000	MN0	0.058	0.87	1,550	—	EMVH250GTR102MMN0S
35	10	F60	1.6	24.0	69	—	EMVH350ADA100MF60G
	22	F60	1.6	24.0	69	—	EMVH350ADA220MF60G
	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	—	EMVH350ADA470MHA0G
	100	HA0	0.40	6.0	220	—	EMVH350ADA101MHA0G
	100	JA0	0.30	4.5	296	—	EMVH350ADA101MJA0G
	220	JA0	0.30	4.5	296	—	EMVH350ADA221MJA0G
	330	KE0	0.14	2.1	750	—	EMVH350A□□331MKE0S
	330	LH0	0.10	1.5	1,000	—	EMVH350GTR331MLH0S
	470	KG5	0.11	1.5	900	—	EMVH350A□□471MKG5S
	470	LH0	0.10	1.5	1,000	—	EMVH350GTR471MLH0S
	680	MH0	0.10	1.5	1,200	—	EMVH350GTR681MMH0S
50	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
50	33	F80	2.0	30.0	83	—	EMVH500ADA330MF80G
	33	H63	1.6	30.0	83	—	EMVH500ADA330MH63G
	33	HA0	0.70	11.0	160	—	EMVH500ADA330MHA0G
	47	HA0	0.70	11.0	160	—	EMVH500ADA470MHA0G
	47	JA0	0.50	7.5	247	—	EMVH500ADA470MJA0G
	100	JA0	0.50	7.5	247	—	EMVH500ADA101MJA0G
	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	2.0	100	60	—	EMVH630ADA100MF80G
	10	H63	2.0	110	60	—	EMVH630ADA100MH63G
	22	HA0	0.70	35.0	100	—	EMVH630ADA220MHA0G
	33	HA0	0.70	35.0	100	—	EMVH630ADA330MHA0G
	33	JA0	0.50	25.0	170	—	EMVH630ADA330MJA0G
	47	HA0	0.70	35.0	100	—	EMVH630ADA470MHA0G
	47	JA0	0.50	25.0	170	—	EMVH630ADA470MJA0G
	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	1,100	—	EMVH630GTR471MLN0S
80	10	HA0	0.75	50.0	70	—	EMVH800ADA100MHA0G
	22	HA0	0.75	50.0	70	—	EMVH800ADA220MHA0G
	22	JA0	0.55	35.0	115	—	EMVH800ADA220MJA0G
	33	HA0	0.75	50.0	70	—	EMVH800ADA330MHA0G
	33	JA0	0.55	35.0	115	—	EMVH800ADA330MJA0G
	47	JA0	0.55	35.0	115	—	EMVH800ADA470MJA0G
100	10	HA0	0.75	50.0	70	—	EMVH101ADA100MHA0G
	22	HA0	0.75	50.0	70	—	EMVH101ADA220MHA0G
	22	JA0	0.55	35.0	115	—	EMVH101ADA220MJA0G
	33	JA0	0.55	35.0	115	—	EMVH101ADA330MJA0G
	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□□4R7MKE0S
	6.8	LH0	—	—	—	100	EMVH401GTR6R8MLH0S
	10	LN0	—	—	—	140	EMVH401GTR100MLN0S
	10	MH0	—	—	—	135	EMVH401GTR100MMH0S
450	3.3	KG5	—	—	—	65	EMVH451A□□3R3MKG5S
	4.7	LH0	—	—	—	85	EMVH451GTR4R7MLH0S
	10	MN0	—	—	—	145	EMVH451GTR100MMN0S

□□ : Taping / Tray code

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