

EMI Suppression Capacitors X1 Class 500VAC

ME1X 500V Series

MERITEK

FEATURE

- Self-Healing Property
- Dielectric: Metallized Polypropylene Film
- Winding: Non-Inductive Type
- Over Voltage Stress Withstanding
- Flammability Classification 94V-0
- UL/cUL Safety Approved: Certification No: E197475



PART NUMBERING SYSTEM

ME1X 223 K 500V xxx
 (1) (2) (3) (4) (5)



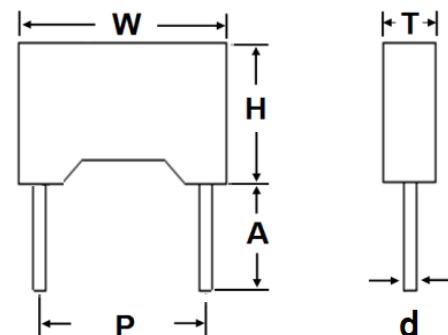
No	Item	Digit	Description	Reference
(1)	Meritek Series	ME1X	EMI Suppression Capacitors	X1 Class Safety Film Capacitor
(2)	Capacitance	223	223: 22000pF	First two digits: Significant, Third: Multiplier
(3)	Tolerance	K	K: ±10%	±5% (J), ±20% (M)
(4)	Rated Voltage	500V	500V: 500VAC	at 50~60Hz
(5)	Internal Code	xxx	Pitch or Internal control code	Internal Control or project reference

SPECIFICATIONS

Item	Characteristic		
Operating Temperature Range	-40°C ~ +110°C		
Rated Voltage , Climate Category	500VAC at 50~60Hz,	40/110/56/B	
Capacitance, Tolerance	0.0047μF ~ 3.3μF,	±5% (J), ±10% (K), ±20% (M)	
Dissipation Factor (tan δ)	≤0.1%	at 1KHz ±2%, ≤1.0 _V RMS	
Insulation resistance at 100V _{DC} , Change Time: 60s ±20s	≥ 30,000MΩ (C≤0.33μF)	≥ 10,000MΩ/μF (C>0.33μF)	
Withstanding Voltage	Between Terminals	Cut-off Current	Between Terminals and Case
	2150DC for 60sec. or 2700VDC for 1sec.	10mA	2500VAC 60Hz for 60sec.

DIMENSION

P (mm)	d (mm)	W, H, T (mm)
10.0	0.6	See Table Attached
15.0	0.8	
22.5	0.8	
27.5	0.8	
32.5	0.8	
47.5	0.8	



Note: Standard Lead Length A: 15mm min.
Contact Meritek for other available options on lead: diameter, length, and/or forming.

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ELECTRICAL SPECIFICATION – 500VAC

Part Number	Cap Code	Cap	Tol	Volt	W	H	T	P	d	Safety
		(uF)	(%)	(V _{AC})	(mm)	(mm)	(mm)	(mm)	(mm)	Compliance
ME1X472□500V10	472	0.0047	J,K,M	500	13.00	11.00	5.00	10.00	0.6	UL, cUL, ENEC
ME1X472□500V15	472	0.0047	J,K,M	500	18.00	10.00	5.00	15.00	0.8	UL, cUL, ENEC
ME1X103□500V10	103	0.010	J,K,M	500	13.00	11.00	5.00	10.00	0.6	UL, cUL, ENEC
ME1X103□500V15	103	0.010	J,K,M	500	18.00	10.00	5.00	15.00	0.8	UL, cUL, ENEC
ME1X153□500V10	153	0.015	J,K,M	500	13.00	12.00	6.00	10.00	0.6	UL, cUL, ENEC
ME1X153□500V15	153	0.015	J,K,M	500	18.00	10.00	5.00	15.00	0.8	UL, cUL, ENEC
ME1X183□500V10	183	0.018	J,K,M	500	13.00	12.00	6.00	10.00	0.6	UL, cUL, ENEC
ME1X183□500V15	183	0.018	J,K,M	500	18.00	10.00	5.00	15.00	0.8	UL, cUL, ENEC
ME1X223□500V10	223	0.022	J,K,M	500	12.00	14.00	8.00	10.00	0.6	UL, cUL, ENEC
ME1X223□500V15	223	0.022	J,K,M	500	17.00	11.00	5.50	15.00	0.8	UL, cUL, ENEC
ME1X333□500V15	333	0.033	J,K,M	500	18.00	12.00	6.00	15.00	0.8	UL, cUL, ENEC
ME1X473□500V15	473	0.047	J,K,M	500	18.00	13.50	6.00	15.00	0.8	UL, cUL, ENEC
ME1X683□500V15	683	0.068	J,K,M	500	17.00	15.50	7.50	15.00	0.8	UL, cUL, ENEC
ME1X683□500V22	683	0.068	J,K,M	500	25.00	14.50	6.00	22.50	0.8	UL, cUL, ENEC
ME1X823□500V15	823	0.082	J,K,M	500	18.00	16.50	8.50	15.00	0.8	UL, cUL, ENEC
ME1X823□500V22	823	0.082	J,K,M	500	25.00	14.50	6.00	22.50	0.8	UL, cUL, ENEC
ME1X104□500V15	104	0.10	J,K,M	500	17.00	16.50	9.50	15.00	0.8	UL, cUL, ENEC
ME1X104□500V22	104	0.10	J,K,M	500	26.50	16.50	7.00	22.50	0.8	UL, cUL, ENEC
ME1X154□500V15	154	0.15	J,K,M	500	17.00	19.00	11.00	15.00	0.8	UL, cUL, ENEC
ME1X154□500V22	154	0.15	J,K,M	500	26.50	17.00	8.50	22.50	0.8	UL, cUL, ENEC
ME1X184□500V15	184	0.18	J,K,M	500	17.00	21.00	12.00	15.00	0.8	UL, cUL, ENEC
ME1X184□500V22	184	0.18	J,K,M	500	25.00	19.00	8.50	22.50	0.8	UL, cUL, ENEC
ME1X224□500V22	224	0.22	J,K,M	500	26.50	19.00	10.00	22.50	0.8	UL, cUL, ENEC
ME1X224□500V27	224	0.22	J,K,M	500	31.50	20.00	11.00	27.50	0.8	UL, cUL, ENEC
ME1X334□500V22	334	0.33	J,K,M	500	26.00	22.00	12.00	22.50	0.8	UL, cUL, ENEC
ME1X334□500V27	334	0.33	J,K,M	500	30.00	21.00	11.50	27.50	0.8	UL, cUL, ENEC
ME1X474□500V27	474	0.47	J,K,M	500	31.50	25.00	14.00	27.50	0.8	UL, cUL, ENEC
ME1X474□500V32	474	0.47	J,K,M	500	37.00	24.00	13.50	32.50	0.8	UL, cUL, ENEC
ME1X564□500V27	564	0.56	J,K,M	500	31.50	25.00	14.00	27.50	0.8	UL, cUL, ENEC
ME1X564□500V32	564	0.56	J,K,M	500	37.00	24.00	13.50	32.50	0.8	UL, cUL, ENEC
ME1X684□500V27	684	0.68	J,K,M	500	31.00	26.00	18.00	27.50	0.8	UL, cUL, ENEC
ME1X684□500V32	684	0.68	J,K,M	500	37.00	26.50	16.00	32.50	0.8	UL, cUL, ENEC
ME1X824□500V27	824	0.82	J,K,M	500	31.50	33.00	18.00	27.50	0.8	UL, cUL, ENEC
ME1X824□500V32	824	0.82	J,K,M	500	37.00	26.50	16.00	32.50	0.8	UL, cUL, ENEC
ME1X105□500V27	105	1.0	J,K,M	500	31.50	33.00	18.00	27.50	0.8	UL, cUL, ENEC

Note: 1. □: denotes tolerance code; 2. *: Contact Meritek for Part Number

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ELECTRICAL SPECIFICATION – 500VAC

Part Number	Cap Code	Cap	Tol	Volt	W	H	T	P	d	Safety
		(uF)	(%)	(V _{AC})	(mm)	(mm)	(mm)	(mm)	(mm)	Compliance
ME1X105□500V32	105	1.0	J,K,M	500	37.00	28.50	18.00	32.50	0.8	UL, cUL, ENEC
ME1X155□500V32	155	1.5	J,K,M	500	37.00	34.00	22.00	32.50	0.8	UL, cUL, ENEC
ME1X155□500V47	155	1.5	J,K,M	500	51.00	30.50	20.00	47.50	0.8	UL, cUL, ENEC
ME1X225□500V47	225	2.2	J,K,M	500	51.00	34.00	22.00	47.50	0.8	UL, cUL, ENEC
ME1X335□500V47	335	3.3	J,K,M	500	51.00	43.50	29.00	47.50	0.8	UL, cUL, ENEC

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RELIABILITY AND TEST CONDITIONS

Item	Test Condition	Requirement
Capacitance	Measuring Frequency: $\pm 2\%$ Measuring Voltage: $\leq 1V_{rms}$.	Within the tolerance specified, at $+20\pm 5^{\circ}C$
Withstand Voltage - Between Terminals	2150VDC for 60 sec or 2700VDC for 1 sec. Cut-off Current: 10mA	Shall be no abnormality
Withstand Voltage - Between Terminals & Enclosure	2500VAC 60Hz for 60 sec.	Shall be no abnormality
Dissipation Factor	Measuring Frequency: $\pm 2\%$ Measuring Voltage: $\leq 1V_{rms}$.	D.F. : $\leq 0.001(0.1\%)$ at 1KHz
Insulation resistance	Measured at $100 \pm 15VDC$, 60 ± 5 Sec	Cr $\leq 0.33\mu F$ IR $\geq 30,000M\Omega$ Cr $> 0.33\mu F$ IR $\geq 10,000M\Omega/\mu F$
Solderability	Solder bath temperature: $+230 \pm 5^{\circ}C$ 60% of Tin (Sn), 40% of lead (Pb) Immersion duration: 3 ± 0.5 sec	More than 75% of circumferential surface of lead wire shall be covered with new solder
Tensile Terminal Strength	Apply 1.0Kg (10N) for 10 ± 1 sec to the terminal in the axial direction and acting in a direction away from the body.	Shall be no abnormality
Dry Heat Resistance	Temperature: $110^{\circ}C \pm 2^{\circ}C$, Times: 16 +1/-0Hrs	Appearance : No Visible Damage Withstand Voltage: 0.66 x rated withstand voltage 60 sec.
Cold Resistance	Temperature: $-40 \pm 2^{\circ}C$, Times: 2 ± 1 Hrs	$\Delta C/C$: $\leq \pm 5\%$ of the value before test DF: ≤ 0.002 (0.2%) Max at 1KHz IR: $\geq 50\%$ of the rated value
Vibration Resistance	Frequency change: 10~55~10Hz Vibration Distance: 0.75mm Test Direction: X, Y, Z Test Duration: 2+1/-0hrs each direction	Appearance : No mechanical Damage $\Delta C/C$: $\leq \pm 2\%$ of the value before test

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RELIABILTY AND TEST CONDITIONS

Item	Test Condition	Requirement
Soldering Heat Resistance	Soldering Temperature: +260±5°C Immersion Duration: 5±1sec	Appearance: No Visible Damage ΔC/C: ≤ ±3% of the value before test Connection of Element: Shall be stable
Endurance	Duration: 1,000 hours, Temperature: +110± 3°C Once every hour the voltage increased to 625VAC and 1KVAC/60Hz. For 0.1sec.	Appearance : No Visible Damage ΔC/C: ≤ ±10% of the value before test DF: ≤ 0.6 x10 (0.06%) of increased value IR: ≥ 50% of the rated value
Humidity Resistance	Test Temperature: -40±2°C Test Humidity: 90% to 95% R.H. Test Voltage: rated voltage Test Duration: 500 hours	Appearance: No Visible Damage Withstand Voltage: 0.66 x rated withstand voltage 60 sec. ΔC/C: ≤ ±10% of the value before test DF: ≥200% of initial specified value IR: ≥ 50% of the rated value

Notes:

1. Ambient Temp: 15°C to 35°C, Relative Humidity (R.H.): 45% to 75%, Air Pressure: 86kpa to 106kpa
2. Operating Temperature: -40~110°C
3. Storage needs to be kept indoors at -10~+40°C and relative humidity of under 75% without any sudden temperature changes, direct sunlight and corrosive gas around
4. Do not apply and exceeding vibration, shock (dropping) and pressure

*Specifications subject to change without notice.