

# EMI Suppression Capacitors X2 Class 310VAC

MEX-310V 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

MEX    223    K    310V    XXXX  
(1)    (2)    (3)    (4)    (5)



No	Item	Digit	Description	Reference
(1)	Meritek Series	MEX	EMI Suppression Capacitors	X2 Safety Cap
(2)	Capacitance	223	223: 22000pF	First two digits: Significant, Third: Multiplier
(3)	Tolerance	K	K: ±10%	-10%~+10%
(4)	Rated Voltage	310V	310V: 310VAC	at 50~60Hz
(5)	Internal Code	xxxx	Pitch or Internal control code	Internal Control or project reference

## SPECIFICATIONS

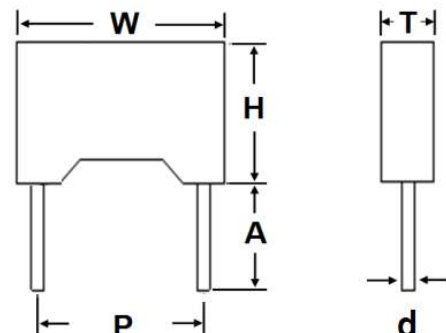
Item	Characteristic	
Operating Temperature Range	-40°C ~ +110°C	
Rated Voltage , Climate Category	310VAC at 50~60Hz,	40/110/56/B
Capacitance, Tolerance	0.001μF ~ 4.7μF	±10% (K)
Dissipation Factor (tan δ)	≤0.1%	at 1KHz, 25°C
Insulation resistance 20°C at 100V <sub>DC</sub> , Change Time: 60s ±5s	≥ 15,000MΩ; (C≤0.33μF)	≥ 5,000MΩ/ C(μF); (C>0.33μF)
Withstanding Voltage	<b>Between Terminals</b>	<b>Between Terminals and Case</b>
	UR x 430%(DC), 60sec	UR x 200% +1500VAC, 60sec

## DIMENSION

P ±0.8 (mm)	d ±0.05 (mm)	W, H, T Max (mm)
7.5	0.6	See Table Attached
10.0	0.6	
15.0	0.8	
22.5	0.8	
27.5	0.8	
37.5	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 – 310VAC

Part Number	Cap Code	Cap	Tol	Volt	W	H	T	P	d	Safety
		( $\mu$ F)	(%)	(V <sub>AC</sub> )	(mm)	(mm)	(mm)	(mm)	(mm)	Compliance
MEX102□310V75	102	0.0010	K	310	10.0	9.0	4.0	7.5	0.6	UL, cUL, VDE
MEX102□310V10A	102	0.0010	K	310	13.0	9.0	4.0	10.0	0.6	UL, cUL, VDE
MEX102□310V10B	102	0.0010	K	310	13.0	11.0	5.0	10.0	0.6	UL, cUL, VDE
MEX222□310V75	222	0.0022	K	310	10.0	9.0	4.0	7.5	0.6	UL, cUL, VDE
MEX222□310V10A	222	0.0022	K	310	13.0	9.0	4.0	10.0	0.6	UL, cUL, VDE
MEX222□310V10B	222	0.0022	K	310	13.0	11.0	5.0	10.0	0.6	UL, cUL, VDE
MEX332□310V75	332	0.0033	K	310	10.0	9.0	4.0	7.5	0.6	UL, cUL, VDE
MEX332□310V10A	332	0.0033	K	310	13.0	9.0	4.0	10.0	0.6	UL, cUL, VDE
MEX332□310V10B	332	0.0033	K	310	13.0	11.0	5.0	10.0	0.6	UL, cUL, VDE
MEX472□310V75	472	0.0047	K	310	10.0	9.0	4.0	7.5	0.6	UL, cUL, VDE
MEX472□310V10A	472	0.0047	K	310	13.0	9.0	4.0	10.0	0.6	UL, cUL, VDE
MEX472□310V10B	472	0.0047	K	310	13.0	11.0	5.0	10.0	0.6	UL, cUL, VDE
MEX682□310V75	682	0.0068	K	310	10.0	9.0	4.0	7.5	0.6	UL, cUL, VDE
MEX682□310V10A	682	0.0068	K	310	13.0	9.0	4.0	10.0	0.6	UL, cUL, VDE
MEX682□310V10B	682	0.0068	K	310	13.0	11.0	5.0	10.0	0.6	UL, cUL, VDE
MEX103□310V75	103	0.010	K	310	10.0	9.0	4.0	7.5	0.6	UL, cUL, VDE
MEX103□310V10A	103	0.010	K	310	13.0	9.0	4.0	10.0	0.6	UL, cUL, VDE
MEX103□310V10B	103	0.010	K	310	13.0	11.0	5.0	10.0	0.6	UL, cUL, VDE
MEX103□310V15	103	0.010	K	310	18.0	11.0	5.0	15.0	0.8	UL, cUL, VDE
MEX223□310V75	223	0.022	K	310	10.0	10.0	5.0	7.5	0.6	UL, cUL, VDE
MEX223□310V10A	223	0.022	K	310	13.0	9.0	4.0	10.0	0.6	UL, cUL, VDE
MEX223□310V10B	223	0.022	K	310	13.0	11.0	5.0	10.0	0.6	UL, cUL, VDE
MEX223□310V15	223	0.022	K	310	18.0	11.0	5.0	15.0	0.8	UL, cUL, VDE
MEX333□310V75	333	0.033	K	310	10.0	12.0	6.0	7.5	0.6	UL, cUL, VDE
MEX333□310V10A	333	0.033	K	310	13.0	9.0	4.0	10.0	0.6	UL, cUL, VDE
MEX333□310V10B	333	0.033	K	310	13.0	11.0	5.0	10.0	0.6	UL, cUL, VDE
MEX333□310V15	333	0.033	K	310	18.0	11.0	5.0	15.0	0.8	UL, cUL, VDE
MEX473□310V75	473	0.047	K	310	10.0	12.0	6.0	7.5	0.6	UL, cUL, VDE
MEX473□310V10A	473	0.047	K	310	13.0	9.0	4.0	10.0	0.6	UL, cUL, VDE
MEX473□310V10B	473	0.047	K	310	13.0	11.0	5.0	10.0	0.6	UL, cUL, VDE
MEX473□310V15	473	0.047	K	310	18.0	11.0	5.0	15.0	0.8	UL, cUL, VDE
MEX683□310V75	683	0.068	K	310	10.0	12.0	6.0	7.5	0.6	UL, cUL, VDE
MEX683□310V10A	683	0.068	K	310	13.0	11.0	5.0	10.0	0.6	UL, cUL, VDE
MEX683□310V10B	683	0.068	K	310	13.0	12.0	6.0	10.0	0.6	UL, cUL, VDE
MEX683□310V15	683	0.068	K	310	18.0	11.0	5.0	15.0	0.8	UL, cUL, VDE

Note: 1. □: denotes tolerance code; 2. Contact Meritek for Part Number on options on lead: diameter, length, and/or forming.

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MEX-310V Series

**MERITEK**

## ELECTRICAL SPECIFICATION – 310VAC

Part Number	Cap Code	Cap	Tol	Volt	W	H	T	P	d	Safety
		( $\mu$ F)	(%)	(V <sub>AC</sub> )	(mm)	(mm)	(mm)	(mm)	(mm)	Compliance
MEX104□310V75	104	0.10	K	310	10.0	12.0	6.0	7.5	0.6	UL, cUL, VDE
MEX104□310V10A	104	0.10	K	310	13.0	11.0	5.0	10.0	0.6	UL, cUL, VDE
MEX104□310V10B	104	0.10	K	310	13.0	12.0	6.0	10.0	0.6	UL, cUL, VDE
MEX104□310V15A	104	0.10	K	310	18.0	11.0	5.0	15.0	0.8	UL, cUL, VDE
MEX104□310V15B	104	0.10	K	310	18.0	12.0	6.0	15.0	0.8	UL, cUL, VDE
MEX154□310V10A	154	0.15	K	310	13.0	12.0	6.0	10.0	0.6	UL, cUL, VDE
MEX154□310V10B	154	0.15	K	310	13.0	14.0	8.0	10.0	0.6	UL, cUL, VDE
MEX154□310V15A	154	0.15	K	310	18.0	11.0	5.0	15.0	0.8	UL, cUL, VDE
MEX154□310V15B	154	0.15	K	310	18.0	12.0	6.0	15.0	0.8	UL, cUL, VDE
MEX224□310V10A	224	0.22	K	310	13.0	12.0	6.0	10.0	0.6	UL, cUL, VDE
MEX224□310V10B	224	0.22	K	310	13.0	14.0	8.0	10.0	0.6	UL, cUL, VDE
MEX224□310V15A	224	0.22	K	310	18.0	12.0	6.0	15.0	0.8	UL, cUL, VDE
MEX224□310V15B	224	0.22	K	310	18.0	13.5	7.5	15.0	0.8	UL, cUL, VDE
MEX224□310V15C	224	0.22	K	310	18.0	14.5	8.5	15.0	0.8	UL, cUL, VDE
MEX224□310V22A	224	0.22	K	310	26.5	15.0	6.0	22.5	0.8	UL, cUL, VDE
MEX224□310V22B	224	0.22	K	310	26.5	16.5	7.0	22.5	0.8	UL, cUL, VDE
MEX334□310V10A	334	0.33	K	310	13.0	14.0	8.0	10.0	0.6	UL, cUL, VDE
MEX334□310V10B	334	0.33	K	310	12.5	16.5	10.5	10.0	0.6	UL, cUL, VDE
MEX334□310V15A	334	0.33	K	310	18.0	13.5	7.5	15.0	0.8	UL, cUL, VDE
MEX334□310V15B	334	0.33	K	310	18.0	14.5	8.5	15.0	0.8	UL, cUL, VDE
MEX334□310V15C	334	0.33	K	310	18.0	15.5	9.5	15.0	0.8	UL, cUL, VDE
MEX334□310V22A	334	0.33	K	310	26.5	16.5	7.0	22.5	0.8	UL, cUL, VDE
MEX334□310V22B	334	0.33	K	310	26.5	17.0	8.5	22.5	0.8	UL, cUL, VDE
MEX474□310V10	474	0.47	K	310	12.5	16.5	10.5	10.0	0.6	UL, cUL, VDE
MEX474□310V15A	474	0.47	K	310	18.0	14.5	8.5	15.0	0.8	UL, cUL, VDE
MEX474□310V15B	474	0.47	K	310	18.0	15.5	9.5	15.0	0.8	UL, cUL, VDE
MEX474□310V15C	474	0.47	K	310	18.0	19.0	10.8	15.0	0.8	UL, cUL, VDE
MEX474□310V22A	474	0.47	K	310	26.5	15.0	6.0	22.5	0.8	UL, cUL, VDE
MEX474□310V22B	474	0.47	K	310	26.5	16.5	7.0	22.5	0.8	UL, cUL, VDE
MEX474□310V22C	474	0.47	K	310	26.5	17.0	8.5	22.5	0.8	UL, cUL, VDE
MEX474□310V22D	474	0.47	K	310	26.5	19.0	10.0	22.5	0.8	UL, cUL, VDE
MEX474□310V27A	474	0.47	K	310	31.0	16.0	10.0	27.5	0.8	UL, cUL, VDE
MEX474□310V27B	474	0.47	K	310	31.5	19.5	10.8	27.5	0.8	UL, cUL, VDE
MEX684□310V15A	684	0.68	K	310	18.0	15.5	9.5	15.0	0.8	UL, cUL, VDE
MEX684□310V15B	684	0.68	K	310	18.0	19.0	10.8	15.0	0.8	UL, cUL, VDE

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**MERITEK**

## ELECTRICAL SPECIFICATION – 310VAC

Part Number	Cap Code	Cap	Tol	Volt	W	H	T	P	d	Safety
		( $\mu$ F)	(%)	(V <sub>AC</sub> )	(mm)	(mm)	(mm)	(mm)	(mm)	Compliance
MEX684□310V22A	684	0.68	K	310	26.5	16.5	7.0	22.5	0.8	UL, cUL, VDE
MEX684□310V22B	684	0.68	K	310	26.5	17.0	8.5	22.5	0.8	UL, cUL, VDE
MEX684□310V22C	684	0.68	K	310	26.5	19.0	10.0	22.5	0.8	UL, cUL, VDE
MEX684□310V27	684	0.68	K	310	31.5	19.5	10.8	27.5	0.8	UL, cUL, VDE
MEX824□310V15	824	0.82	K	310	18.0	19.0	10.8	15.0	0.8	UL, cUL, VDE
MEX824□310V22A	824	0.82	K	310	26.5	19.0	10.0	22.5	0.8	UL, cUL, VDE
MEX824□310V22B	824	0.82	K	310	26.0	21.5	12.0	22.5	0.8	UL, cUL, VDE
MEX824□310V27A	824	0.82	K	310	31.5	19.5	10.8	27.5	0.8	UL, cUL, VDE
MEX824□310V27B	824	0.82	K	310	31.5	21.5	13.0	27.5	0.8	UL, cUL, VDE
MEX105□310V15	105	1.0	K	310	17.3	19.2	11.2	15.0	0.8	UL, cUL, VDE
MEX105□310V22A	105	1.0	K	310	26.5	17.0	8.5	22.5	0.8	UL, cUL, VDE
MEX105□310V22B	105	1.0	K	310	26.5	19.0	10.0	22.5	0.8	UL, cUL, VDE
MEX105□310V22C	105	1.0	K	310	26.0	21.5	12.0	22.5	0.8	UL, cUL, VDE
MEX105□310V27A	105	1.0	K	310	31.5	19.5	10.8	27.5	0.8	UL, cUL, VDE
MEX105□310V27B	105	1.0	K	310	31.5	21.6	13.0	27.5	0.8	UL, cUL, VDE
MEX105□310V27C	105	1.0	K	310	31.0	25.0	14.0	27.5	0.8	UL, cUL, VDE
MEX125□310V22A	125	1.2	K	310	26.5	19.0	10.0	22.5	0.8	UL, cUL, VDE
MEX125□310V22B	125	1.2	K	310	26.0	21.5	12.0	22.5	0.8	UL, cUL, VDE
MEX125□310V27A	125	1.2	K	310	31.5	19.5	10.8	27.5	0.8	UL, cUL, VDE
MEX125□310V27B	125	1.2	K	310	31.5	21.6	13.0	27.5	0.8	UL, cUL, VDE
MEX155□310V22A	155	1.5	K	310	26.5	19.0	10.0	22.5	0.8	UL, cUL, VDE
MEX155□310V22B	155	1.5	K	310	26.0	20.0	11.0	22.5	0.8	UL, cUL, VDE
MEX155□310V22C	155	1.5	K	310	26.0	21.5	12.0	22.5	0.8	UL, cUL, VDE
MEX155□310V22D	155	1.5	K	310	26.5	23.0	13.0	22.5	0.8	UL, cUL, VDE
MEX155□310V27A	155	1.5	K	310	31.5	19.5	10.8	27.5	0.8	UL, cUL, VDE
MEX155□310V27B	155	1.5	K	310	31.5	21.6	13.0	27.5	0.8	UL, cUL, VDE
MEX155□310V27C	155	1.5	K	310	31.0	25.0	14.0	27.5	0.8	UL, cUL, VDE
MEX185□310V22A	185	1.8	K	310	26.0	21.5	12.0	22.5	0.8	UL, cUL, VDE
MEX185□310V22B	185	1.8	K	310	26.0	25.0	15.0	22.5	0.8	UL, cUL, VDE
MEX185□310V27	185	1.8	K	310	31.0	25.0	14.0	27.5	0.8	UL, cUL, VDE
MEX205□310V27A	205	2.0	K	310	31.5	19.5	10.8	27.5	0.8	UL, cUL, VDE
MEX205□310V27B	205	2.0	K	310	31.5	21.6	13.0	27.5	0.8	UL, cUL, VDE
MEX205□310V27C	205	2.0	K	310	31.0	25.0	14.0	27.5	0.8	UL, cUL, VDE
MEX225□310V22A	225	2.2	K	310	26.5	23.0	13.0	22.5	0.8	UL, cUL, VDE
MEX225□310V22B	225	2.2	K	310	26.0	25.0	15.5	22.5	0.8	UL, cUL, VDE

Note: 1. □: denotes tolerance code; 2. Contact Meritek for Part Number on options on lead: diameter, length, and/or forming.

# EMI Suppression Capacitors X2 Class 310VAC

MEX-310V Series

**MERITEK**

## ELECTRICAL SPECIFICATION – 310VAC

Part Number	Cap Code	Cap	Tol	Volt	W	H	T	P	d	Safety
		(uF)	(%)	(V <sub>AC</sub> )	(mm)	(mm)	(mm)	(mm)	(mm)	Compliance
MEX225□310V27A	225	2.2	K	310	31.5	21.6	13.0	27.5	0.8	UL, cUL, VDE
MEX225□310V27B	225	2.2	K	310	31.0	25.0	14.0	27.5	0.8	UL, cUL, VDE
MEX225□310V27C	225	2.2	K	310	31.0	29.0	15.5	27.5	0.8	UL, cUL, VDE
MEX225□310V27D	225	2.2	K	310	32.0	28.0	18.0	27.5	0.8	UL, cUL, VDE
MEX225□310V27E	225	2.5	K	310	31.0	25.0	14.0	27.5	0.8	UL, cUL, VDE
MEX305□310V27	305	3.0	K	310	31.0	25.0	14.0	27.5	0.8	UL, cUL, VDE
MEX335□310V27A	335	3.3	K	310	32.0	28.0	18.0	27.5	0.8	UL, cUL, VDE
MEX335□310V27B	335	3.3	K	310	31.0	31.0	22.0	27.5	0.8	UL, cUL, VDE
MEX405□310V27	405	4.0	K	310	31.0	25.0	14.0	27.5	0.8	UL, cUL, VDE
MEX475□310V27A	475	4.7	K	310	32.0	28.0	18.0	27.5	0.8	UL, cUL, VDE
MEX475□310V27B	475	4.7	K	310	31.0	31.0	22.0	27.5	0.8	UL, cUL, VDE
MEX475□310V37A	475	4.7	K	310	41.0	28.5	16.0	37.5	0.8	UL, cUL, VDE
MEX475□310V37B	475	4.7	K	310	41.5	35.5	22.5	37.5	0.8	UL, cUL, VDE
MEX225□310V27A	225	2.2	K	310	31.5	21.6	13.0	27.5	0.8	UL, cUL, VDE
MEX225□310V27B	225	2.2	K	310	31.0	25.0	14.0	27.5	0.8	UL, cUL, VDE

Note: 1. □: denotes tolerance code; 2. Contact Meritek for Part Number on options on lead: diameter, length, and/or forming.

## RELIABILITY AND TEST CONDITIONS

Item	Test Condition	Requirement
Capacitance	Measuring Frequency: 1KHz Measuring Voltage: ≤1Vrms.	Within the tolerance specified, at +20±5°C
Withstand Voltage-Between Terminals	Apply 4.3 times of rated voltage for 60s	Shall be no abnormality
Withstand Voltage - Between Terminals & Enclosure	Apply 2 times of rated voltage + 1.5KV <sub>AC</sub>	Shall be no abnormality
Dissipation Factor	Measuring Frequency: ±2% Measuring Voltage: ≤1Vrms.	D.F. : ≤0.001(0.1%) at 1KHz
Insulation resistance	Measured at 100V, 60±5 Sec	Cr≤0.33uF IR≥15,000MΩ Cr>0.33uF IR≥5,000MΩ*uF/C
Solderability	Soldering temperature: +270±5°C Immersion duration: 2±0.5sec	More than 95% of circumferential surface of lead wire shall be covered with new solder
Tensile Terminal Strength	Apply 1.0Kg for 10±1sec to the terminal in the axial direction and acting in a direction away from the body.	Shall be no abnormality
Bending Strength	Apply 0.5Kg for 5 sec; Bending condition: 4x90°	Shall be no abnormality

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MEX-310V Series

**MERITEK**

## RELIABILTY AND TEST CONDITIONS

Item	Test Condition	Requirement
<b>Humidity Resistance</b>	Temperature: +40°C ± 2°C, Relative Humidity: 90%~95% Time: 500±24 Hrs	Appearance : No Visible Damage Withstand Voltage: Within specified limits ΔC/C: ≤ ±1% of the value before test DF: ≤ 0.001Max at 1KHz IR: ≥ 50% of the rated value
<b>Dry Heat Resistance</b>	Temperature: 110°C ± 2°C, Time: 2Hrs	Appearance : No Visible Damage Withstand Voltage: Within specified limits ΔC/C: ≤ ±5% of the value before test IR: ≥ 50% of the rated value
<b>Cold Resistance</b>	Temperature: -40°C, Time: 2±1Hrs	Appearance : No Visible Damage ΔC/C: ≤ ±10% of the value before test
<b>Vibration Resistance</b>	Frequency change: 10~55~10Hz Vibration Distance: 1.5mm Test Direction: X, Y, Z Test Duration: 2+1/-0hrs each direction	Appearance : No mechanical Damage Connection: Shall be no short or open
<b>Soldering Heat Resistance</b>	The terminal shall be immersed in the melting solder; Soldering Temperature: +270±5°C Solder Time: 3.0 ±0.5 sec	Appearance: No Visible Damage Withstand Voltage: Within specified limits ΔC/C: ≤ ±3% of the value before test
<b>Heat Resistance (Charge &amp; Discharge)</b>	Test voltage : Rated voltage charge for 2 seconds Discharge for 2 seconds For 1000±100 cycles Test temperature: 110±2°C	Appearance : No Visible Damage ΔC/C: ≤ ±10% of the value before test DF: ≤ 0.001Max at 1KHz IR: ≥ 50% of the rated value
<b>Heat Resistance (Continuous)</b>	Test voltage : 125% of the rated voltage for 1000Vrms for 0.1second every one hour during test Test temperature: 110±2°C Time: 1008±24hours	Appearance : No Visible Damage ΔC/C: ≤ ±10% of the value before test DF: ≤ 0.002Max at 1KHz 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.