

Alchip® MVA Series

- $\phi 4$ through $\phi 18$ case sizes are fully lined up
- Endurance : 85°C 2000 hours
- Suitable to fit for downsized equipment
- Solvent-proof type except 100 to 450V_{dc} (see PRECAUTIONS AND GUIDELINES)
- Pb-free design

MVA

↓ downsized size extended



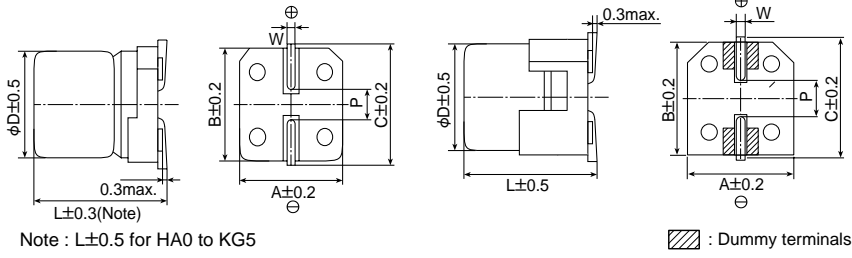
◆ SPECIFICATIONS

Items	Characteristics												
Category Temperature Range	-40 to +85°C												
Rated Voltage Range	4 to 450V _{dc}												
Capacitance Tolerance	$\pm 20\%$ (M) (at 20°C, 120Hz)												
Leakage Current	Rated voltage (V _{dc})	4 to 100V						160 to 450V					
	D55 to JA0	I=0.01CV or 3 μ A, whichever is greater.(after 2 minutes)											
	KE0 to MNO	I=0.03CV or 4 μ A, whichever is greater.(after 1 minute) I=0.04CV+100 μ A max.(after 1 minute)											
	Where, I : Max. leakage current (μ A), C : Nominal capacitance (μ F), V : Rated voltage (V) (at 20°C)												
Dissipation Factor (tanδ)	Rated voltage (V _{dc})	4V	6.3V	10V	16V	25V	35V	50V	63V	100V	160 to 250V	400 & 450V	
	tan δ (Max.)	D55 to JA0	0.42	0.35	0.30	0.26	0.16	0.14	0.12	0.12	0.12	—	—
		KE0 to MNO	—	0.38	0.34	0.30	0.26	0.22	0.18	0.14	0.10	0.20	0.25
	When nominal capacitance exceeds 1000 μ F, add 0.02 to the value above for each 1000 μ F increase. (at 20°C, 120Hz)												
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V _{dc})	4V	6.3V	10V	16V	25V	35V	50V	63V	100V	160 to 250V	400 & 450V	
	D55 to JA0	Z(-25°C)/Z(+20°C)	7	4	3	2	2	2	2	2	3	—	—
		Z(-40°C)/Z(+20°C)	17	10	8	6	4	3	3	3	4	—	—
	KE0 to MNO	Z(-25°C)/Z(+20°C)	—	5	4	3	2	2	2	2	2	3	6
Z(-40°C)/Z(+20°C)		—	12	10	8	5	4	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 2000 hours at 85°C.												
	Size code	D55 to JA0			D55 to JA0			KE0 to MNO					
	Rated voltage (V _{dc})	4V & 6.3V			10 to 100V			6.3 to 450V					
	Capacitance change	$\leq \pm 30\%$ of the initial value			$\leq \pm 20\%$ of the initial value			$\leq \pm 20\%$ of the initial value					
	DF (tan δ)	$\leq 200\%$ of the initial specified value			$\leq 200\%$ of the initial specified value			$\leq 200\%$ of the initial specified value					
	Leakage current \leq 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 at 85°C without voltage applied.												
	Size code	D55 to JA0			D55 to JA0			KE0 to MNO					
	Rated voltage	4V & 6.3V			10 to 100V			6.3 to 450V					
	Capacitance change	$\leq \pm 30\%$ of the initial value			$\leq \pm 20\%$ of the initial value			$\leq \pm 20\%$ of the initial value					
	DF (tan δ)	$\leq 200\%$ of the initial specified value			$\leq 200\%$ of the initial specified value			$\leq 200\%$ of the initial specified value					
		Leakage current \leq The initial specified value											

◆ DIMENSIONS [mm]

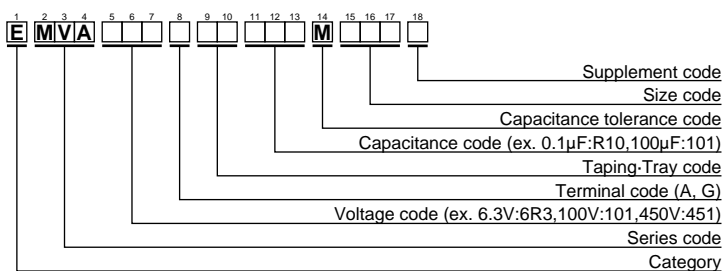
- Terminal Code : A
- Size code : D55 to KG5

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



Size code	D	L	A	B	C	W	P
D55	4	5.2	4.3	4.3	5.1	0.5 to 0.8	1.0
E55	5	5.2	5.3	5.3	5.9	0.5 to 0.8	1.4
F55	6.3	5.2	6.6	6.6	7.2	0.5 to 0.8	1.9
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
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
MNO	18	21.5	19.0	19.0	20.0	1.0 to 1.3	6.5

◆ PART NUMBERING SYSTEM



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

◆ MARKING





◆STANDARD RATINGS

□ is non solvent-proof.

WV (Vdc)	Cap (μF)	Size code	tanδ	Rated ripple current (mArms/85°C,120Hz)	Part No.	WV (Vdc)	Cap (μF)	Size code	tanδ	Rated ripple current (mArms/85°C,120Hz)	Part No.		
4	33	D55	0.42	25	EMVA4R0ADA330MD55G	35	150	HA0	0.14	210	EMVA350ADA151MHA0G		
	47	D55	0.42	30	EMVA4R0ADA470MD55G		220	HA0	0.14	260	EMVA350ADA221MHA0G		
	100	E55	0.42	50	EMVA4R0ADA101ME55G		330	JA0	0.14	360	EMVA350ADA331MJA0G		
	220	F55	0.42	80	EMVA4R0ADA221MF55G		470	KE0	0.22	600	EMVA350A□□471MKE0S		
	330	F80	0.42	135	EMVA4R0ADA331MF80G		1000	LH0	0.22	1100	EMVA350GTR102MLH0S		
	470	F80	0.42	150	EMVA4R0ADA471MF80G		2200	MN0	0.24	1700	EMVA350GTR222MMN0S		
6.3	1000	HA0	0.42	320	EMVA4R0ADA102MHA0G	50	3.3	D55	0.12	15	EMVA500ADA3R3MD55G		
	33	D55	0.35	30	EMVA6R3ADA330MD55G		4.7	D55	0.12	18	EMVA500ADA4R7MD55G		
	47	D55	0.35	33	EMVA6R3ADA470MD55G		10	E55	0.12	30	EMVA500ADA100ME55G		
	100	E55	0.35	55	EMVA6R3ADA101ME55G		22	F55	0.12	47	EMVA500ADA220MF55G		
	220	F55	0.35	88	EMVA6R3ADA221MF55G		33	F80	0.12	70	EMVA500ADA330MF80G		
	330	F80	0.35	135	EMVA6R3ADA331MF80G		47	F80	0.12	85	EMVA500ADA470MF80G		
	470	HA0	0.35	280	EMVA6R3ADA471MHA0G		100	HA0	0.12	190	EMVA500ADA101MHA0G		
	680	HA0	0.35	290	EMVA6R3ADA681MHA0G		220	JA0	0.12	320	EMVA500ADA221MJA0G		
	820	HA0	0.35	320	EMVA6R3ADA821MHA0G		330	KE0	0.18	600	EMVA500A□□331MKE0S		
	1000	JA0	0.35	430	EMVA6R3ADA102MJA0G		470	KG5	0.18	740	EMVA500A□□471MKG5S		
	1500	JA0	0.35	480	EMVA6R3ADA152MJA0G		470	LH0	0.18	850	EMVA500GTR471MLH0S		
	2200	KE0	0.40	890	EMVA6R3A□□222MKE0S		1000	LN0	0.18	1300	EMVA500GTR102MLN0S		
	3300	KG5	0.42	1000	EMVA6R3A□□332MKG5S		1000	MN0	0.18	1400	EMVA500GTR102MMN0S		
	3300	LH0	0.42	1200	EMVA6R3GTR332MLH0S		63	0.10	D55	0.12	1.3	EMVA630ADAR10MD55G	
	4700	LH0	0.44	1400	EMVA6R3GTR472MLH0S			0.22	D55	0.12	3.0	EMVA630ADAR22MD55G	
	6800	LN0	0.48	1750	EMVA6R3GTR682MLN0S			0.33	D55	0.12	4.0	EMVA630ADAR33MD55G	
6800	MH0	0.48	1700	EMVA6R3GTR682MMH0S	0.47	D55		0.12	5.0	EMVA630ADAR47MD55G			
10000	MN0	0.56	2000	EMVA6R3GTR103MMN0S	1.0	D55		0.12	8.0	EMVA630ADA1R0MD55G			
10	22	D55	0.30	26	EMVA100ADA220MD55G	2.2		D55	0.12	12	EMVA630ADA2R2MD55G		
	33	D55	0.30	30	EMVA100ADA330MD55G	3.3		E55	0.12	17	EMVA630ADA3R3ME55G		
	47	E55	0.30	44	EMVA100ADA470ME55G	4.7		E55	0.12	20	EMVA630ADA4R7ME55G		
	100	F55	0.30	70	EMVA100ADA101MF55G	10		F55	0.12	32	EMVA630ADA100MF55G		
	150	F55	0.30	79	EMVA100ADA151MF55G	22		F80	0.12	60	EMVA630ADA220MF80G		
	220	F80	0.30	130	EMVA100ADA221MF80G	33		HA0	0.12	110	EMVA630ADA330MHA0G		
	330	HA0	0.30	270	EMVA100ADA331MHA0G	47		HA0	0.12	130	EMVA630ADA470MHA0G		
	470	HA0	0.30	280	EMVA100ADA471MHA0G	56		JA0	0.12	160	EMVA630ADA560MJA0G		
	1000	JA0	0.30	430	EMVA100ADA102MJA0G	68		JA0	0.12	170	EMVA630ADA680MJA0G		
	2200	KE0	0.36	960	EMVA100A□□222MKE0S	100		KE0	0.14	380	EMVA630A□□101MKE0S		
	3300	LH0	0.38	1300	EMVA100GTR332MLH0S	220		KE0	0.14	580	EMVA630A□□221MKE0S		
	4700	LN0	0.40	1550	EMVA100GTR472MLN0S	330	KG5	0.14	720	EMVA630A□□331MKG5S			
	4700	MH0	0.40	1600	EMVA100GTR472MMH0S	330	LH0	0.14	820	EMVA630GTR331MLH0S			
	6800	MN0	0.44	1850	EMVA100GTR682MMN0S	470	LH0	0.14	950	EMVA630GTR471MLH0S			
	16	22	D55	0.26	26	EMVA160ADA220MD55G	470	MH0	0.14	1000	EMVA630GTR471MMH0S		
		33	E55	0.26	37	EMVA160ADA330ME55G	100	22	HA0	0.12	90	EMVA101ADA220MHA0G	
47		E55	0.26	44	EMVA160ADA470ME55G	33		JA0	0.12	120	EMVA101ADA330MJA0G		
100		F55	0.26	70	EMVA160ADA101MF55G	68		KE0	0.10	380	EMVA101A□□680MKE0S		
150		F80	0.26	110	EMVA160ADA151MF80G	100		KE0	0.10	440	EMVA101A□□101MKE0S		
220		F80	0.26	130	EMVA160ADA221MF80G	220		LN0	0.10	850	EMVA101GTR221MLN0S		
330		HA0	0.26	270	EMVA160ADA331MHA0G	220		MH0	0.10	800	EMVA101GTR221MMH0S		
470		HA0	0.26	280	EMVA160ADA471MHA0G	330		MN0	0.10	1000	EMVA101GTR331MMN0S		
680		JA0	0.26	380	EMVA160ADA681MJA0G	47		KG5	0.20	370	EMVA161A□□470MKG5S		
1000		KE0	0.30	710	EMVA160A□□102MKE0S	68		LH0	0.20	500	EMVA161GTR680MLH0S		
2200		LH0	0.32	1150	EMVA160GTR222MLH0S	100		LN0	0.20	590	EMVA161GTR101MLN0S		
3300		LN0	0.34	1450	EMVA160GTR332MLN0S	100		MH0	0.20	590	EMVA161GTR101MMH0S		
3300		MH0	0.34	1450	EMVA160GTR332MMH0S	200		22	KE0	0.20	240	EMVA201A□□220MKE0S	
4700		MN0	0.36	1750	EMVA160GTR472MMN0S			33	KG5	0.20	310	EMVA201A□□330MKG5S	
25		10	D55	0.16	24			EMVA250ADA100MD55G	47	LH0	0.20	420	EMVA201GTR470MLH0S
		22	E55	0.16	41			EMVA250ADA220ME55G	68	LN0	0.20	510	EMVA201GTR680MLN0S
	33	E55	0.16	47	EMVA250ADA330ME55G			68	MH0	0.20	510	EMVA201GTR680MMH0S	
	47	F55	0.16	60	EMVA250ADA470MF55G		100	MN0	0.20	590	EMVA201GTR101MMN0S		
	56	F55	0.16	66	EMVA250ADA560MF55G		250	10	KE0	0.20	150	EMVA251A□□100MKE0S	
	100	F80	0.16	120	EMVA250ADA101MF80G			22	KG5	0.20	240	EMVA251A□□220MKG5S	
	150	HA0	0.16	210	EMVA250ADA151MHA0G			33	LH0	0.20	340	EMVA251GTR330MLH0S	
	220	HA0	0.16	260	EMVA250ADA221MHA0G			47	LN0	0.20	420	EMVA251GTR470MLN0S	
	330	HA0	0.16	300	EMVA250ADA331MHA0G			47	MH0	0.20	420	EMVA251GTR470MMH0S	
	470	JA0	0.16	400	EMVA250ADA471MJA0G			68	MN0	0.20	490	EMVA251GTR680MMN0S	
	1000	KE0	0.26	820	EMVA250A□□102MKE0S			400	4.7	KE0	0.25	120	EMVA401A□□4R7MKE0S
	2200	LN0	0.28	1450	EMVA250GTR222MLN0S				10	LH0	0.25	140	EMVA401GTR100MLH0S
	2200	MH0	0.28	1400	EMVA250GTR222MMH0S				22	LN0	0.25	280	EMVA401GTR220MLN0S
	3300	MN0	0.30	1800	EMVA250GTR332MMN0S				22	MH0	0.25	280	EMVA401GTR220MMH0S
	35	4.7	D55	0.14	18	EMVA350ADA4R7MD55G			33	MN0	0.25	350	EMVA401GTR330MMN0S
		10	D55	0.14	24	EMVA350ADA100MD55G			450	4.7	KE0	0.25	120
22		E55	0.14	41	EMVA350ADA220ME55G	10				LH0	0.25	140	EMVA451GTR100MLH0S
33		F55	0.14	54	EMVA350ADA330MF55G	22				LN0	0.25	280	EMVA451GTR220MLN0S
47		F60	0.14	64	EMVA350ADA470MF60G	22				MH0	0.25	280	EMVA451GTR220MMH0S
100		F80	0.14	120	EMVA350ADA101MF80G	33				MN0	0.25	350	EMVA451GTR330MMN0S

□ □ : Taping / Tray code