

# ALUMINUM ELECTROLYTIC CAPACITORS



## TV Series

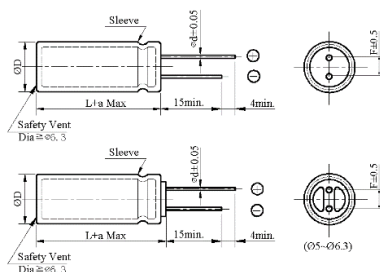
- High temperature 125°C, high reliability
- Load life 3,000~5,000 hours at 125°C



### ◆ SPECIFICATIONS

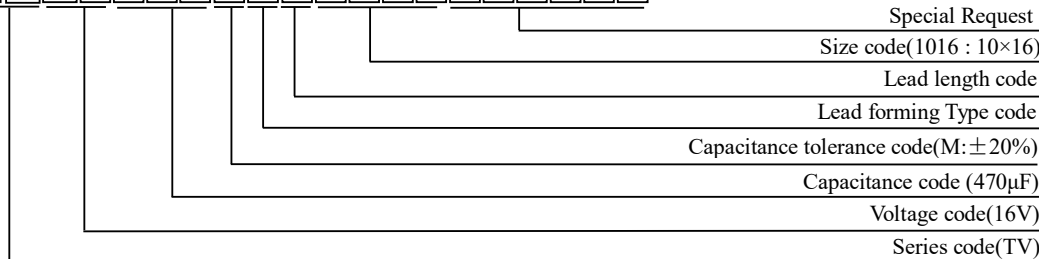
Item	Performance Characteristics																
Category Temperature Range	-55~ +125°C																
Working Voltage Range	10 ~ 50Vdc																
Capacitance Range	22~1000µF																
Capacitance Tolerance	±20% (at 25°C and 120Hz)																
Dissipation Factor (tanδ) (at 25°C, 120Hz)	<table border="1"> <tr> <td>Rated Voltage (V)</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>tanδ(Max)</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> </tr> </table>	Rated Voltage (V)	10	16	25	35	50	tanδ(Max)	0.19	0.16	0.14	0.12	0.10				
	Rated Voltage (V)	10	16	25	35	50											
tanδ(Max)	0.19	0.16	0.14	0.12	0.10												
When nominal capacitance exceeds 1,000µF, add 0.02 to the value above for each 1,000µF increase.																	
Leakage Current	I=0.01CV or 2µA whichever is greater I : Leakage current (µA) C : Rated capacitance (µF) V : Rated voltage (V) Impress the rated voltage for 2 minutes																
Low Temperature Characteristics Impedance Ratio(MAX)	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>Z(-55°C)/Z(+20°C)</td> <td>6</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> </tr> </table>	Rated voltage (V)	10	16	25	35	50	Z(-55°C)/Z(+20°C)	6	4	4	4	4				
	Rated voltage (V)	10	16	25	35	50											
Z(-55°C)/Z(+20°C)	6	4	4	4	4												
(at 120Hz)																	
Endurance	The following specifications shall be satisfied when the capacitors are restored to 25°C after subjected to DC voltage with the rated ripple current is applied for 3,000~5,000 hours at 125°C.																
	<table border="1"> <tr> <td>Capacitance change</td> <td>≦ ±25% of the initial value</td> <td>Size</td> <td>Life time (hours)</td> </tr> <tr> <td>Dissipation factor(tanδ)</td> <td>≦ 200% of the specified value</td> <td>≦ Φ6.3</td> <td>3,000</td> </tr> <tr> <td>Leakage current</td> <td>≦ specified value</td> <td>Φ8</td> <td>4,000</td> </tr> <tr> <td></td> <td></td> <td>Φ10</td> <td>5,000</td> </tr> </table>	Capacitance change	≦ ±25% of the initial value	Size	Life time (hours)	Dissipation factor(tanδ)	≦ 200% of the specified value	≦ Φ6.3	3,000	Leakage current	≦ specified value	Φ8	4,000			Φ10	5,000
	Capacitance change	≦ ±25% of the initial value	Size	Life time (hours)													
	Dissipation factor(tanδ)	≦ 200% of the specified value	≦ Φ6.3	3,000													
Leakage current	≦ specified value	Φ8	4,000														
		Φ10	5,000														
Shelf Life	The following requirements shall be satisfied when the capacitor are restored to 25°C after exposing them for 1,000 hours at 125°C without voltage applied.																
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Leakage current	≦ 200% of the specified value																
Others	Conforms to JIS-C-5101-4 (1998)																

### ◆ DIMENSIONS (mm)



ΦD	6.3	8	10	12.5	16
ΦD	ΦD + 0.5 Max				
Φd	0.5	0.6	0.6	0.6	0.8
F	2.5	3.5	5.0	5.0	7.5
a	L + 1.5 Max		≦ 35 L + 1.5 Max ≧ 40 L + 2.0 Max		L + 1.5 Max

### ◆ PART NUMBER SYSTEM( Example : 16V 470µF )



# ALUMINUM ELECTROLYTIC CAPACITORS



## TV Series

### ◆ STANDARD RATINGS

WV (Vdc)	Cap (μF)	Case Size (mm) ΦD×L	Rated Ripple current (mA rms/ 125°C, 120Hz)	Part Number
10 (1A)	47	6.3×11	90	TV1A470MNN6311
	100	6.3×11	130	TV1A101MNN6311
	220	8×11.5	242	TV1A221MNN08B5
	330	10×12.5	335	TV1A331MNN10C5
	470	10×16	440	TV1A471MNN1016
16 (1C)	1000	10×20	800	TV1A102MNN1020
	33	6.3×11	90	TV1C330MNN6311
	47	6.3×11	100	TV1C470MNN6311
	100	8×11.5	155	TV1C101MNN08B5
	220	10×12.5	348	TV1C221MNN10C5
	330	10×16	405	TV1C331MNN1016
25 (1E)	470	10×20	550	TV1C471MNN1020
	1000	12.5×20	900	TV1C102MNN1220
	22	6.3×11	100	TV1E220MNN6311
	33	8×11.5	115	TV1E330MNN08B5
	47	8×11.5	130	TV1E470MNN08B5
	100	8×11.5	250	TV1E101MNN08B5
25 (1E)	220	10×12.5	472	TV1E221MNN10C5
	330	10×16	690	TV1E331MNN1016

WV (Vdc)	Cap (μF)	Case Size (mm) ΦD×L	Rated Ripple current (mA rms/ 125°C, 120Hz)	Part Number
25 (1E)	470	10×20	875	TV1E471MNN1020
	1000	12.5×25	1050	TV1E102MNN1225
35 (1V)	22	8×11.5	130	TV1V220MNN08B5
	33	8×11.5	155	TV1V330MNN08B5
	47	8×11.5	170	TV1V470MNN08B5
	100	10×12.5	272	TV1V101MNN10C5
	220	10×16	565	TV1V221MNN1016
	330	10×20	733	TV1V331MNN1020
	470	12.5×20	895	TV1V471MNN1220
50 (1H)	1000	16×25	1137	TV1V102MNN1625
	22	8×11.5	185	TV1H220MNN08B5
	33	8×11.5	210	TV1H330MNN08B5
	47	8×15	245	TV1H470MNN0815
	100	10×16	480	TV1H101MNN1016
	220	10×20	810	TV1H221MNN1020
	330	10×25	1085	TV1H331MNN1025
	470	12.5×25	1210	TV1H471MNN1225
	1000	16×30	1470	TV1H102MNN1630

### ◆ RIPPLE CURRENT MULTIPLIERS Frequency Multipliers

Vdc	Cap(μF)	Frequency (Hz)			
		50/60	120	1K	≥10K
10 ~ 50	<100	0.75	1.00	1.57	2.00
	100 ~ 470	0.80	1.00	1.34	1.50
	>470	0.85	1.00	1.10	1.15