MV Chip type, High Voltage / Long Life Series

- High voltage (to 125V), Low ESR,High ripple current.
- Load life of 3000 hours at 105℃.
- SMD type: Lead free reflow soldering condition at 260℃ peak correspondence.
- RoHS Compliance(2011/65/EU)

■ SPECIFICATIONS

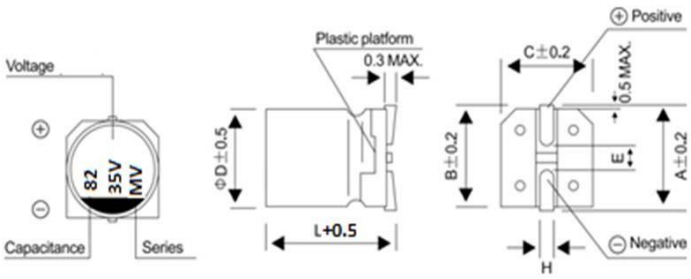
Items	Performance Characteristics		
Category Temperature Range	-55 ~ +105℃		
Rated Voltage Range	16~ 125V		
Rated Capacitance Range	5.6 ~ 680μF		
Capacitance Tolerance	± 20 % (at 120Hz , 20℃)		
Tangent of Loss Angle (tan δ)	Less than or equal to the specified value at 120Hz, 20℃		
ESR(※1)	Less than or equal to the specified value at 100KHz, 20℃		
Leakage Current(※2)	Less than or equal to the specified value. After 2 minutes' application of rated voltage at 20℃		
Temperature Characteristics (Max. Impedance Ratio)	Z+105℃ / Z+20℃ ≤1.25 (100kHz) Z- 55℃ / Z+20℃ ≤1.25		
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20 ℃ after the rated voltage is applied for 3000 hours at 105 ℃	Capacitance change	Within ±20% of the initial capacitance value(※3)
		tan δ	150% or less than the initial specified value
		ESR(※1)	150% or less than the initial specified value
		Leakage current(※2)	Less than or equal to the initial specified value
Damp Heat (Steady State)	The specifications listed at right shall be met when the capacitors are restored to 20 ℃ after the rated voltage is applied for 1000 hours at 60 ℃, 90% RH.	Capacitance change	Within ±20% of the initial capacitance value(※3)
		tan δ	150% or less than the initial specified value
		ESR(※1)	150% or less than the initial specified value
		Leakage current(※2)	Less than or equal to the initial specified value
Resistance to Soldering Heat	After soldering the capacitor shall meet the specifications listed at right. Pre-heating shall be done at 150 to 200 ℃ and for 60 to 180 sec. The duration for over +230 ℃ at capacitor surface shall not exceed 60 seconds. In case peak temperature is 250 ℃ or less, reflow soldering shall be two times maximum. In case peak temperature is 260 ℃ or less, reflow soldering shall be once. Measurement for solder temperature profiles shall be made at the capacitor top and the terminal.	Capacitance change	Within ±10% of the initial capacitance value(※3)
		tan δ	130% or less than the initial specified value
		ESR(※1)	130% or less than the initial specified value
		Leakage current(※2)	Less than or equal to the initial specified value
Marking	Red print on the case top		

※1 ESR should be measured at both of the terminal ends closest where the terminals protrude through the plastic platform

※2 Conditioning: If any doubt arises, measure the leakage current after the voltage treatment of applying DC rated voltage continuously to the capacitor for 120 minutes at 105 ℃

※3 Initial value: The value before test of examination of resistance to soldering.

■ Dimensions



Φ x L(mm)

Size	6.3x6/9	8x7	8x9/10	8x12	10x8	10x10	10x12.7
ΦD	6.3	8.0	8.0	8.0	10.0	10.0	10.0
L	6/9	7	9/10	12	8	10	12.7
A	7.3	9.0	9.0	9.0	11.0	11.0	11.0
B	6.6	8.3	8.3	8.3	10.3	10.3	10.3
C	6.6	8.3	8.3	8.3	10.3	10.3	10.3
E	2.1	3.2	3.2	3.2	4.6	4.6	4.6
H	0.5-0.8	0.8-1.1	0.8-1.1	0.8-1.1	0.8-1.1	0.8-1.1	0.8-1.1

Type numbering system(Exp: 35V 82μF)

E P MV 1V 820 M 0812 □□

- Terminal code
- Size code
- Capacitance tolerance (±20%)
- Rated capacitance (82μF)
- Rated voltage (35V)
- Series name
- Type
- Elcon

Voltage

V	16	20	25	35	50	63	80	100	125
Code	1C	1D	1E	1V	1H	1J	1K	2A	2B

MV Series

■ STANDARD RATINGS

Rated voltage (V)(code)	Surge Voltage (V)	Rated Capacitance (μF)	Case Size ΦD x L(mm)	tan δ	Leakage Current (μA)	ESR(mΩ) (at 100kHz 20℃)	Rated Ripple (mArms)	Part Number
16 (1C)	18.4	56	6.3x6	0.12	179	50	1000	EPMV1C560M6306TR
		82	6.3x6	0.12	262	47	1300	EPMV1C820M6306TR
		100	8x7	0.12	320	36	1500	EPMV1C101M0807TR
		150	8x7	0.12	480	34	1700	EPMV1C151M0807TR
		220	8x10	0.12	704	27	2000	EPMV1C221M0810TR
		220	10x8	0.12	704	31	2000	EPMV1C221M1008TR
		270	8x10	0.12	864	21	3800	EPMV1C271M0810TR
		270	8x12	0.12	864	26	2300	EPMV1C271M0812TR
		270	10x8	0.12	864	24	3200	EPMV1C271M1008TR
		330	10x10	0.12	1056	26	2400	EPMV1C331M1010TR
		390	8x12	0.12	1248	20	4100	EPMV1C391M0812TR
		470	10x10	0.12	1504	21	3900	EPMV1C471M1010TR
		470	10x12.7	0.12	1504	25	2800	EPMV1C471M1012TR
		680	10x12.7	0.12	2176	19	4400	EPMV1C681M1012TR
20 (1D)	23	47	6.3x6	0.12	188	55	1000	EPMV1D470M6306TR
		56	6.3x6	0.12	224	48	1300	EPMV1D560M6306TR
		68	8x7	0.12	272	45	1300	EPMV1D680M0807TR
		100	8x7	0.12	400	42	1400	EPMV1D101M0807TR
		150	8x10	0.12	600	28	2000	EPMV1D151M0810TR
		150	10x8	0.12	600	33	1900	EPMV1D151M1008TR
		180	10x8	0.12	720	25	3100	EPMV1D181M1008TR
		220	8x10	0.12	880	22	3700	EPMV1D221M0810TR
		220	8x12	0.12	880	27	2300	EPMV1D221M0812TR
		270	8x12	0.12	1080	21	4000	EPMV1D271M0812TR
		270	10x10	0.12	1080	27	2300	EPMV1D271M1010TR
		330	10x10	0.12	1320	22	3800	EPMV1D331M1010TR
		330	10x12.7	0.12	1320	26	2700	EPMV1D331M1012TR
		470	10x12.7	0.12	1880	20	4300	EPMV1D471M1012TR
25 (1E)	28.7	33	6.3x6	0.12	165	60	1000	EPMV1E330M6306TR
		47	6.3x6	0.12	235	49	1300	EPMV1E470M6306TR
		56	8x7	0.12	280	50	1300	EPMV1E560M0807TR
		82	8x7	0.12	410	47	1400	EPMV1E820M0807TR
		100	8x9	0.12	500	29	1900	EPMV1E101M0809TR
		120	8x9	0.12	600	29	1900	EPMV1E121M0809TR
		120	8x10	0.12	600	29	1900	EPMV1E121M0810TR
		120	10x8	0.12	600	35	1800	EPMV1E121M1008TR
		150	8x10	0.12	750	23	3600	EPMV1E151M0810TR
		150	8x12	0.12	750	28	2200	EPMV1E151M0812TR
		150	10x8	0.12	750	26	3000	EPMV1E151M1008TR
		180	10x10	0.12	900	28	2300	EPMV1E181M1010TR
		220	8x12	0.12	1100	22	3800	EPMV1E221M0812TR
		270	10x10	0.12	1350	23	3700	EPMV1E271M1010TR
		270	10x12.7	0.12	1350	27	2700	EPMV1E271M1012TR
		390	10x12.7	0.12	1950	21	4200	EPMV1E391M1012TR
		470	10x13	0.12	2350	9	6100	EPMV1E471M1013TR
35 (1V)	40.2	18	6.3x6	0.12	126	64	900	EPMV1V180M6306TR
		22	6.3x6	0.12	154	50	1300	EPMV1V220M6306TR
		27	8x7	0.12	189	55	1200	EPMV1V270M0807TR
		39	8x7	0.12	273	52	1400	EPMV1V390M0807TR
		56	6.3x6.5	0.12	392	49	1600	EPMV1V560M6365TR
		56	8x10	0.12	392	31	1900	EPMV1V560M0810TR
		100	6.3x8.7	0.12	700	35	1450	EPMV1V101M6387TR
		100	6.3x9	0.12	700	35	1450	EPMV1V101M6309TR
		150	8x9	0.12	1050	23	2400	EPMV1V151M0809TR

MV Series

■ STANDARD RATINGS

Rated voltage (V)(code)	Surge Voltage (V)	Rated Capacitance (μF)	Case Size ΦD x L(mm)	tan δ	Leakage Current (μA)	ESR(mΩ) (at 100kHz 20℃)	Rated Ripple (mArms)	Part Number
35 (1V)	40.2	68	10x8	0.12	476	37	1800	EPMV1V680M1008TR
		82	8x10	0.12	574	24	3600	EPMV1V820M0810TR
		82	8x12	0.12	574	29	2200	EPMV1V820M0812TR
		82	10x8	0.12	574	27	3000	EPMV1V820M1008TR
		100	10x10	0.12	700	29	2200	EPMV1V101M1010TR
		120	8x12	0.12	840	23	3800	EPMV1V121M0812TR
		120	10x10	0.12	840	24	3700	EPMV1V121M1010TR
		150	10x12.7	0.12	1050	28	2600	EPMV1V151M1012TR
		180	10x12.7	0.12	1260	22	4100	EPMV1V181M1012TR
50 (1H)	57.5	8.2	6.3x6	0.12	82	81	800	EPMV1H8R2M6306TR
		12	6.3x6	0.12	120	55	1200	EPMV1H120M6306TR
		15	8x7	0.12	150	63	1100	EPMV1H150M0807TR
		22	8x7	0.12	220	60	1300	EPMV1H220M0807TR
		33	8x10	0.12	330	36	1700	EPMV1H330M0810TR
		33	10x8	0.12	330	49	1500	EPMV1H330M1008TR
		39	8x12	0.12	390	34	2000	EPMV1H390M0812TR
		47	8x10	0.12	470	29	3300	EPMV1H470M0810TR
		47	10x8	0.12	470	37	2600	EPMV1H470M1008TR
		47	10x10	0.12	470	30	2200	EPMV1H470M1010TR
		56	8x12	0.12	560	28	3400	EPMV1H560M0812TR
		68	10x10	0.12	680	29	3400	EPMV1H680M1010TR
		68	10x12.7	0.12	680	29	2600	EPMV1H680M1012TR
		100	10x12.7	0.12	1000	27	3600	EPMV1H101M1012TR
63 (1J)	72.4	5.6	6.3x6	0.12	71	105	700	EPMV1J5R6M6306TR
		8.2	6.3x6	0.12	103	56	1200	EPMV1J8R2M6306TR
		10	8x7	0.12	126	75	1000	EPMV1J100M0807TR
		12	8x7	0.12	151	70	1100	EPMV1J120M0807TR
		22	8x10	0.12	277	37	1700	EPMV1J220M0810TR
		22	10x8	0.12	277	56	1400	EPMV1J220M1008TR
		27	8x10	0.12	340	30	3200	EPMV1J270M0810TR
		27	8x12	0.12	340	35	2000	EPMV1J270M0812TR
		27	10x8	0.12	340	38	2500	EPMV1J270M1008TR
		33	10x10	0.12	416	31	2200	EPMV1J330M1010TR
		39	8x12	0.12	491	29	3400	EPMV1J390M0812TR
		47	10x10	0.12	592	30	3300	EPMV1J470M1010TR
		47	10x12.7	0.12	592	30	2500	EPMV1J470M1012TR
		56	10x12.7	0.12	706	28	3400	EPMV1J560M1012TR
80 (1K)	92	10	8x10	0.12	160	43	1600	EPMV1K100M0810TR
		12	8x12	0.12	192	41	1800	EPMV1K120M0812TR
		15	10x10	0.12	240	39	1900	EPMV1K150M1010TR
		22	10x12.7	0.12	352	38	2200	EPMV1K220M1012TR
100 (2A)	115	6.8	8x10	0.12	136	48	1500	EPMV2A6R8M0810TR
		10	8x12	0.12	200	45	1700	EPMV2A100M0812TR
		12	10x10	0.12	240	42	1900	EPMV2A120M1010TR
		18	10x12.7	0.12	360	41	2100	EPMV2A180M1012TR
125 (2B)	143	6.8	8x10	0.12	170	93	1100	EPMV2B6R8M0810TR
		8.2	8x12	0.12	205	84	1300	EPMV2B8R2M0812TR
		12	10x10	0.12	300	69	1400	EPMV2B120M1010TR
		15	10x12.7	0.12	375	48	2000	EPMV2B150M1012TR