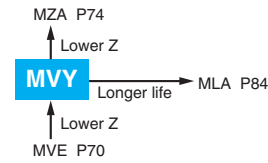


Alchip™-MVY Series

- Endurance : 1,000 to 5,000 hours at 105°C
- Low impedance
- For digital equipment, especially DC-DC converters
- Solvent resistant type except 80 & 100V_{dc} (see PRECAUTIONS AND GUIDELINES)
- Vibration resistant structure
- RoHS Compliant

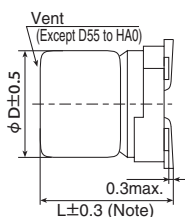


SPECIFICATIONS

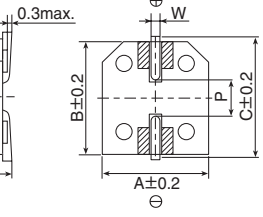
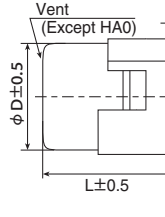
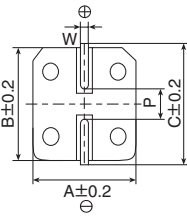
Items	Characteristics											
Category	-55 to +105°C (6.3 to 63V _{dc}) -40 to +105°C (80 & 100V _{dc})											
Temperature Range												
Rated Voltage Range	6.3 to 100V _{dc}											
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)											
Leakage Current	I=0.01CV or 3μA, whichever is greater. Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 2 minutes)											
Dissipation Factor (tanδ)	Rated voltage (V _{dc})	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°C, 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 (V _{dc})	6.3V	10V	16V	25V	35V	50V	63V	80V	100V	(at 120Hz)	
	Z(-40°C)/Z(+20°C)											
		D55 to JA0	3	2	2	2	2	—	—	—		
		KE0 to MN0	10	8	6	4	3	3	3	3		
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for specified time at 105°C.											
	Time	D55 to F80 : 1,000 hours HA0 & JA0 : 2,000 hours KE0 to MN0 : 5,000 hours										
	Rated voltage	6.3V _{dc} (D55 to JA0)					6.3 to 100V _{dc}					
	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°C after exposing them for 1,000 hours at 105°C 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	6.3V _{dc} (D55 to JA0)					6.3 to 100V _{dc}					
	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
- Terminal Code : G (Vibration resistant structure)
- Size code : HA0 to MN0



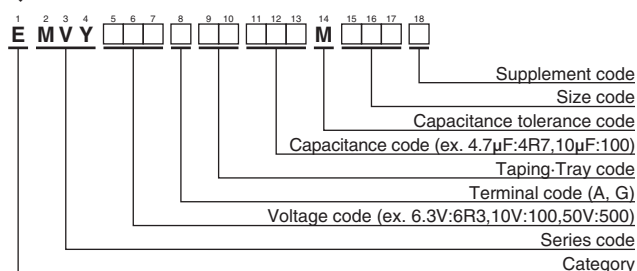
Note : L±0.5 for HA0 to MN0



▨ : Dummy terminals

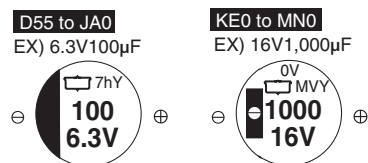
Size code	D	L	A	B	C	W	P
D55	4	5.2	4.3	4.3	5.1	0.5 to 0.8	1.0
E55	5	5.2	5.3	5.3	5.9	0.5 to 0.8	1.4
F55	6.3	5.2	6.6	6.6	7.2	0.5 to 0.8	1.9
F61	6.3	5.8	6.6	6.6	7.2	0.5 to 0.8	1.9
F80	6.3	7.7	6.6	6.6	7.2	0.5 to 0.8	1.9
HA0	8	10.0	8.3	8.3	9.0	0.7 to 1.1	3.1
JA0	10	10.0	10.3	10.3	11.0	0.7 to 1.1	4.5
KE0	12.5	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



◆STANDARD RATINGS

□ is not solvent resistant (80/100V_{dc}).

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