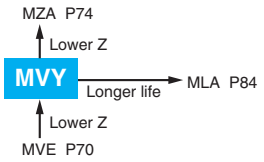
Alchip™-MVY Series

- 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
- **RoHS Compliant**

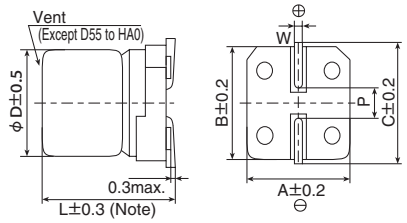


◆SPECIFICATIONS

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 (tanδ)	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. (at 20℃, 120Hz)
	tanδ (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	
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 time 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. (tanδ)	≦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. (tanδ)	≦300% of the initial specified value	≦200% of the initial specified value									
	Leakage current	≦The initial specified value	≦The initial specified value									

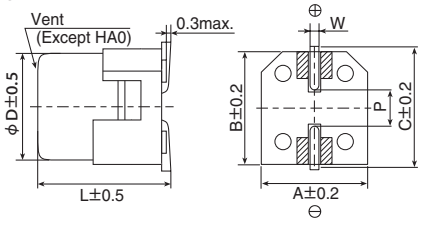
◆DIMENSIONS [mm]

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



Note : L±0.5 for HA0 to MN0

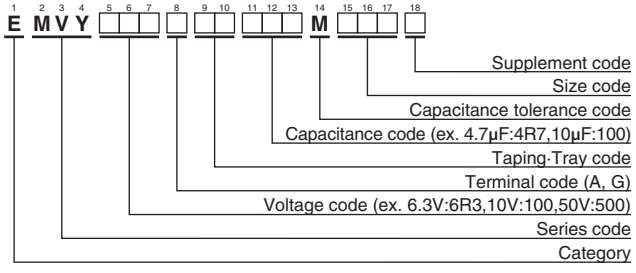
- Terminal Code : G(Vibration resistant structure)
- Size code : HA0 to MN0



: 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

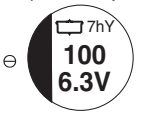
◆PART NUMBERING SYSTEM



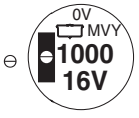
Please refer to "Product code guide (surface mount type)"

◆MARKING

D55 to JA0
EX) 6.3V100μF



KE0 to MN0
EX) 16V1,000μF



Alchip™-MVY Series

◆STANDARD RATINGS

is not solvent resistant (80/100Vdc).

WV (Vdc)	Cap (μF)	Size code	Impedance (Ωmax/20℃, 100kHz)	Rated ripple current (mArms/105℃, 100kHz)	Part No.
6.3	22	D55	3.0	60	EMVY6R3ADA220MD55G
	33	E55	1.8	95	EMVY6R3ADA330ME55G
	47	E55	1.8	95	EMVY6R3ADA470ME55G
	100	F55	1.0	140	EMVY6R3ADA101MF55G
	220	F55	1.0	140	EMVY6R3ADA221MF55G
	330	F80	0.34	280	EMVY6R3ADA331MF80G
	470	HA0	0.30	450	EMVY6R3ADA471MHA0G
	680	HA0	0.30	450	EMVY6R3ADA681MHA0G
	1,000	HA0	0.30	450	EMVY6R3ADA102MHA0G
	1,500	JA0	0.15	670	EMVY6R3ADA152MJA0G
	2,200	KE0	0.070	820	EMVY6R3ARA222MKE0S
	2,200	LH0	0.054	1,260	EMVY6R3□DA222MLH0S
	3,300	KG5	0.060	950	EMVY6R3ARA332MKG5S
	3,300	MH0	0.054	1,350	EMVY6R3□DA332MMH0S
	4,700	LN0	0.038	1,630	EMVY6R3□DA472MLN0S
	4,700	MH0	0.054	1,350	EMVY6R3□DA472MMH0S
	6,800	LN0	0.038	1,630	EMVY6R3□DA682MLN0S
	6,800	MN0	0.038	1,750	EMVY6R3□DA682MMN0S
	8,200	MN0	0.038	1,750	EMVY6R3□DA822MMN0S
10	22	E55	1.8	95	EMVY100ADA220ME55G
	33	E55	1.8	95	EMVY100ADA330ME55G
	47	F55	1.0	140	EMVY100ADA470MF55G
	100	F55	1.0	140	EMVY100ADA101MF55G
	220	F80	0.34	280	EMVY100ADA221MF80G
	330	HA0	0.30	450	EMVY100ADA331MHA0G
	470	HA0	0.30	450	EMVY100ADA471MHA0G
	680	JA0	0.15	670	EMVY100ADA681MJA0G
	1,000	JA0	0.15	670	EMVY100ADA102MJA0G
	2,200	KG5	0.060	950	EMVY100ARA222MKG5S
	2,200	LH0	0.054	1,260	EMVY100□DA222MLH0S
	3,300	LH0	0.054	1,260	EMVY100□DA332MLH0S
	3,300	MH0	0.054	1,350	EMVY100□DA332MMH0S
	4,700	LN0	0.038	1,630	EMVY100□DA472MLN0S
	4,700	MN0	0.038	1,750	EMVY100□DA472MMN0S
	6,800	MN0	0.038	1,750	EMVY100□DA682MMN0S
16	10	D55	3.0	60	EMVY160ADA100MD55G
	22	E55	1.8	95	EMVY160ADA220ME55G
	33	F55	1.0	140	EMVY160ADA330MF55G
	47	F55	1.0	140	EMVY160ADA470MF55G
	100	F55	1.0	140	EMVY160ADA101MF55G
	220	F80	0.34	280	EMVY160ADA221MF80G
	330	HA0	0.30	450	EMVY160ADA331MHA0G
	470	HA0	0.30	450	EMVY160ADA471MHA0G
	680	JA0	0.15	670	EMVY160ADA681MJA0G
	1,000	KE0	0.070	820	EMVY160ARA102MKE0S
	1,000	LH0	0.054	1,260	EMVY160□DA102MLH0S
	2,200	LH0	0.054	1,260	EMVY160□DA222MLH0S
	2,200	MH0	0.054	1,350	EMVY160□DA222MMH0S
	3,300	LN0	0.038	1,630	EMVY160□DA332MLN0S
	3,300	MH0	0.054	1,350	EMVY160□DA332MMH0S
	4,700	MN0	0.038	1,750	EMVY160□DA472MMN0S
25	10	E55	1.8	95	EMVY250ADA100ME55G
	22	F55	1.0	140	EMVY250ADA220MF55G
	33	F55	1.0	140	EMVY250ADA330MF55G
	47	F55	1.0	140	EMVY250ADA470MF55G
	100	F80	0.34	280	EMVY250ADA101MF80G
	220	HA0	0.30	450	EMVY250ADA221MHA0G
25	330	HA0	0.30	450	EMVY250ADA331MHA0G
	470	JA0	0.15	670	EMVY250ADA471MJA0G
	1,000	LH0	0.054	1,260	EMVY250□DA102MLH0S
	1,000	MH0	0.054	1,350	EMVY250□DA102MMH0S
	2,200	LN0	0.038	1,630	EMVY250□DA222MLN0S
	2,200	MN0	0.038	1,750	EMVY250□DA222MMN0S
	3,300	MN0	0.038	1,750	EMVY250□DA332MMN0S
35	4.7	D55	3.0	60	EMVY350ADA4R7MD55G
	10	E55	1.8	95	EMVY350ADA100ME55G
	22	F55	1.0	140	EMVY350ADA220MF55G
	33	F55	1.0	140	EMVY350ADA330MF55G
	47	F55	1.0	140	EMVY350ADA470MF55G
	47	F61	1.0	140	EMVY350ADA470MF61G
	68	F80	0.34	280	EMVY350ADA680MF80G
	100	HA0	0.30	450	EMVY350ADA101MHA0G
	220	HA0	0.30	450	EMVY350ADA221MHA0G
	330	JA0	0.15	670	EMVY350ADA331MJA0G
	470	KE0	0.070	820	EMVY350ARA471MKE0S
	470	LH0	0.054	1,260	EMVY350□DA471MLH0S
	1,000	LH0	0.054	1,260	EMVY350□DA102MLH0S
	1,000	MH0	0.054	1,350	EMVY350□DA102MMH0S
	2,200	MN0	0.038	1,750	EMVY350□DA222MMN0S
50	1.0	D55	5.0	30	EMVY500ADA1R0MD55G
	2.2	D55	5.0	30	EMVY500ADA2R2MD55G
	3.3	D55	5.0	30	EMVY500ADA3R3MD55G
	4.7	E55	3.0	50	EMVY500ADA4R7ME55G
	10	F55	2.0	70	EMVY500ADA100MF55G
	22	F55	2.0	70	EMVY500ADA220MF55G
	33	F80	0.60	170	EMVY500ADA330MF80G
	47	F80	0.60	170	EMVY500ADA470MF80G
	68	HA0	0.60	300	EMVY500ADA680MHA0G
	100	HA0	0.60	300	EMVY500ADA101MHA0G
	220	JA0	0.30	500	EMVY500ADA221MJA0G
	330	KE0	0.11	650	EMVY500ARA331MKE0S
	330	LH0	0.087	900	EMVY500□DA331MLH0S
	470	LH0	0.087	900	EMVY500□DA471MLH0S
	470	MH0	0.087	1,060	EMVY500□DA471MMH0S
	1,000	MN0	0.050	1,520	EMVY500□DA102MMN0S
63	68	KE0	0.19	500	EMVY630ARA680MKE0S
	100	KE0	0.19	500	EMVY630ARA101MKE0S
	220	KE0	0.19	500	EMVY630ARA221MKE0S
	220	LH0	0.12	845	EMVY630□DA221MLH0S
	330	LH0	0.12	845	EMVY630□DA331MLH0S
	330	MH0	0.12	905	EMVY630□DA331MMH0S
	470	LN0	0.085	1,100	EMVY630□DA471MLN0S
	470	MH0	0.12	905	EMVY630□DA471MMH0S
80	100	KE0	0.33	450	EMVY800ARA101MKE0S
	220	KG5	0.26	550	EMVY800ARA221MKG5S
	330	LN0	0.16	900	EMVY800□DA331MLN0S
	330	MH0	0.24	700	EMVY800□DA331MMH0S
	470	MN0	0.16	950	EMVY800□DA471MMN0S
100	47	KE0	0.33	450	EMVY101ARA470MKE0S
	68	KE0	0.33	450	EMVY101ARA680MKE0S
	100	KE0	0.33	450	EMVY101ARA101MKE0S
	100	LH0	0.24	650	EMVY101□DA101MLH0S
	220	LN0	0.16	900	EMVY101□DA221MLN0S
	220	MH0	0.24	700	EMVY101□DA221MMH0S
	330	MN0	0.16	950	EMVY101□DA331MMN0S

□ : Enter the appropriate terminal code.

◆RATED RIPPLE CURRENT MULTIPLIERS

◉Frequency Multipliers

Size code	Frequency(Hz) / Capacitance(μF)	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.