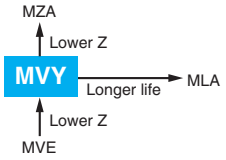
Alchip™-MVY Upgrade! Series

- Endurance : 1,000 to 5,000 hours at 105℃
- Low impedance
- For digital equipment, especially DC-DC converters
- Solvent resistant type except 80 & 100Vdc (see PRECAUTIONS AND GUIDELINES)
- Vibration resistant structure
- RoHS2 Compliant
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.



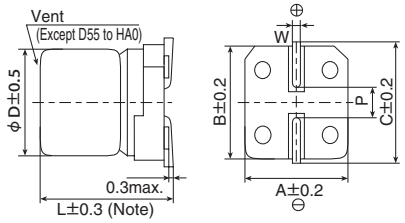
◆SPECIFICATIONS

Items	Characteristics											
Category Temperature Range	-55 to +105℃ (6.3 to 63Vdc) -40 to +105℃ (80 & 100Vdc)											
Rated Voltage Range	6.3 to 100Vdc											
Capacitance Tolerance	±20% (M)											(at 20℃, 120Hz)
Leakage Current	I=0.01CV or 3μA, whichever is greater. Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)											(at 20℃ after 2 minutes)
Dissipation Factor (tan δ)	Rated voltage (Vdc)		6.3V	10V	16V	25V	35V	50V	63V	80V	100V	When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase.
	tan δ (Max.)	D55 to F80	0.24	0.20	0.16	0.14	0.12	0.12	—	—	—	
		HA0 & JA0	0.28	0.24	0.20	0.16	0.14	0.12	—	—	—	
		KE0 to MN0	0.26	0.22	0.18	0.16	0.14	0.12	0.14	0.10	0.10	(at 20℃, 120Hz)
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (Vdc)		6.3V	10V	16V	25V	35V	50V	63V	80V	100V	
	Z(-40℃)/Z(+20℃)	D55 to JA0	3	2	2	2	2	2	—	—	—	
		KE0 to MN0	10	8	6	4	3	3	3	3	3	(at 120Hz)
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage is applied for specified ime at 105℃.											
	Time	D55 to F80 : 1,000 hours HA0 & JA0 : 2,000 hours KE0 to MN0 : 5,000 hours										
	Rated voltage	6.3Vdc (D55 to JA0)	6.3 to 100Vdc									
	Capacitance change	≦±30% of the initial value	≦±20% of the initial value									
	D.F. (tan δ)	≦300% of the initial specified value	≦200% of the initial specified value									
	Leakage current	≦The initial specified value	≦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 at 105℃ 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	6.3Vdc (D55 to JA0)	6.3 to 100Vdc									
	Capacitance change	≦±30% of the initial value	≦±20% of the initial value									
	D.F. (tan δ)	≦300% of the initial specified value	≦200% of the initial specified value									
	Leakage current	≦The initial specified value	≦The initial specified value									

◆DIMENSIONS [mm]

● Terminal Code : A

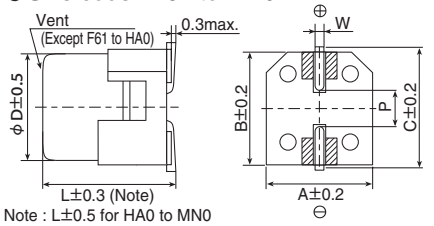
● Size code : D55 to MN0



Note : L±0.5 for HA0 to MN0

● Terminal Code : G(Vibration resistant structure)

● Size code : F61 to MN0

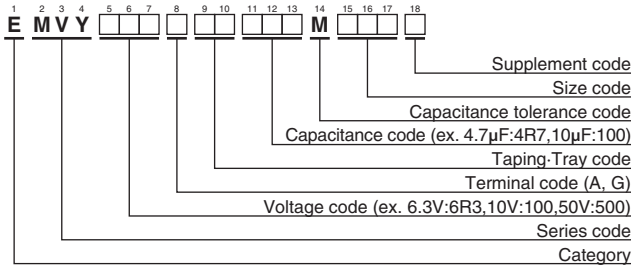


Note : L±0.5 for HA0 to MN0

▨ : Dummy terminals

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
F61	6.3	5.8	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

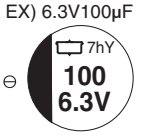


Please refer to "Product code guide (surface mount type)"

◆MARKING

D55 to JA0

EX) 6.3V100μF



KE0 to MN0

EX) 16V1,000μF

Alchip™-MVY Upgrade! Series

◆STANDARD RATINGS

is not solvent resistant (80/100V$_{dc}$).

WV (V$_{dc}$)	Cap (μF)	Size code	Impedance (Ω max./20℃, 100kHz)	Rated ripple current (mArms/105℃, 100kHz)	Part No.
6.3	22	D55	3.0	60	EMVY6R3ARA220MD55G
	33	E55	1.8	95	EMVY6R3ARA330ME55G
	47	E55	1.8	95	EMVY6R3ARA470ME55G
	100	F55	1.0	140	EMVY6R3ARA101MF55G
	220	F55	1.0	140	EMVY6R3ARA221MF55G
	330	F80	0.34	280	EMVY6R3□RA331MF80G
	470	HA0	0.30	450	EMVY6R3□RA471MHA0G
	680	HA0	0.30	450	EMVY6R3□RA681MHA0G
	1,000	HA0	0.30	450	EMVY6R3□RA102MHA0G
	1,500	JA0	0.15	670	EMVY6R3□RA152MJA0G
	2,200	KE0	0.070	820	EMVY6R3□RA222MKE0S
	2,200	LH0	0.054	1,260	EMVY6R3□RA222MLH0S
	3,300	KG5	0.060	950	EMVY6R3□RA332MKG5S
	3,300	MH0	0.054	1,350	EMVY6R3□RA332MMH0S
	4,700	LN0	0.038	1,630	EMVY6R3□RA472MLN0S
	4,700	MH0	0.054	1,350	EMVY6R3□RA472MMH0S
	6,800	LN0	0.038	1,630	EMVY6R3□RA682MLN0S
	6,800	MN0	0.038	1,750	EMVY6R3□RA682MMN0S
	8,200	MN0	0.038	1,750	EMVY6R3□RA822MMN0S
10	22	E55	1.8	95	EMVY100ARA220ME55G
	33	E55	1.8	95	EMVY100ARA330ME55G
	47	F55	1.0	140	EMVY100ARA470MF55G
	100	F55	1.0	140	EMVY100ARA101MF55G
	220	F80	0.34	280	EMVY100□RA221MF80G
	330	HA0	0.30	450	EMVY100□RA331MHA0G
	470	HA0	0.30	450	EMVY100□RA471MHA0G
	680	JA0	0.15	670	EMVY100□RA681MJA0G
	1,000	JA0	0.15	670	EMVY100□RA102MJA0G
	2,200	KG5	0.060	950	EMVY100□RA222MKG5S
	2,200	LH0	0.054	1,260	EMVY100□RA222MLH0S
	3,300	LH0	0.054	1,260	EMVY100□RA332MLH0S
	3,300	MH0	0.054	1,350	EMVY100□RA332MMH0S
	4,700	LN0	0.038	1,630	EMVY100□RA472MLN0S
	4,700	MN0	0.038	1,750	EMVY100□RA472MMN0S
	6,800	MN0	0.038	1,750	EMVY100□RA682MMN0S
16	10	D55	3.0	60	EMVY160ARA100MD55G
	22	E55	1.8	95	EMVY160ARA220ME55G
	33	F55	1.0	140	EMVY160ARA330MF55G
	47	F55	1.0	140	EMVY160ARA470MF55G
	100	F55	1.0	140	EMVY160ARA101MF55G
	220	F80	0.34	280	EMVY160□RA221MF80G
	330	HA0	0.30	450	EMVY160□RA331MHA0G
	470	HA0	0.30	450	EMVY160□RA471MHA0G
	680	JA0	0.15	670	EMVY160□RA681MJA0G
	1,000	KE0	0.070	820	EMVY160□RA102MKE0S
	1,000	LH0	0.054	1,260	EMVY160□RA102MLH0S
	2,200	LH0	0.054	1,260	EMVY160□RA222MLH0S
	2,200	MH0	0.054	1,350	EMVY160□RA222MMH0S
	3,300	LN0	0.038	1,630	EMVY160□RA332MLN0S
	3,300	MH0	0.054	1,350	EMVY160□RA332MMH0S
	4,700	MN0	0.038	1,750	EMVY160□RA472MMN0S
25	10	E55	1.8	95	EMVY250ARA100ME55G
	22	F55	1.0	140	EMVY250ARA220MF55G
	33	F55	1.0	140	EMVY250ARA330MF55G
	47	F55	1.0	140	EMVY250ARA470MF55G
	100	F80	0.34	280	EMVY250□RA101MF80G
	220	HA0	0.30	450	EMVY250□RA221MHA0G
25	330	HA0	0.30	450	EMVY250□RA331MHA0G
	470	JA0	0.15	670	EMVY250□RA471MJA0G
	1,000	LH0	0.054	1,260	EMVY250□RA102MLH0S
	1,000	MH0	0.054	1,350	EMVY250□RA102MMH0S
	2,200	LN0	0.038	1,630	EMVY250□RA222MLN0S
	2,200	MN0	0.038	1,750	EMVY250□RA222MMN0S
	3,300	MN0	0.038	1,750	EMVY250□RA332MMN0S
35	4.7	D55	3.0	60	EMVY350ARA4R7MD55G
	10	E55	1.8	95	EMVY350ARA100ME55G
	22	F55	1.0	140	EMVY350ARA220MF55G
	33	F55	1.0	140	EMVY350ARA330MF55G
	47	F55	1.0	140	EMVY350ARA470MF55G
	47	F61	1.0	140	EMVY350□RA470MF61G
	68	F80	0.34	280	EMVY350□RA680MF80G
	100	HA0	0.30	450	EMVY350□RA101MHA0G
	220	HA0	0.30	450	EMVY350□RA221MHA0G
	330	JA0	0.15	670	EMVY350□RA331MJA0G
	470	KE0	0.070	820	EMVY350□RA471MKE0S
	470	LH0	0.054	1,260	EMVY350□RA471MLH0S
	1,000	LH0	0.054	1,260	EMVY350□RA102MLH0S
	1,000	MH0	0.054	1,350	EMVY350□RA102MMH0S
	2,200	MN0	0.038	1,750	EMVY350□RA222MMN0S
50	1.0	D55	5.0	30	EMVY500ARA1R0MD55G
	2.2	D55	5.0	30	EMVY500ARA2R2MD55G
	3.3	D55	5.0	30	EMVY500ARA3R3MD55G
	4.7	E55	3.0	50	EMVY500ARA4R7ME55G
	10	F55	2.0	70	EMVY500ARA100MF55G
	22	F55	2.0	70	EMVY500ARA220MF55G
	33	F80	0.60	170	EMVY500□RA330MF80G
	47	F80	0.60	170	EMVY500□RA470MF80G
	68	HA0	0.60	300	EMVY500□RA680MHA0G
	100	HA0	0.60	300	EMVY500□RA101MHA0G
	220	JA0	0.30	500	EMVY500□RA221MJA0G
	330	KE0	0.11	650	EMVY500□RA331MKE0S
	330	LH0	0.087	900	EMVY500□RA331MLH0S
	470	LH0	0.087	900	EMVY500□RA471MLH0S
	470	MH0	0.087	1,060	EMVY500□RA471MMH0S
	1,000	MN0	0.050	1,520	EMVY500□RA102MMN0S
63	68	KE0	0.19	500	EMVY630□RA680MKE0S
	100	KE0	0.19	500	EMVY630□RA101MKE0S
	220	KE0	0.19	500	EMVY630□RA221MKE0S
	220	LH0	0.12	845	EMVY630□RA221MLH0S
	330	LH0	0.12	845	EMVY630□RA331MLH0S
	330	MH0	0.12	905	EMVY630□RA331MMH0S
	470	LN0	0.085	1,100	EMVY630□RA471MLN0S
	470	MH0	0.12	905	EMVY630□RA471MMH0S
80	100	KE0	0.33	450	EMVY800□RA101MKE0S
	220	KG5	0.26	550	EMVY800□RA221MKG5S
	330	LN0	0.16	900	EMVY800□RA331MLN0S
	330	MH0	0.24	700	EMVY800□RA331MMH0S
	470	MN0	0.16	950	EMVY800□RA471MMN0S
100	47	KE0	0.33	450	EMVY101□RA470MKE0S
	68	KE0	0.33	450	EMVY101□RA680MKE0S
	100	KE0	0.33	450	EMVY101□RA101MKE0S
	100	LH0	0.24	650	EMVY101□RA101MLH0S
	220	LN0	0.16	900	EMVY101□RA221MLN0S
	220	MH0	0.24	700	EMVY101□RA221MMH0S
	330	MN0	0.16	950	EMVY101□RA331MMN0S

□ : Enter the appropriate terminal code.

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

Size code	Capacitance(μF) \ Frequency(Hz)	120	1k	10k	100k
D55 to JA0	1.0 to 4.7	0.35	0.70	0.90	1.00
	10 to 100	0.40	0.75	0.90	1.00
	220 to 470	0.50	0.85	0.94	1.00
	680 to 1,500	0.60	0.87	0.95	1.00
KE0 to MN0	47 to 100	0.40	0.75	0.90	1.00
	220 to 470	0.50	0.85	0.94	1.00
	1,000	0.60	0.87	0.95	1.00
	2,200 to 3,300	0.75	0.90	0.95	1.00
	4,700 to 8,200	0.85	0.95	0.98	1.00

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5℃ rise. When long life performance is required in actual use, the rms ripple current has to be reduced.