

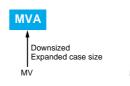
# Alchip™

• φ4 through φ18 case sizes are fully lined up

●Endurance : 2,000 hours at 85°C

- •Suitable to fit for downsized equipment
- ●Solvent-proof type except 100 to 450Vdc (see PRECAUTIONS AND GUIDELINES)
- ●RoHS Compliant

### **SPECIFICATIONS**

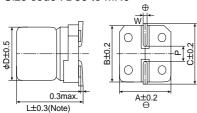


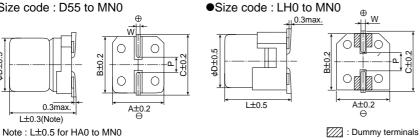


Items	Characteristics														
Category Temperature Range	-40 to +85℃														
Rated Voltage Range	4 to 450Vdc														
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)														
Leakage Current	Rated voltage (Vdc)		4 to 100V					160 to 450V							
	D55 to JA0	D55 to JA0 I=0.01CV or 3µA, whichever is greater (after 2 minutes) —													
	KE0 to MN0	NO I=0.03CV or 4μA, whichever is greater.(after 1 minutes)							inute) I=0.04CV+100µA max.(after 1 minute)						
	Where, I : Max. leakage current ( $\mu$ A), C : Nominal capacitance ( $\mu$ F), V : Rated voltage (V) (at 20°C)												(at 20℃)		
Dissipation Factor	Rated voltage (Vdc)			4V	6.3V	10V	16V	25V	35V	50V	63V	100V	160 to 250V	400 & 450V	<u> </u>
(tan∂)	tanδ (Max.)		D55 to JA0	0.42	0.35	0.30	0.26	0.16	0.14	0.12	0.12	0.12	_	_	<u> </u>
	,		KE0 to MN0	_	0.38	0.34	0.30		0.22	0.18	-		0.20	0.25	<u> </u>
		When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase. (at 20°C, 120Hz)												℃, 120Hz)	
Low Temperature Characteristics	Rated voltage (V <sub>dc</sub> )			4V	6.3V	10V	16V	25V	35V	50V	63V	100V	160 to 250V	400 & 450V	<u> </u>
(Max. Impedance Ratio)	D55 to JA0	` `	5℃)/Z(+20℃)	7	4	3	2	2	2	2	2	3	_	_	<u> </u>
(maxi impodumoo nado)		Z(-40°C)/Z(+20°C)		17	10	8	6	4	3	3	3	4	_	_	<u> </u>
	KE0 to MN0	_ `	5°C)/Z(+20°C)		5	4	3	2	2	2	2	2	3	6	. I
			)°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 2,000 hours at 85°C.														
				D55 to JA0				D55 to JA0		KE0 to MN0					
				4V & 6.3V				10 to 100V			6.3 to 450V				
	<u> </u>			he initial value				≤±20% of the initial value							
	DF (tanδ)				_	≦200% of the initial specified value									
	Leakage curre					tial 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 at 85°C														
	without voltage applied.														
				D55 to JA0				D55 to JA0		0 KE0 to MN0					
	Rated voltage			4V & 6.3V				10 to 100V 6.3 to 450V							
	ŭ			the initial value				≦±20% of the initial value							
	DF (tanδ)	≦200% of th	the initial specified value				≦200% of the initial specified value								
	Leakage curre	≦The initial	specifie	ed value	9	≦	The init	tial specified value							

# **◆DIMENSIONS** [mm]

●Terminal Code : A ●Size code: D55 to MN0

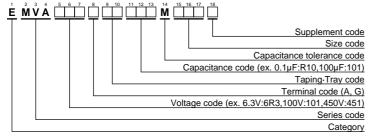




●Terminal Code : G

Size code	D	L	Α	В	C	W	Р
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
MN0	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	tan∂	Rated ripple current (mArms/ 85°C,120Hz)	Part No.	WV (Vdc)	Cap (μF)	Size code	tan∂	Rated ripple current (mArms/ 85°C,120Hz)	Part No.
	33	D55	0.42	25	EMVA4R0ADA330MD55G		150	HA0	0.14	210	EMVA350ADA151MHA0G
	47	D55	0.42	30	EMVA4R0ADA470MD55G		220	HA0	0.14	260	EMVA350ADA221MHA0G
ľ	100	E55	0.42	50	EMVA4R0ADA101ME55G	35	330	JA0	0.14	360	EMVA350ADA331MJA0G
4	220	F55	0.42	80	EMVA4R0ADA221MF55G	33	470	KE0	0.22	600	EMVA350A□□471MKE0S
	330	F80	0.42	135	EMVA4R0ADA331MF80G		1,000	LH0	0.22	1,100	EMVA350□□□102MLH0S
	470	F80	0.42	150	EMVA4R0ADA471MF80G		2,200	MN0	0.24	1,700	EMVA350□□□222MMN0S
	1,000	HA0	0.42	320	EMVA4R0ADA102MHA0G		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
ŀ	100 220	E55 F55	0.35	55 88	EMVA6R3ADA101ME55G EMVA6R3ADA221MF55G		22 33	F55 F80	0.12	47 70	EMVA500ADA220MF55G
ŀ	330	F80	0.35	135	EMVA6R3ADA331MF80G		47	F80	0.12	85	EMVA500ADA330MF80G EMVA500ADA470MF80G
ŀ	470	HA0	0.35	280	EMVA6R3ADA471MHA0G	50	100	HA0	0.12	190	EMVA500ADA101MHA0G
ŀ	680	HA0	0.35	290	EMVA6R3ADA681MHA0G	30	220	JA0	0.12	320	EMVA500ADA101MI1A0G
ŀ	820	HA0	0.35	320	EMVA6R3ADA821MHA0G		330	KE0	0.18	600	EMVA500ADD331MKE0S
6.3	1,000	JA0	0.35	430	EMVA6R3ADA102MJA0G		470	KG5	0.18	740	EMVA500ADD471MKG5S
"	1,500	JA0	0.35	480	EMVA6R3ADA152MJA0G		470	LH0	0.18	850	EMVA500□□□471MLH0S
ľ	2,200	KE0	0.40	890	EMVA6R3A□□222MKE0S		1,000	LN0	0.18	1,300	EMVA500□□□102MLN0S
ľ	3,300	KG5	0.42	1,000	EMVA6R3A□□332MKG5S		1,000	MN0	0.18	1,400	EMVA500□□□102MMN0S
	3,300	LH0	0.42	1,200	EMVA6R3□□□332MLH0S		0.10	D55	0.12	1.3	EMVA630ADAR10MD55G
	4,700	LH0	0.44	1,400	EMVA6R3□□□472MLH0S		0.22	D55	0.12	3.0	EMVA630ADAR22MD55G
	6,800	LN0	0.48	1,750	EMVA6R3□□□682MLN0S		0.33	D55	0.12	4.0	EMVA630ADAR33MD55G
	6,800	MH0	0.48	1,700	EMVA6R3□□□682MMH0S		0.47	D55	0.12	5.0	EMVA630ADAR47MD55G
	10,000	MN0	0.56	2,000	EMVA6R3□□□103MMN0S		1.0	D55	0.12	8.0	EMVA630ADA1R0MD55G
	22	D55	0.30	26	EMVA100ADA220MD55G		2.2	D55	0.12	12	EMVA630ADA2R2MD55G
-	33 47	D55	0.30	30 44	EMVA100ADA330MD55G		3.3 4.7	E55 E55	0.12	17 20	EMVA630ADA3R3ME55G
ŀ	100	E55 F55	0.30	70	EMVA100ADA470ME55G EMVA100ADA101MF55G		10	F55	0.12	32	EMVA630ADA4R7ME55G EMVA630ADA100MF55G
ŀ	150	F55	0.30	79	EMVA100ADA151MF55G		22	F80	0.12	60	EMVA630ADA220MF80G
ŀ	220	F80	0.30	130	EMVA100ADA131MI 33G	63	33	HA0	0.12	110	EMVA630ADA330MHA0G
	330	HA0	0.30	270	EMVA100ADA331MHA0G		47	HA0	0.12	130	EMVA630ADA470MHA0G
10	470	HA0	0.30	280	EMVA100ADA471MHA0G		56	JA0	0.12	160	EMVA630ADA560MJA0G
	1,000	JA0	0.30	430	EMVA100ADA102MJA0G		68	JA0	0.12	170	EMVA630ADA680MJA0G
	2,200	KE0	0.36	960	EMVA100A□□222MKE0S		100	KE0	0.14	380	EMVA630A□□101MKE0S
	3,300	LH0	0.38	1,300	EMVA100□□□332MLH0S		220	KE0	0.14	580	EMVA630A□□221MKE0S
	4,700	LN0	0.40	1,550	EMVA100□□□472MLN0S		330	KG5	0.14	720	EMVA630A□□331MKG5S
	4,700	MH0	0.40	1,600	EMVA100□□□472MMH0S		330	LH0	0.14	820	EMVA630□□□331MLH0S
	6,800	MN0	0.44	1,850	EMVA100□□□682MMN0S		470	LH0	0.14	950	EMVA630□□□471MLH0S
	22	D55	0.26	26	EMVA160ADA220MD55G		470	MH0	0.14	1,000	EMVA630 DD 471MMH0S
	33 47	E55	0.26	37 44	EMVA160ADA330ME55G		22	HA0	0.12	90	EMVA101ADA220MHA0G
ŀ	100	E55 F55	0.26	70	EMVA160ADA470ME55G EMVA160ADA101MF55G		33 68	JA0 KE0	0.12	120 380	EMVA101ADA330MJA0G EMVA101ADD680MKE0S
ŀ	150	F80	0.26	110	EMVA160ADA151MF80G	100	100	KE0	0.10	440	EMVA101ADD101MKE0S
ŀ	220	F80	0.26	130	EMVA160ADA221MF80G	1.00	220	LN0	0.10	850	EMVA101□□□221MLN0S
	330	HA0	0.26	270	EMVA160ADA331MHA0G		220	MH0	0.10	800	EMVA101□□□221MMH0S
16	470	HA0	0.26	280	EMVA160ADA471MHA0G		330	MN0	0.10	1,000	EMVA101□□□331MMN0S
l	680	JA0	0.26	380	EMVA160ADA681MJA0G		47	KG5	0.20	370	EMVA161A□□470MKG5S
	1,000	KE0	0.30	710	EMVA160A□□102MKE0S	160	68	LH0	0.20	500	EMVA161□□□680MLH0S
	2,200	LH0	0.32	1,150	EMVA160□□□222MLH0S	100	100	LN0	0.20	590	EMVA161□□□101MLN0S
	3,300	LN0	0.34	1,450	EMVA160□□□332MLN0S		100	MH0	0.20	590	EMVA161□□□101MMH0S
	3,300	MH0	0.34	1,450	EMVA160□□□332MMH0S		22	KE0	0.20	240	EMVA201ADD220MKE0S
	4,700	MN0	0.36	1,750	EMVA160□□□472MMN0S		33	KG5	0.20	310	EMVA201ADD330MKG5S
ŀ	10 22	D55 E55	0.16	24 41	EMVA250ADA100MD55G EMVA250ADA220ME55G	200	47 68	LH0 LN0	0.20	420 510	EMVA201□□□470MLH0S EMVA201□□□680MLN0S
ŀ	33	E55	0.16	47	EMVA250ADA330ME55G		68	MH0	0.20	510	EMVA20100000000000000000000000000000000000
ŀ	47	F55	0.16	60	EMVA250ADA470MF55G		100	MN0	0.20	590	EMVA201□□□101MMN0S
ŀ	56	F55	0.16	66	EMVA250ADA560MF55G		10	KE0	0.20	150	EMVA251ADD100MKE0S
25	100	F80	0.16	120	EMVA250ADA101MF80G		22	KG5	0.20	240	EMVA251ADD220MKG5S
	150	HA0	0.16	210	EMVA250ADA151MHA0G	050	33	LH0	0.20	340	EMVA251□□□330MLH0S
	220	HA0	0.16	260	EMVA250ADA221MHA0G	250	47	LN0	0.20	420	EMVA251□□□470MLN0S
	330	HA0	0.16	300	EMVA250ADA331MHA0G		47	MH0	0.20	420	EMVA251□□□470MMH0S
	470	JA0	0.16	400	EMVA250ADA471MJA0G		68	MN0	0.20	490	EMVA251□□□680MMN0S
	1,000	KE0	0.26	820	EMVA250A□□102MKE0S		4.7	KE0	0.25	120	EMVA401A□□4R7MKE0S
	2,200	LN0	0.28	1,450	EMVA250□□□222MLN0S		10	LH0	0.25	140	EMVA401□□□100MLH0S
	2,200	MH0	0.28	1,400	EMVA250 DD 222MMH0S	400	22	LN0	0.25	280	EMVA401□□□220MLN0S
	3,300	MN0	0.30	1,800	EMVA250□□□332MMN0S		22	MH0	0.25	280	EMVA401□□□220MMH0S
	4.7	D55	0.14	18	EMVA350ADA4R7MD55G		33	MN0	0.25	350	EMVA401□□□330MMN0S
	10	D55	0.14	24	EMVA350ADA100MD55G		4.7	KE0	0.25	120	EMVA451ADD4R7MKE0S
35	22 33	E55 F55	0.14	41 54	EMVA350ADA220ME55G EMVA350ADA330MF55G	450	10 22	LH0 LN0	0.25	140 280	EMVA451□□□100MLH0S EMVA451□□□220MLN0S
	47	F60	0.14	64	EMVA350ADA330MF55G EMVA350ADA470MF60G		33	MN0	0.25	350	EMVA451\(\square\)\(\square\)\(\square\)
								IVIIIVU	0.20		

□□: Taping / Tray code