ELCON

Conductive Polymer Aluminum Solid Electrolytic Capacitors

MS

Chip type, long Life Assurance Series

- Load life of 5000 hours at 105℃.
- SMD type:Lead free reflow soldering condition at 260℃ peak correspondence.
- RoHS Compliance(2011/65/EU)

■ SPECIFICATIONS

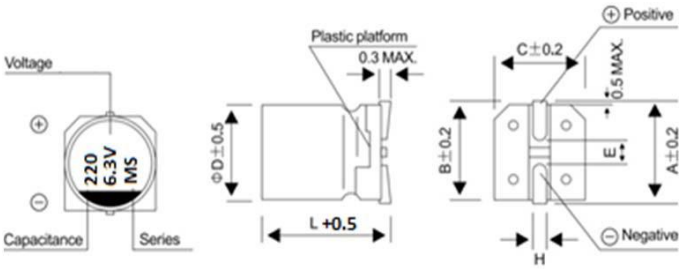
Items	Performance Characteristics		
Category Temperature Range	-55 ~ +105℃		
Rated Voltage Range	4~16V		
Rated Capacitance Range	22 ~ 560μF		
Capacitance Tolerance	± 20 % (at 120Hz , 20℃)		
Tangent of Loss Angle (tan δ)	Less than or equal to the specified value at 120Hz, 20℃		
ESR(※1)	Less than or equal 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 5000 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.

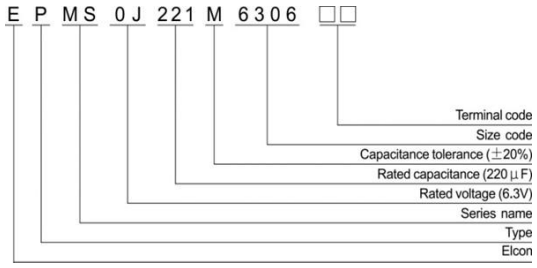
■ Dimensions



Φ x L(mm)

Size	5x6	6.3x6	8x7	6.3x7	6.3x9.5	8x12	10x12
ΦD	5.0	6.3	8.0	6.3	6.3	8.0	10.0
L	6	6	7	7	9.5	12	12
A	6.0	7.3	9.0	7.3	7.3	9.0	11.0
B	5.3	6.6	8.3	6.6	6.6	8.3	10.3
C	5.3	6.6	8.3	6.6	6.6	8.3	10.3
E	1.6	2.1	3.2	2.1	2.1	3.2	4.6
H	0.5-0.8	0.5-0.8	0.8-1.1	0.5-0.8	0.5-0.8	0.8-1.1	0.8-1.1

Type numbering system(Exp: 6.3V 220μF)



Voltage

V	4	6.3	10	16	25	35	50
Code	0G	0J	1A	1C	1E	1V	1H

MS 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
4 (0G)	4.6	150	5 x 6	0.12	120	25	2200	EPMS0G151M0506TR
		330	6.3 x 6	0.12	264	20	2800	EPMS0G331M6306TR
		330	8 x 7	0.12	264	22	3200	EPMS0G331M0807TR
		560	8 x 7	0.12	448	18	3600	EPMS0G561M0807TR
6.3 (0J)	7.2	47	5 x 6	0.12	59.22	35	1600	EPMS0J470M0506TR
		100	5 x 6	0.12	126	25	2400	EPMS0J101M0506TR
		100	6.3 x 6	0.12	126	22	2800	EPMS0J101M6306TR
		120	6.3 x6	0.12	151	22	2800	EPMS0J121M6306TR
		220	6.3 x6	0.12	277	20	2800	EPMS0J221M6306TR
		220	8 x 7	0.12	277	22	3200	EPMS0J221M0807TR
		390	8 x 7	0.12	491	22	3200	EPMS0J391M0807TR
		470	6.3 x 9.5	0.12	592	18	3200	EPMS0J471M6395TR
10 (1A)	11.5	33	5x 6	0.12	66	40	1300	EPMS1A330M0506TR
		56	6.3 x 6	0.12	112	27	2300	EPMS1A560M6306TR
		68	5 x6	0.12	136	30	2100	EPMS1A680M0506TR
		120	6.3 x 6	0.12	240	27	2300	EPMS1A121M6306TR
		150	8x 7	0.12	300	30	2600	EPMS1A151M0807TR
		220	6.3x 7	0.12	440	22	2800	EPMS1A221M6307TR
		270	8x 7	0.12	540	22	3200	EPMS1A271M0807TR
16 (1C)	18.4	22	5 x 6	0.12	70.4	45	1100	EPMS1C220M0506TR
		39	5 x 6	0.12	125	35	2000	EPMS1C390M0506TR
		39	6.3 x 6	0.12	125	30	2200	EPMS1C390M6306TR
		68	6.3 x 6	0.12	218	30	2200	EPMS1C680M6306TR
		82	8x 7	0.12	262	28	2800	EPMS1C820M0807TR
		120	8x 7	0.12	384	28	2800	EPMS1C121M0807TR
		220	6.3x 9.5	0.12	704	28	3000	EPMS1C221M6395TR
25 (1E)	28.7	100	6.3x 9.5	0.12	500	32	2900	EPMS1E101M6395TR
		180	8x 12	0.12	900	16	4650	EPMS1E181M0812TR
35 (1V)	40.2	82	8x 12	0.12	574	29	2200	EPMS1V820M0812TR
		150	10x 12	0.12	1050	28	2600	EPMS1V151M1012TR
50 (1H)	57.5	39	8x 12	0.12	390	25	3800	EPMS1H390M0812TR
		68	10x 12	0.12	680	20	4300	EPMS1H680M1012TR