

# Gnap- $\pi$ Aluminum Electrolytic Capacitors



MHY Series

MERITEK

## FEATURES

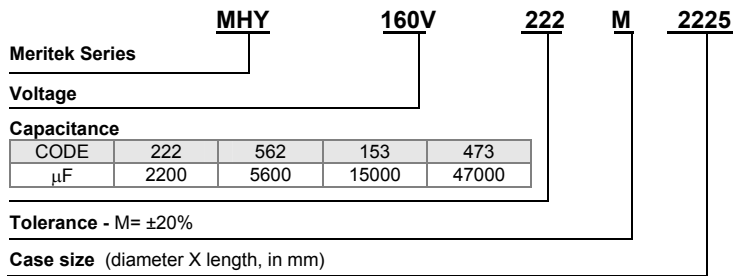
- PCB Mounting
- Very compact size (Smaller than MHX)
- High CV density
- Load life of 2,000 hours at 85°C



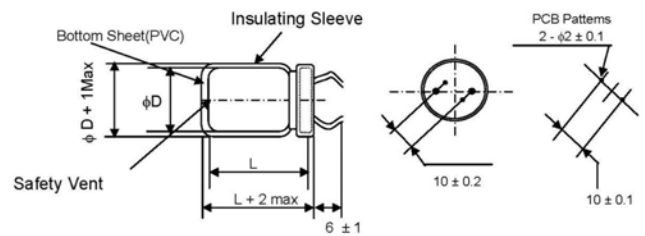
## SPECIFICATIONS

Item	Characteristic									
Operating Temp Range	160V-250V: -40°C to +85°C 350V-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) $I = DC$ Leakage current ( $\mu A$ ) $C =$ Nominal capacitance ( $\mu F$ ) $V =$ Rated voltage (VDC)									
Dissipation Factor Tan $\delta$ (120Hz, 20°C)	<table border="1"> <thead> <tr> <th>Tan<math>\delta</math> (120Hz, 20°C)</th> <th>160 to 250</th> <th>350 to 450</th> </tr> </thead> <tbody> <tr> <td></td> <td>0.15</td> <td>0.20</td> </tr> </tbody> </table>	Tan $\delta$ (120Hz, 20°C)	160 to 250	350 to 450		0.15	0.20			
Tan $\delta$ (120Hz, 20°C)	160 to 250	350 to 450								
	0.15	0.20								
Low Temperature Characteristics	Impedance ratio at 120 Hz <table border="1"> <thead> <tr> <th>WV</th> <th>160 to 250</th> <th>350 to 450</th> </tr> </thead> <tbody> <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> </tbody> </table>	WV	160 to 250	350 to 450	Z -25°C/Z 20°C	4	8	Z -40°C/Z 20°C	12	-
WV	160 to 250	350 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"> <tbody> <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> </tbody> </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"> <tbody> <tr> <td>Capacitance change</td> <td>Within ±15% 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> </tbody> </table>	Capacitance change	Within ±15% of the initial value	Tan $\delta$	≤ 150% of the initial specified value	Leakage current	≤ The initial specified value			
Capacitance change	Within ±15% of the initial value									
Tan $\delta$	≤ 150% of the initial specified value									
Leakage current	≤ The initial specified value									

## PART NUMBERING SYSTEM



## DIMENSIONS



$D = \phi 22 \sim 35$

## RIPPLE CURRENT COEFFICIENT

### Frequency

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

### Temperature

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

# Gnap- $\pi$ 5 Aluminum Electrolytic Capacitors



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W.V(V)	160(2C)					200(2D)					250(2E)				
	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35
220											20x30				
											1.23				
270											20x35	22x25			
											1.28	1.28			
330						20x30					20x35	22x30	25x25		
						1.44					1.48	1.48	1.48		
390	20x30					20x35	22x25				20x40	22x35	25x25	30x25	
	1.35					1.66	1.60				1.70	1.70	1.70	1.68	
470	20x35	22x25				20x40	22x30	25x25			20x50	22x40	25x30	30x25	
	1.65	1.65				1.85	1.85	1.85			1.85	1.95	1.95	1.98	
560	20x35	22x30	25x25			20x40	22x35	25x30	30x25		22x45	25x35	30x30	35x25	
	2.15	2.15	2.15			2.10	2.00	2.00	2.00		2.10	2.15	2.10	2.10	
680	20x40	22x35	25x30	30x25		20x45	22x40	25x35	30x30		22x50	25x40	30x35	35x30	
	2.35	2.35	2.33	233.00		2.35	2.30	2.35	2.30		2.45	2.45	2.45	2.45	
820	20x45	22x40	25x30	30x25		22x45	25x40	30x30	35x25		25x45	30x35	35x30		
	2.68	2.68	2.65	2.65		2.65	2.70	2.70	2.65		2.75	2.75	2.75		
1000		22x45	25x35	30x30	35x25	22x50	25x45	30x35	35x30				30x40	35x35	
		2.82	2.82	2.82	2.82	3.06	3.06	3.06	3.06				3.30	3.30	
1200		22x50	25x40	30x35	35x30		25x50	30x40	35x35				30x45	35x40	
		3.25	3.25	3.25	3.25		3.37	3.45	3.45				3.50	3.50	
1500			25x45	30x40	35x30			30x45	35x40					35x45	
			3.65	3.65	3.65			3.90	3.90					4.00	
1800				30x45	35x35				35x45						
				4.20	4.20				4.45						
2200					35x40				35x50						
					4.96				4.95						
2700					35x45										
					5.57										
3300									35x60						
									5.15						

W.V(V)	350(2V)					400(2G)					450(2W)				
	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35
68											20x30				
											0.71				
82						20x30					20x35	22x25			
						0.89					0.86	0.86			
100	20x30					20x30	22x25				20x40	22x30	25x25		
	0.70					0.95	0.95				0.95	0.95	0.95		
120	20x30	22x25				20x35	22x30				20x45	22x30	25x30	30x25	
	1.04	1.04				1.09	1.03				1.07	1.07	1.07	1.07	
150	20x35	22x30	25x25			20x40	22x30	25x25			20x50	22x35	25x30	30x25	
	1.20	1.20	1.22			1.03	1.03	1.03			1.10	1.18	1.18	1.18	
180	20x40	22x35	25x30			20x45	22x35	25x30	30x25		22x40	25x35	30x30		
	1.34	1.34	1.37			1.10	1.10	1.10	1.15		1.25	1.25	1.25		
220	20x45	22x40	25x30	30x25		22x40	25x35	30x30			22x45	25x40	30x35	35x25	
	1.40	1.47	1.53	1.54		1.20	1.20	1.33			1.34	1.34	1.34	1.34	
270		22x45	25x35	30x30		22x45	25x40	30x35	35x25			25x45	30x40	35x30	
		1.70	1.73	1.80		1.65	1.79	1.82	1.63			1.45	1.40	1.40	
330		22x50	25x40	30x35	35x25		25x45	30x35	35x30				30x45	35x35	
		1.87	1.97	2.03	1.80		2.00	2.05	2.05				1.68	1.68	
390			25x45	30x35	35x30		25x50	30x40	35x35				30x50	35x40	
			2.14	2.23	2.30		2.28	2.28	2.28				1.90	1.90	
470			25x50	30x40	35x30				30x45	35x35				35x45	
			2.55	2.53	2.55				2.51	2.54				2.10	
560				30x45	35x35				30x50	35x40				35x50	
				2.73	2.75				2.85	2.85				2.40	
680					35x40				35x45						
					3.15				3.10						
820					35x45										
					3.47										

$I_R$  : Maxium permissible ripple current [A(rms) at 85°C,120Hz]  
 Case size [ $\phi$  DxL (mm)]