

Surface Mount Aluminum Electrolytic Capacitors - XM Series



FEATURES

- Operating with wide temperature rang -55°C-105°C.
- Very low Impedance, Long Life 2000 hours.
- Vertical SMD type.
- RoHs compliance.

APPLICATIONS

- Ideally suited for switching power supplies,telecommunication and other electronic products.

PRODUCT IDENTIFICATION



01 Type	
ZXM	Surface Mount Aluminum Electrolytic Capacitors

02 Rate Voltage	
6R3	6.3V
10	10V
16	16V
25	25V
35	35V
50	50V
63	63V
100	100V

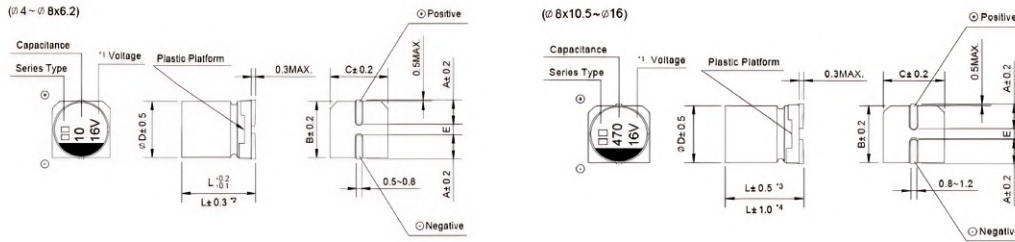
03 Lead Wire and Sleeve type	
VC	

05 Tolerance	
K	±10%
M	±20%

04 Nominal Capacitance	
Example	Nominal value
1R0	1uF
100	10uF
102	1000uF

06 External Dimensions ΦDxL(mm)	
4*5.4	4x 5.4
6.3*7.7	6.3x 7.7
10*13.5	10x 13.5

SHAPE AND DIMENSIONS



- *1. Voltage mark for 6.3V is [6V] 6.3V 的產品標識為 [6V]
- *2. Applicable to Φ6.3×7.7 適用於Φ6.3×7.7
- *3. Applicable to Φ8×10.5~Φ10 適用於Φ8×10.5~Φ10
- *4. Applicable to Φ12.5~Φ16 適用於Φ12.5~Φ16

NOTE: All designs and specifications are for reference only and are subject to change without prior notice. If any doubt about safety for your application, please contact us immediately for technical assistance before purchase.

ΦD*L(mm)	A	B	C	E	L
4×5.4	1.8	4.3	4.3	1.0	5.4
5×5.4	2.1	5.3	5.3	1.3	5.4
6.3×5.4	2.4	6.6	6.6	2.2	5.4
6.3×7.7	2.4	6.6	6.6	2.2	7.7
8×6.2	3.3	8.3	8.3	2.2	6.2
8×10.2	2.9	8.3	8.3	3.1	10.2
10×10.2	3.2	10.3	10.3	4.4	10.2
10×13.5	3.2	10.3	10.3	4.4	13.5
12.5×13.5	4.7	13.0	13.0	4.4	13.5
12.5×16	4.7	13.0	13.0	4.4	16.0
16×16.5	5.5	17.0	17.0	6.7	16.5

MAIN SPECIFICATIONS

NO	ITEM	Performance Characteristic
1	Operating Temperature Range	-55 ~ +105°C
2	Voltage Range	6.3 ~ 100 (VDC)
3	Leakage Current	$I \leq 0.01 CV$ 或 $3 \mu A$, whichever is greater (after 2 minutes)
4	Capacitance Tolerance	±20 (%) (120 Hz, +20°C)
5	Dissipation Factor (120 Hz, +20°C)	Rated Voltage (VDC)
		DF _(max.)
		6.3 [□] 10 [□] 16 [□] 25 [□] 35 [□] 50 [□] 63 [□] 100 [□]
		0.30 [□] 0.24 [□] 0.20 [□] 0.18 [□] 0.16 [□] 0.14 [□] 0.14 [□] 0.14 [□]



Specifications subject to change without notice. Please check our website for latest information.
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NO	ITEM	Performance Characteristic																		
7	<table border="1" data-bbox="509 353 1442 461"> <tr> <td data-bbox="509 353 748 405">Rated Voltage (VDC)</td> <td data-bbox="748 353 831 405">6.3[±]</td> <td data-bbox="831 353 914 405">10[±]</td> <td data-bbox="914 353 997 405">16[±]</td> <td data-bbox="997 353 1080 405">25[±]</td> <td data-bbox="1080 353 1163 405">35[±]</td> <td data-bbox="1163 353 1246 405">50[±]</td> <td data-bbox="1246 353 1329 405">63[±]</td> <td data-bbox="1329 353 1412 405">100[±]</td> </tr> <tr> <td data-bbox="509 405 748 461">Surge Voltage (VDC)</td> <td data-bbox="748 405 831 461">7.2[±]</td> <td data-bbox="831 405 914 461">10.5[±]</td> <td data-bbox="914 405 997 461">18.4[±]</td> <td data-bbox="997 405 1080 461">29[±]</td> <td data-bbox="1080 405 1163 461">40[±]</td> <td data-bbox="1163 405 1246 461">58[±]</td> <td data-bbox="1246 405 1329 461">73[±]</td> <td data-bbox="1329 405 1412 461">115[±]</td> </tr> </table> <p data-bbox="509 483 1469 546">After surge voltage applied at a cycling rate of 30 seconds charge and 5.5 minutes discharge 1000 successive test cycle. Test temperature: 15~35°C</p>	Rated Voltage (VDC)	6.3 [±]	10 [±]	16 [±]	25 [±]	35 [±]	50 [±]	63 [±]	100 [±]	Surge Voltage (VDC)	7.2 [±]	10.5 [±]	18.4 [±]	29 [±]	40 [±]	58 [±]	73 [±]	115 [±]	
Rated Voltage (VDC)	6.3 [±]	10 [±]	16 [±]	25 [±]	35 [±]	50 [±]	63 [±]	100 [±]												
Surge Voltage (VDC)	7.2 [±]	10.5 [±]	18.4 [±]	29 [±]	40 [±]	58 [±]	73 [±]	115 [±]												
8	Solderability	<p>The capacitor shall be tested under the following conditions: Soldering temperature: 245±5°C Dipping depth: 2mm Dipping speed: 25±2.5mm/s Dipping time: 3±0.5s</p>																		
9	<p>Vibration test 1.Capacitance Change: Within ±5% of initial value. 2.Appearance: There shall be no leakage of electrolyte</p>	<p>The following conditions shall be applied for 2 hours in each (X,Y,Z) 3 mutually perpendicular directions, with a total of 6 hours . Vibration frequency range: 10Hz ~ 55Hz Peak to peak amplitude: 1.5mm</p>																		
10	Solvent Resistance of the Marking(There shall be no damage and legibly marked can be deciphered easily)	<p>Class of Reagent:Isopropyl Alcohol; Test Temperature:20~25. C;Immersing Time:30±5S</p>																		
11	Solder Heat(a:ΔC/C ≤ ±10%,b:Appearance: No significant change can be observe)	<p>After reflow soldering according to Reflow Soldering Condition (see page 9) and restored at room temperature, they meet the characteristics listed</p>																		
12	Load Life Test	<p>After 2000 hours application of rated voltage at 105. C, capacitors meet the characteristics requirements listed. 1.Capacitance Change:±30% initial specified value 2. Leakage Current:≤300% initial specified value 3.Dissipation factor:≤ 300% initial specified value</p>																		
13	Shelf life	<p>After storage for 1000 hours at 105. C, capacitors meet the characteristics requirements listed. 1.Capacitance Change:±30% initial specified value 2. Leakage Current:≤300% initial specified value 3.Dissipation factor:≤ 200% initial specified value</p>																		

Rating of ZXM

μF	WV Code 代碼	4		6.3		10		16		25	
		0G		0J		1A		1C		1E	
4.7	4R7									4 × 5.4	13
10	100							(3 × 5.4) 4 × 5.4	(18) 18	5 × 5.4 (4 × 5.4)	20 (14)
22	220			4 × 5.4	22	5 × 5.4 (4 × 5.4)	25 (20)	5 × 5.4 (4 × 5.4)	27 (20)	6.3 × 5.4 (5 × 5.4)	36 (25)
33	330	5 × 5.4 (4 × 5.4)	30 (18)	5 × 5.4 (4 × 5.4)	27 (22)	5 × 5.4 (4 × 5.4)	30 (22)	6.3 × 5.4 (5 × 5.4)	40 (28)	6.3 × 5.4 (5 × 5.4)	44 (29)
47	470	5 × 5.4 (4 × 5.4)	36 (24)	5 × 5.4 (4 × 5.4)	33 (25)	4 × 5.4 (5 × 5.4)	25 (30)	6.3 × 5.4 (5 × 5.4)	48 (31)	6.3 × 5.4 (8 × 6.2)	48 (91)
68	680	(5 × 5.4)	(43)	(5 × 5.4)	(39)	5 × 5.4	53	6.3 × 5.4	60	6.3 × 5.4 6.3 × 7.7	(67) 91
100	101	5 × 5.4	52	5 × 5.4	53	5 × 5.4	55	6.3 × 5.4	65	8 × 10.2 (6.3 × 7.7)	140 (100)
220	221	6.3 × 5.4	57	6.3 × 7.7 (6.3 × 5.4)	105 (67)	6.3 × 7.7 (6.3 × 5.4)	105 (67)	8 × 10.2 (6.3 × 7.7) (8 × 6.2)	150 (105) (85)	8 × 10.2	175
330	331	6.3 × 7.7	100	6.3 × 7.7	105	6.3 × 7.7	125	8 × 10.2	195	10 × 10.2 (8 × 10.2)	240 (220)
470	471	6.3 × 7.7	105	8 × 10.2 (6.3 × 7.7)	210 (120)	8 × 10.2 (6.3 × 7.7)	230 (135)	10 × 10.2 (8 × 10.2)	295 (230)	10 × 10.2	280
680	681	8 × 10.2	210	8 × 10.2	210	10 × 10.2	270	10 × 10.2	315	10 × 13.5	400
1000	102	8 × 10.2	230	10 × 10.2 (8 × 10.2)	300 (230)	10 × 10.2	315	12.5 × 13.5 (10 × 13.5) (10 × 10.2)	500 (390) (340)	12.5 × 13.5	580
1500	152	10 × 10.2	315	10 × 13.5 (10 × 10.2)	450 (315)	10 × 13.5	460	12.5 × 13.5	550	12.5 × 16	850
2200	222	10 × 13.5 (10 × 10.2)	440 (340)	12.5 × 13.5 (10 × 13.5)	620 (500)	12.5 × 13.5	680	16 × 16.5 (12.5 × 16)	950 (750)	16 × 16.5	1050
3300	332	10 × 13.5	490	12.5 × 16 (12.5 × 13.5)	700 (660)	16 × 16.5	1000	16 × 16.5	1000		
4700	472	12.5 × 13.5	600	16 × 16.5	1000					Case size 尺寸	Ripple current 紋波電流
6800	682	16 × 16.5 (12.5 × 16)	950 (650)								

μF	WV Code 代碼	35		50		63		100	
		1V		1H		1J		2A	
0.1	0R1			4 × 5.4	0.7	4 × 5.4	0.7		
0.22	R22			4 × 5.4	1.6	4 × 5.4	1.6		
0.33	R33			4 × 5.4	2.5	4 × 5.4	2.5		
0.47	R47			4 × 5.4	3.5	4 × 5.4	3.5		
1	010			4 × 5.4	7	4 × 5.4	7	4 × 5.4	7
2.2	2R2			4 × 5.4	11	4 × 5.4	11	6.3 × 5.4	14
3.3	3R3	4 × 5.4	13	4 × 5.4	13	5 × 5.4	13	6.3 × 7.7 (6.3 × 5.4) (8 × 6.2)	32 (20) (30)
4.7	4R7	4 × 5.4	14	5 × 5.4 (4 × 5.4)	16 (13)	5 × 5.4	16	6.3 × 7.7 (6.3 × 5.4)	35 (21)
10	100	5 × 5.4 (4 × 5.4)	21 (14)	6.3 × 5.4	24	6.3 × 7.7 (6.3 × 5.4) (8 × 6.2)	39 (24) (25)	8 × 10.2 (6.3 × 7.7)	77 (35)
22	220	6.3 × 5.4	38	6.3 × 7.7 (6.3 × 5.4) (8 × 6.2)	51 (42) (70)	8 × 10.2 (6.3 × 7.7)	98 (49)	10 × 10.2 (8 × 10.2)	126 (84)
33	330	6.3 × 5.4 (8 × 6.2)	42 (84)	6.3 × 7.7	60	8 × 10.2	112	10 × 10.2	133
47	470	6.3 × 7.7 (6.3 × 5.4)	70 (50)	8 × 10.2 (6.3 × 7.7)	120 (63)	10 × 10.2 (8 × 10.2)	160 (119)	12.5 × 13.5 (10 × 13.5) (10 × 10.2)	250 (160) (140)
68	680					Case size 尺寸	Ripple current 紋波電流	12.5 × 13.5 (10 × 13.5)	300 (180)

•Case size $\varnothing D \times L$ (mm), ripple current (mA rms) at 105°C 120Hz •尺寸 $\varnothing D \times L$ (mm), 紋波電流(mA rms)於 105°C 120Hz

μF	WV Code 代碼	35		50		63		100	
		1V		1H		1J		2A	
100	101	8 × 6.5 (6.3 × 7.7)	120 (84)	10 × 10.2 (8 × 10.2)	170 (140)	12.5 × 13.5 (10 × 13.5) (10 × 10.2)	270 (210) (196)	16 × 16.5 (12.5 × 13.5)	450 (380)
150	151	8 × 10.2	155	10 × 10.2	170	10 × 13.5	225		
220	221	10 × 10.2 (8 × 10.2)	220 (190)	10 × 13.5 (10 × 10.2)	280 (220)	16 × 16.5 (12.5 × 13.5) (10 × 13.5)	560 (470) (235)	16 × 16.5	550
330	331	10 × 10.2	245	16 × 16.5 (12.5 × 13.5) (10 × 10.2)	600 (420) (295)	16 × 16.5 (12.5 × 16)	700 (510)		
470	471	12.5 × 13.5 (10 × 13.5) (10 × 10.2)	520 (375) (280)	16 × 16.5 (12.5 × 16)	700 (520)	16 × 16.5	750		
680	681	12.5 × 13.5 (10 × 13.5)	530 (395)	16 × 16.5	750			Case size 尺寸	Ripple current 紋波電流
1000	102	16 × 16.5 (12.5 × 16)	750 (600)						

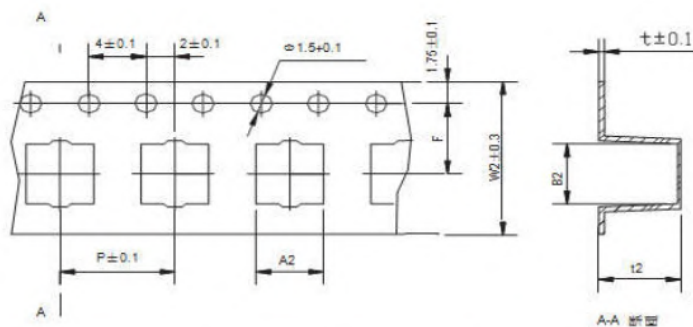
•Case size $\varnothing D \times L$ (mm), ripple current (mA rms) at 105°C 120Hz •尺寸 $\varnothing D \times L$ (mm), 紋波電流(mA rms)於 105°C 120Hz

Frequency Coefficient of Allowable Ripple Current

Frequency 頻率		50Hz	120Hz	300Hz	1KHz	10KHz~	
Coefficient 系數	$\varnothing 4 \sim \varnothing 10$	0.1 ~ 68μF	0.70	1.00	1.17	1.36	1.50
		100 ~ 3300μF	0.85	1.00	1.08	1.20	1.30
	$\varnothing 12.5 \sim \varnothing 16$	~ 68μF	0.75	1.00	1.35	1.57	2.00
		100 ~ 680μF	0.80	1.00	1.23	1.34	1.50
		1000 ~ 6800μF	0.85	1.00	1.10	1.13	1.15

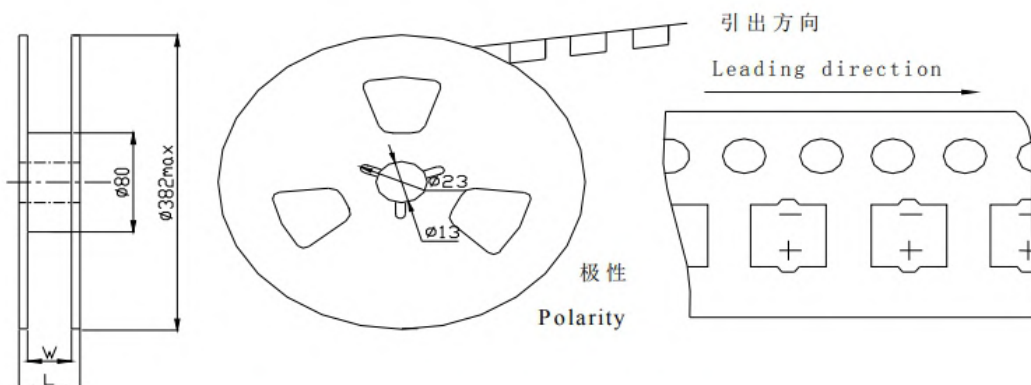
PACKAGING STYLE

● Taped Dimensions



尺寸 Size	W2	A2	B2	P	T2	F	t1
4x5.5	12.0	4.7	4.7	8	5.7	5.5	0.4
5x5.5	12.0	5.7	5.7	12	5.7	5.5	0.4
6.3x5.5	16.0	7.0	7.0	12	5.7	7.5	0.4
6.3x7.7	16.0	7.0	7.0	12	8.3	7.5	0.4
8x10	24.0	8.7	8.7	16	11	11.5	1.0
10x10	24.0	10.7	8.7	16	11	11.5	1.0

● Packaging Quantity



尺寸 Size	L	W ₃	数量 Quantity/reel
Φ4×5.5	19	14	2000pcs
Φ5×5.5	19	14	1000pcs
Φ6.3×5.5	23	18	1000pcs
Φ6.3×7.7	23	18	1000pcs
Φ8×10.5	30	26	500pcs
Φ10×10.5	28	26	500pcs