

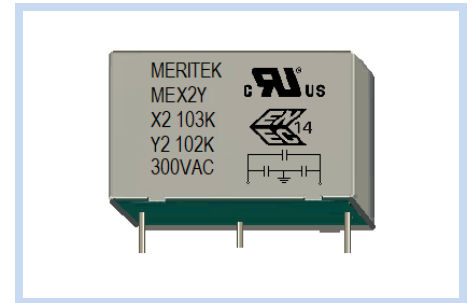
# EMI Suppression Capacitors X2+Y2 300VAC

MEX2Y 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



## SPECIFICATIONS

X2 Cap (uF)	Tol (%)	Y2 Cap (uF)	Tol (%)	Volt (V <sub>AC</sub> )	W (mm)	H (mm)	T (mm)	P (mm)	d (mm)
0.01	K	0.001	K	300	10.5	9.0	4.0	15.0	0.6
0.01~0.47	K	0.001~0.056	K	300	10.5	9.0	4.0	15~32.5	0.6~0.8
0.47	K	0.056	K	300	10.5	11.0	5.0	32.5	0.8
0.47~1.0	K	0.056~0.068	K	300	10.5	11.0	5.0	32.5	0.8
1.0	K	0.068	K	300	10.5	11.0	5.0	32.5	0.8

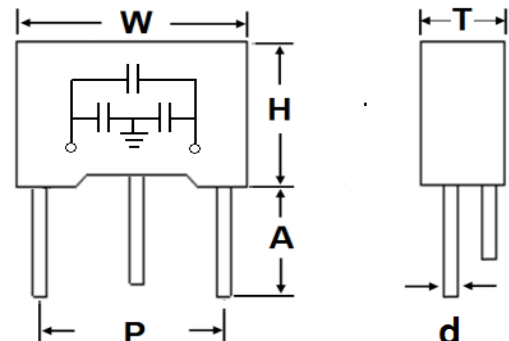
Item	Characteristic	
Operating Temperature Range	-40°C ~ +110°C	
Rated Voltage, Climate Category	300VAC	40/110/56/B
X1 Capacitance, Tolerance	0.01μF ~ 1.0μF,	±10% (K),
Y2 Capacitance, Tolerance	0.001μF ~ 0.68μF,	±10% (K)
Dissipation Factor (tan δ)	≤0.1%	at 1KHZ ±2%, ≤1.0V <sub>RMS</sub>
Insulation Resistance	≥ 15,000MΩ (C≤0.33μF) ≥ 5,000MΩ*μF/C (C>0.33μF)	V <sub>t</sub> =100VDC, Change Time: 60s ±5s
Withstanding Voltage	<b>Between Terminals</b>	<b>Between Terminals and Case</b>
	4.3*U <sub>r</sub> (DC) for 60s	2*U <sub>r</sub> +1.5KVAC for 2~5s, Min 2KV <sub>AC</sub>

## DIMENSION

P	d	A	A1	W, H, T
15.0	0.6	15	13	See Table attached
32.5	0.8	15	13	

Unit: mm

Note:  
Contact Meritek for other available options for lead forming or assembly



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## PART NUMBERING SYSTEM

$\frac{\text{MEX2Y}}{(1)}$      $\frac{103\text{K}}{(2)}$      $\frac{300}{(4)}$      $\frac{\text{xx}}{(5)}$

No	Item	Digit	Description
(1)	Meritek Series	MEX2Y	EMI Suppression Capacitors series, Safety Rated X2+2*Y2 type
(2)	Capacitance, X2	103K	103: 10000pF, $\pm 10\%$ (K)      First two digits: Significant, Third: Multiplier
(3)	Rated Voltage	300	300VAC      AC Voltage Rating
(4)	Internal Code	xx	Internal Control or project reference

## RELIABILTY AND TEST CONDITIONS

Item	Test Condition	Requirement																	
Capacitance	Measuring Frequency: $\pm 2\%$ ; Measuring Voltage: $\leq 1\text{Vrms}$ .	Within the tolerance specified, at $+20\pm 5^\circ\text{C}$																	
Solderability	Soldering temperature: $+235\pm 5^\circ\text{C}$ Immersion duration: $2\pm 0.5\text{sec}$	More than 90% of circumferential surface of lead wire shall be covered with new solder																	
Tensile Terminal Strength	Apply 1.0Kg (10N) for $10\pm 1\text{sec}$ 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 2 cycles. Each cycle includes: $90^\circ$ once, return to its initial position for 2~3 sec. and then to the opposite direction once.	Shall be no abnormality																	
Damp Heat	Temperature: $+40^\circ\text{C} \pm 2^\circ\text{C}$ , Relative Humidity: 90%~95% Time: 56days; After test, let rest for $1.5\pm 0.5\text{hr}$ at ordinary condition before making measurements.	Appearance: No Visible Damage Withstand Voltage: Within specified limits $\Delta\text{C}/\text{C}: \leq \pm 5\%$ of the value before test $\text{DF}: \leq 0.002$ (0.2%) Max at 1KHz $\text{IR}: \geq 50\%$ of the rated value																	
Dry Heat Resistance	Temperature: $110^\circ\text{C} \pm 2^\circ\text{C}$ , Times: 16 +1/-0Hrs																		
Cold Resistance	Temperature: $-40\pm 3^\circ\text{C}$ , Times: $2\pm 1\text{Hrs}$																		
Temperature Cycle	Test Temperature Cycle: Total 5 cycles. Each cycle includes <table border="1"> <thead> <tr> <th>Cycle</th> <th>Temperature</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>1</td> <td><math>+20\pm 2^\circ\text{C}</math></td> <td>3 min</td> </tr> <tr> <td>2</td> <td><math>-40\pm 3^\circ\text{C}</math></td> <td>30min</td> </tr> <tr> <td>3</td> <td><math>+20\pm 2^\circ\text{C}</math></td> <td>3 min</td> </tr> <tr> <td>4</td> <td><math>+110\pm 2^\circ\text{C}</math></td> <td>30min</td> </tr> <tr> <td>5</td> <td><math>+20\pm 2^\circ\text{C}</math></td> <td>3 min</td> </tr> </tbody> </table> After test, let rest for $1.5\pm 0.5\text{hr}$ at ordinary condition before making measurements.		Cycle	Temperature	Time	1	$+20\pm 2^\circ\text{C}$	3 min	2	$-40\pm 3^\circ\text{C}$	30min	3	$+20\pm 2^\circ\text{C}$	3 min	4	$+110\pm 2^\circ\text{C}$	30min	5	$+20\pm 2^\circ\text{C}$
Cycle	Temperature	Time																	
1	$+20\pm 2^\circ\text{C}$	3 min																	
2	$-40\pm 3^\circ\text{C}$	30min																	
3	$+20\pm 2^\circ\text{C}$	3 min																	
4	$+110\pm 2^\circ\text{C}$	30min																	
5	$+20\pm 2^\circ\text{C}$	3 min																	
Vibration Resistance	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																	

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## RELIABILTY AND TEST CONDITIONS

Item	Test Condition	Requirement
<b>Soldering Heat Resistance</b>	Preheat Temperature: 100~120°C Preheat Duration: 60sec max Temperature increase by 3°C/sec max Soldering Temperature: +260±5°C Immersion Duration: 5±1sec Immersion Depth: 4±0.8mm from roots After test, allow it stay alone for 1.5±0.5hrs at ordinary condition before making measurements	Appearance: No Visible Damage Withstand Voltage: Within specified limits $\Delta C/C: \leq \pm 3\%$ of the value before test DF: $\leq 0.002$ (0.2%) Max at 1KHz IR: $\geq 50\%$ of the rated value
<b>Endurance</b>	Duration: 1,000 hours, Temperature: +110± 2°C Voltage: 1.7 times rated voltage. Once every hour the voltage increased to 1KVrms. For 0.1sec. The test voltage is applied to each capacitor individually through a Resistor of 47Ω±5%.	Appearance: No Visible Damage $\Delta C/C: \leq \pm 10\%$ of the value before test DF: $\leq 0.008$ (0.8%) Max at 1KHz IR: $\geq 50\%$ of the rated value
<b>Moisture Resistance Loading</b>	Test Temperature: -40±2°C Test Humidity: 87% to 93% R.H. Test Voltage: rated voltage Test Duration: 500 hours After test, allow it stay alone for 1.5±0.5hrs at ordinary condition before making measurements	Appearance: No Visible Damage Withstand Voltage: Within specified limits $\Delta C/C: \leq \pm 5\%$ of the value before test DF: $\leq 0.002$ (0.2%) Max at 1KHz IR: $\geq 50\%$ 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.