

# Snap-In Aluminum Electrolytic Capacitors



MUT Series

MERITEK

## FEATURES

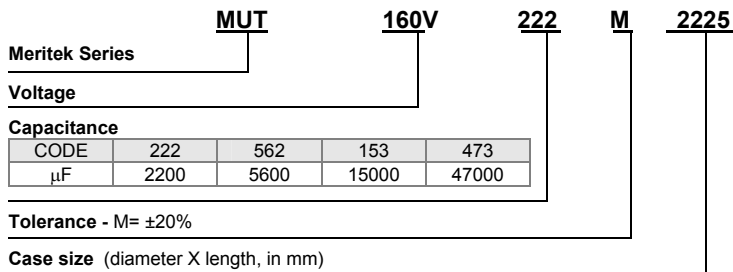
- PCB Mounting, Super low profile ( Smaller than MUH)
- More compact electronic equipment
- High CV density
- Load life of 3,000 hours at 105°C



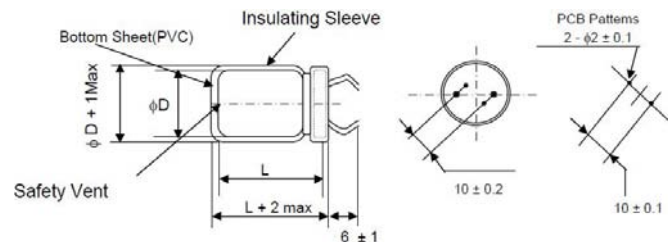
## SPECIFICATIONS

Item	Characteristic									
Operating Temp Range	160V-250V: -40°C to +105°C 350V-450V: -25°C to +105°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 3 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"> <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>0.10</td> <td>0.20</td> </tr> </tbody> </table>	Tan $\delta$ (120Hz, 20°C)	160 to 250	350 to 450		0.10	0.20			
Tan $\delta$ (120Hz, 20°C)	160 to 250	350 to 450								
	0.10	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 3000 hours at 105°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 105°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 ±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> </tbody> </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	1K	10K	100K
160 to 250	0.80	1.0	1.25	1.40	1.50
350 to 450	0.84	1.0	1.15	1.20	1.32

### Temperature

Temperature	≤ 45°C	60°C	85°C	105°C
Factor	2.40	2.20	1.65	1.00

# Snap-In Aluminum Electrolytic Capacitors



## MUT Series

## MERITEK

W.V(V) Cap (μF)	160(2C)				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
180									22x25 0.78			
220									22x30 1.00	25x25 1.00		
270					22x25 1.00				22x35 1.26	25x30 1.26		
330	22x25 1.20				22x30 1.25	25x25 1.25			22x40 1.31	25x30 1.31	30x25 1.31	
390	22x30 1.33				22x35 1.44	25x30 1.44			22x45 1.52	25x35 1.52	30x30 1.52	
470	22x35 1.47	25x25 1.47			22x40 1.55	25x35 1.55	30x25 1.55		22x50 1.63	25x40 1.63	30x30 1.63	35x25 1.63
560	22x40 1.60	25x30 1.60			22x45 1.65	25x40 1.65	30x30 1.68			25x45 1.90	30x35 1.87	35x30 1.90
680	22x45 1.80	25x35 1.78	30x30 1.78		22x50 1.87	25x45 1.87	30x35 1.87	35x25 1.86		25x50 2.15	30x45 2.15	35x35 2.18
820	22x50 2.15	25x40 2.15	30x30 2.10	35x25 2.10		25x50 2.25	30x40 2.20	35x30 2.25			30x45 2.30	35x35 2.30
1000		25x45 2.36	30x35 2.36	35x30 2.36			30x45 2.52	35x35 2.52			30x50 2.57	35x40 2.57
1200		25x50 2.63	30x40 2.63	35x30 2.57			30x50 2.71	35x40 2.71				35x45 2.73
1500			30x45 2.93	35x35 2.57				35x45 3.20				
1800			30x50 3.47	35x45 3.47				35x50 3.57				
2200				35x50 3.95				35x50 4.25				

W.V(V) Cap (μF)	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
56									22x25 0.46			
68					22x25 0.53				22x30 0.53	25x25 0.53		
82					22x30 0.60	25x25 0.60			22x35 0.60	25x30 0.60		
100	22x25 0.72				22x35 0.74	25x30 0.74			22x40 0.76	25x30 0.76	30x25 0.76	
120	22x30 0.78	22x25 0.78			22x40 0.81	25x35 0.88	30x25 0.80		22x45 0.80	25x35 0.80	30x30 0.80	
150	22x35 0.86	25x30 0.86			22x45 0.88	25x40 0.99	30x30 0.88		22x50 0.90	25x40 0.90	30x30 0.90	
180	22x45 0.99	25x35 0.96	30x25 0.96		22x50 0.99	25x45 1.13	30x30 0.99	35x25 0.99		25x45 2.00	30x35 0.99	
220	22x50 1.09	25x40 1.09	30x30 1.07	35x25 1.07		25x50 1.28	30x35 1.13	35x30 1.13		25x50 1.20	30x40 1.20	35x30 1.20
270		25x45 1.20	30x35 1.20	35x30 1.20			30x40 1.28	35x30 1.28			30x45 1.30	35x35 1.30
330		25x50 1.42	30x40 1.42	35x35 1.42		35x50 1.45	30x45 1.47	35x35 1.47			30x50 1.50	35x40 1.50
390			30x45 1.58	35x40 1.58			30x50 1.63	35x40 1.63				35x45 1.68
470				35x45 1.80				35x45 1.84				35x50 1.84
560				35x50 2.05				35x50 2.10				

$I_R$  : Maximum permissible ripple current [A(rms) at 105°C, 120Hz]  
 Case size [φ DxL (mm)]