MVG Series

• 85℃ 1,000～2,000Hrs assured.

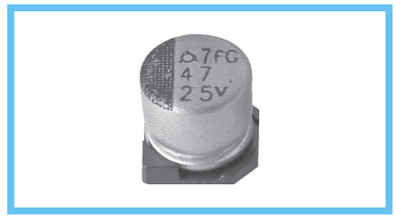
Solvent-proof

WV ≦ 63Vdc

- Vertical SMD Type.
- For CD/DVD-ROM, Navigation, LED MT/TV.
- RoHS compliant.
- Halogen-free capacitors are also available.

MV → MVG

Downsized



SPECIFICATIONS

Item	Characteristics		
Rated Voltage Range	4 ～ 450 Vdc		
Operating Temperature Range	-40 ～ +85℃		
Capacitance Tolerance	±20% (M)		(at 20℃, 120Hz)
Leakage Current	Rated Volatag(Vdc)	4～100	160～450
	Max. leakage current(μA)	0.01CV (μA) or 3μA, whichever is greater. (at 20℃, 2 minutes)	0.04CV+100(μA) (at 20℃, 1 minute)
	Where, C:Nominal capacitance(μF), V:Rated voltage(Vdc)		

Dissipation Factor (Tanδ)

Rated Voltage(Vdc)	4	6.3	10	16	25～50	63～100	160～250	400～450
Tanδ(Max.)	0.42	0.40	0.30	0.20	0.15	0.12	0.20	0.25

(at 20℃, 120Hz)

Temperature Characteristics (Max. Impedance ratio)

Rated Voltage(Vdc)	4	6.3	10	16	25	35～50	63～100	160～250	400～450
Z(-25℃)/Z(+20℃)	7	4	3	2	2	2	3	3	6
Z(-40℃)/Z(+20℃)	15	10	8	6	4	3	4	6	10

(at 120Hz)

Load Life

The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage is applied for 2,000 hours at 85℃. (where, 1,000 hours for ø3)

Rated Voltage(Vdc)	4 ～ 6.3	10 ～ 100	160～450
Capacitance change	≦±30% of the initial value	≦±25% of the initial value	≦±20% of the initial value
Tanδ	≦ 300% of the initial specified value		≦ 200% of the initial specified value
Leakage Current	≦ 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 85℃ without voltage applied. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes, at least 24 hours and not more than 48 hours before the measurements. (where, 500 hours for ø3)

Rated Voltage(Vdc)	4 ～ 6.3	10 ～ 100	160～450
Capacitance change	≦±30% of the initial value	≦±25% of the initial value	≦±20% of the initial value
Tanδ	≦ 300% of the initial specified value		≦ 200% of the initial specified value
Leakage Current	≦ The initial specified value		

Others

Satisfied characteristics KS C IEC 60384-4

PART NUMBERING SYSTEM

MVG 16 VC 22 M D56 TP

- TP: With tape
- D56: Case code
- M: Capacitance tolerance(±20%)
- 22: Nominal capacitance code (ex. 0.1μF:R1, 1.0μF:1, 4.7μF:4R7, 10μF:10)
- VC: Lead type
- 16: Rated voltage
- MVG: Series name

RATED RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Size code	Cap.(μF) \ Freq.(Hz)	120	1K	10K	100K
B55～J10	0.1 ～ 1.0	1.00	1.50	1.75	1.80
	2.2 ～ 10	1.00	1.30	1.40	1.50
	22 ～ 1,500	1.00	1.05	1.08	1.08
K14～M22	4.7	1.00	1.75	2.30	2.50
	10 ～ 68	1.00	1.50	1.75	1.80
	100 ～ 1,000	1.00	1.30	1.40	1.50
	1,500 ～ 10,000	1.00	1.05	1.08	1.08

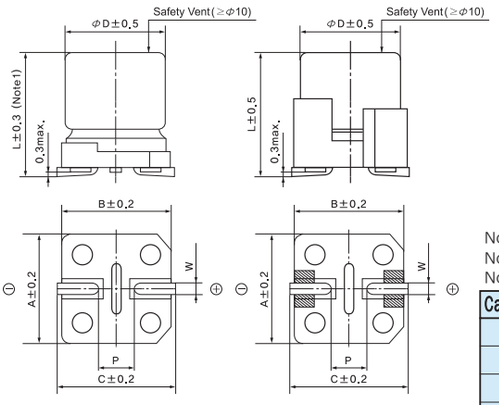
DIMENSIONS OF MVG Series

Unit(mm)

DIMENSIONS

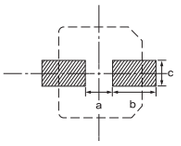
● Vibration Resistance

〈Size code:B55～M22〉 〈Size code:H10～M22〉



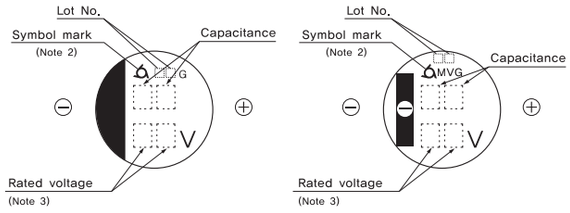
▨ : Dummy terminals

Recommended Solder land on PC board



▨ : Solder land on PC board

MARKING



〈B55 ～ J10〉 〈K14～M22〉

Note 1 : L±0.5 for 8×6.3(H63) ～ 18×21.5(M22)
Note 2 : 3×5.2(B55), 4×5.3(D56), 5×5.3(E56) is excluded symbol mark.
Note 3 : 6.3WV is marked by 6V.

Case code	ØD	L	A	B	C	W	P	a	b	c	a	b	c
B55	3	5.2	3.3	3.3	3.7	0.45-0.75	0.8	0.8	2.2	1.6			
D56	4	5.3	4.3	4.3	5.1	0.5-0.8	1.0	1.0	2.6	1.6			
E56	5	5.3	5.3	5.3	5.9	0.5-0.8	1.4	1.4	3.0	1.6			
F56	6.3	5.3	6.6	6.6	7.2	0.5-0.8	1.9	1.9	3.5	1.6			
F60	6.3	5.7	6.6	6.6	7.2	0.5-0.8	1.9	1.9	3.5	1.6			
F80	6.3	7.7	6.6	6.6	7.2	0.5-0.8	1.9	1.9	3.5	1.6			
H63	8	6.3	8.3	8.3	9.0	0.5-0.8	2.3	2.3	4.5	1.6			
H10	8	10	8.3	8.3	9.0	0.7-1.1	3.1	3.1	4.2	2.2	3.1	4.2	3.5
J10	10	10	10.3	10.3	11.0	0.7-1.1	4.5	4.5	4.4	2.2	4.5	4.4	3.5
K14	12.5	13.5	13.0	13.0	13.7	1.0-1.3	4.2	4.0	5.7	2.5	3.4	6.3	9.3
L17	16	16.5	17.0	17.0	18.0	1.0-1.3	6.5	6.0	6.9	2.5	4.7	7.8	9.6
L22	16	21.5	17.0	17.0	18.0	1.0-1.3	6.5	6.0	6.9	2.5			
M17	18	16.5	19.0	19.0	20.0	1.0-1.3	6.5	6.0	7.9	2.5	4.7	8.8	9.6
M22	18	21.5	19.0	19.0	20.0	1.0-1.3	6.5	6.0	7.9	2.5			

● Vibration Resistance

RATINGS OF MVG Series

μF \ VDC	4		6.3		10		16		25		35		50		63		100	
0.1													B55 D56 1.1	1.3	D56	1.3		
0.22													B55 D56 2.0	2.9	D56	3.0		
0.33													B55 D56 3.0	3.5	D56	4.0		
0.47													B55 D56 3.8	4.2	D56	5.0		
1													B55 D56 5.6	6.2	D56	8.0		
2.2											B55 D56	7.7	B55 D56 8.3	10	D56	12		
3.3											B55 D56	9.4	D56	14	E56	17		
4.7									B55 D56	10.5	D56	15	D56	19	E56	20		
10					B55 D56	12.8	B55 D56 14	17	D56	20	D56	25	E56	29	F60	32		
22	B55 D56	14	B55 D56	23	D56	27	D56	27	E56	28	F56	33	F60	40	F80	60	H10	90
33	D56	23	D56	30	D56	30	E56	40	E56	40	F56	40	F80	55	H10	110	J10	120
47	D56	27	D56	33	E56	45	E56	45	F56	60	F60	55	H63	140	H10	130	J10	144
68	E56	38	E56	49	F56	54	F56	78	F60	90	H63	157	H10	170	J10	170	K14	380
100	E56	46	E56	55	F56	65	F60	85	F80 H63	145	H10	175	H10	190	K14	380	K14	440
220	F56	74	F60	75	F80 H63	130	F80	130	H10	260	H10	260	J10	320	K14	580	M17	800
330			F80 H63	135	H10	270	H10	270	H10	300	J10	360	K14	600	L17	820	M22	1,000
470			H10	280	H10	280	H10	280	J10	400	K14	600	L17	850	M17	1,000		
1,000			J10	430	J10	430	K14	710	K14	820	L17	1,100	L22	1,300				
1,500			J10	480	K14	850												
2,200			K14	890	K14	960	L17	1,150	M17	1,400	M22	1,700						
3,300			L17	1,200	L17	1,300	M17	1,450	M22	1,800								
4,700			L17	1,400	M17	1,600	M22	1,750										
6,800			M17	1,700	M22	1,850												
10,000			M22	2,000														

μF \ VDC	160		200		250		400		450	
4.7							K14	120	K14	120
10	J10	55	K14	150	K14	150	L17	140	L17	140
22	K14	240	K14	240	L17	300	M17	280	L22	280
33	K14	260	L17	350	L17	340	M22	350	M22	350
47	L17	400	L17	420	M17	420				
68	L17	500	M17	510	M22	490				
100	M17	590	M22	590						

Rated Ripple Current(mArms/85°C, 120Hz)
Case code