

# Snap-In Aluminum Electrolytic Capacitors



MHX Series

MERITEK

## FEATURES

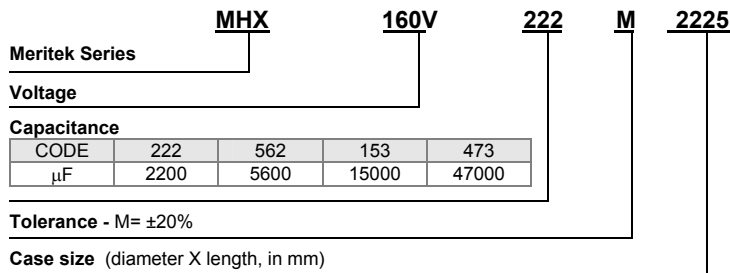
- PCB Mounting, Low profile
- Very compact size( Smaller than MHS)
- High CV density
- Load life of 2,000 hours at 85° C



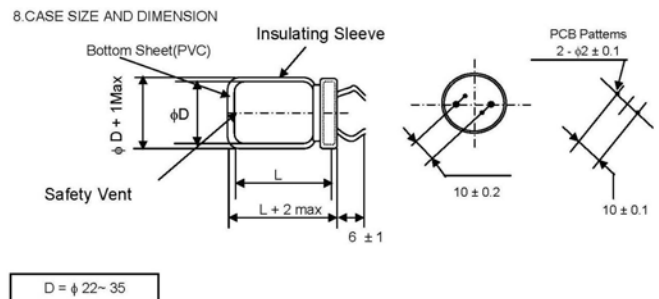
## SPECIFICATIONS

Item	Characteristic									
Operating Temp Range	160V-250V: -40°C to +85°C 315V-450V: -25°C to +85°C									
Rated Working Voltage	160 to 450VDC									
Capacitance Tolerance	±20% (M)									
Leakage Current (20°C)	$I \leq 0.02CV$ or 2mA, whichever is less (at 20°C after 5 minutes) $I$ = Leakage current ( $\mu$ A) $C$ = Nominal capacitance ( $\mu$ F) $V$ = Rated voltage (VDC)									
Dissipation Factor Tan $\delta$ (120Hz, 20°C)	<table border="1"> <tr> <td>Tan<math>\delta</math> (120Hz, 20°C)</td> <td>160 to 250</td> <td>315 to 450</td> </tr> <tr> <td></td> <td>0.15</td> <td>0.20</td> </tr> </table>	Tan $\delta$ (120Hz, 20°C)	160 to 250	315 to 450		0.15	0.20			
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	0.15	0.20								
Low Temperature Characteristics	Impedance ratio at 120 Hz <table border="1"> <tr> <td>WV</td> <td>160 to 250</td> <td>315 to 450</td> </tr> <tr> <td>Z -25°C/Z 20°C</td> <td>4</td> <td>8</td> </tr> <tr> <td>Z -40°C/Z 20°C</td> <td>12</td> <td>-</td> </tr> </table>	WV	160 to 250	315 to 450	Z -25°C/Z 20°C	4	8	Z -40°C/Z 20°C	12	-
WV	160 to 250	315 to 450								
Z -25°C/Z 20°C	4	8								
Z -40°C/Z 20°C	12	-								
Load Life	After applying rated working voltage for 2000 hours at 85°C and then being stabilized at +20°C, capacitors shall meet following limits. <table border="1"> <tr> <td>Capacitance change</td> <td>Within ±20% of the initial value</td> </tr> <tr> <td>Tan<math>\delta</math></td> <td>≤ ±200% of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>≤ The initial specified value</td> </tr> </table>	Capacitance change	Within ±20% of the initial value	Tan $\delta$	≤ ±200% of the initial specified value	Leakage current	≤ The initial specified value			
Capacitance change	Within ±20% of the initial value									
Tan $\delta$	≤ ±200% of the initial specified value									
Leakage current	≤ The initial specified value									
Shelf Life	After storage for 1000 hours at 85°C with no voltage applied and then being stabilized at +20°C, capacitors shall meet following limits. <table border="1"> <tr> <td>Capacitance change</td> <td>Within ±20% of the initial value</td> </tr> <tr> <td>Tan<math>\delta</math></td> <td>≤ 150% of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>≤ The initial specified value</td> </tr> </table>	Capacitance change	Within ±20% of the initial value	Tan $\delta$	≤ 150% of the initial specified value	Leakage current	≤ The initial specified value			
Capacitance change	Within ±20% of the initial value									
Tan $\delta$	≤ 150% of the initial specified value									
Leakage current	≤ The initial specified value									

## PART NUMBERING SYSTEM



## DIMENSIONS



## RIPPLE CURRENT COEFFICIENT

### Frequency

WV (V)	Freq (Hz)					
	50	120	500	1K	10K	100K
160 to 250	0.82	1.0	1.20	1.37	1.45	1.50
315 to 450	0.82	1.0	1.18	1.23	1.35	1.40

### Temperature

Temperature	≤ 45°C	60°C	70°C	85°C
Factor	1.45	1.30	1.15	1.0

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W.V(V) Cap (μF)	160(2C)				180(2S)				200(2D)				250(2E)				
	φ 22	φ 25	φ 30	φ 35	φ 22	φ 25	φ 30	φ 35	φ 22	φ 25	φ 30	φ 35	φ 22	φ 25	φ 30	φ 35	φ 40
180													22x25				
													1.00				
220													22x25				
													1.10				
270										22x25			22x30	25x25			
										1.25			1.28	1.30			
330					22x25				22x30	25x25			22x35	25x30			
					1.25				1.45	1.45			1.48	1.48			
390	22x25				22x30				22x30	25x25			22x40	25x30	30x25		
	1.35				1.50				1.60	1.60			1.70	1.70	1.68		
470	22x30	25x25			22x35	25x25			22x35	25x30			22x45	25x35	30x30		
	1.65	1.68			1.75	1.75			1.85	1.85			1.95	1.95	1.98		
560	22x35	25x30	30x25		22x40	25x30	30x25		22x40	25x35	30x25			25x40	30x30	35x25	
	1.95	1.95	1.95		2.00	2.00	2.05		2.00	2.05	2.05			2.15	2.10	2.15	
680	22x40	25x30	30x25		22x45	25x35	30x25		22x45	25x40	30x30			25x45	30x35	35x30	
	2.15	2.15	2.15		2.25	2.25	2.20		2.30	2.35	2.30			2.45	2.45	2.45	
820	22x45	25x35	30x30		22x50	25x40	30x30	35x25	22x50	25x45	30x35	35x25			30x40	35x35	
	2.52	2.50	2.52		2.65	2.65	2.60	2.60	2.65	2.70	2.70	2.65			2.75	2.75	
1000	22x50	25x40	30x35	35x25		25x45	30x35	35x30		25x50	30x40	35x30			30x5	35x40	
	2.80	2.80	2.82	2.82		2.95	2.95	2.95		3.02	3.02	3.00			3.30	3.30	
1200		25x45	30x35	35x30		25x50	30x40	35x30			30x45	35x35				35x45	
		3.20	3.25	3.25		3.30	3.35	3.35			3.45	3.45				3.50	
1500			30x40	35x35			30x45	35x35			30x50	35x40				35x50	
			3.65	3.70			3.80	3.80			3.90	3.90				4.00	
1800			30x50	35x40				35x45				35x45					
			4.20	4.20				4.25				4.45					
2200			35x45					35x50				35x50					
			4.75					4.90				4.95					
2700			35x50														
			5.40														
3300																	40x70 4.85

W.V(V) Cap (μF)	315(2F)				350(2V)				400(2G)				450(2W)				
	φ 22	φ 25	φ 30	φ 35	φ 22	φ 25	φ 30	φ 35	φ 22	φ 25	φ 30	φ 35	φ 22	φ 25	φ 30	φ 35	φ 40
56													22x25				
													0.56				
68													22x30				
													0.62				
82										22x25			22x30	25x25			
										0.65			0.72	0.72			
100					22x25				22x30	25x25			22x35	25x30	30x25		
					0.70				0.80	0.80			0.83	0.83	0.83		
120	22x25				22x30	25x25			22x30	25x25			22x40	25x30	30x25		
	0.75				0.85	0.85			1.03	1.03			1.05	1.05	1.05		
150	22x30	25x25			22x35	25x25			22x35	25x30	30x25		22x45	25x35	30x30		
	0.95	0.95			1.00	1.00			1.10	1.10	1.10		1.12	1.10	1.12		
180	22x30	25x25			22x35	25x30	30x25		22x40	25x35	30x25			25x40	30x35		
	1.05	1.05			1.15	1.15	1.15		1.20	1.20	1.20			1.24	1.22		
220	22x35	25x30	30x25		22x40	25x35	30x30		22x45	25x40	30x30			25x50	30x40	35x30	
	1.18	1.18	1.20		1.30	1.30	1.30		1.35	1.33	1.35			1.40	1.40	1.38	
270	22x40	25x35	30x25		22x50	25x40	30x30			25x45	30x35	35x30			30x45	35x35	
	1.40	1.40	1.35		1.55	1.55	1.55			1.58	1.55	1.58			1.68	1.68	
330	22x45	25x40	30x30			25x45	30x35	35x30		25x50	30x40	35x30			30x50	35x40	
	1.55	1.55	1.60			1.70	1.70	1.70		1.76	1.76	1.75			1.90	1.90	
390		25x45	30x35			25x50	30x40	35x35			30x45	35x35				35x45	
		1.80	1.80			1.95	1.95	1.95			2.00	2.00				2.10	
470		25x50	30x40	35x30			30x45	35x35			30x50	35x40				35x50	
		2.05	2.05	2.05			2.30	2.30			2.32	2.32				2.40	
560			30x45	35x35			30x50	35x40				35x45					
			2.35	2.35			2.55	2.55				2.60					
680				35x40				35x45				35x50					
				2.50				2.80				2.90					
820				35x45								35x50					40x60 4.50
				3.00								3.10					
1000				35x50													40x60 4.95
				3.15													

I<sub>R</sub> : Maxium permissible ripple current [A(rms) at 85°C,120Hz]  
Case size [φ DxL (mm)]