ALUMINUM ELECTROLYTIC CAPACITORS

TL series

FEATURES

- ULTRA. Low impedance at 100kHz.
  The impedance was lower than that of the TY series.

SPECIFICATIONS

<table>
<tr><th>Item</th><th>Performance Characteristics</th></tr>
<tr><td>Operating Temperature Range</td><td>-25℃~ +105℃</td></tr>
<tr><td>Rated Voltage Range</td><td>400V ~ 450 W.V.</td></tr>
<tr><td>Capacitance Range</td><td>2.2~180uF</td></tr>
<tr><td>Capacitance Tolerance</td><td>±20% (20℃,120Hz)</td></tr>
<tr><td>Leakage Current (MAX)</td><td>I=0.04CV +100uA(2minute)
I=0.02CV +25uA(5minutes)
I=Leakage Current(uA) , C=Nominal Capacitance(uF) , V=Rated Voltage(V)</td></tr>
<tr><td>Dissipation Factor (tan δ)</td><td>
<table>
<tr><td>Rated voltage (V)</td><td>400</td><td>420</td><td>450</td></tr>
<tr><td>Tan δ</td><td>0.20</td><td>0.20</td><td>0.20</td></tr>
</table>
MAX (20℃,120Hz)
</td></tr>
<tr><td>Low Temperature Stability Impedance Ratio</td><td>
<table>
<tr><td>Rated voltage (V)</td><td>400</td><td>420</td><td>450</td></tr>
<tr><td>Z(-25℃)/Z(+20℃)</td><td>8</td><td>17</td><td>17</td></tr>
</table>
MAX (120Hz)
</td></tr>
<tr><td>Load Life</td><td>After 2000 hours' application of rated voltage at 105℃, capacitors meet the characteristics requirement listed at right.
<table>
<tr><td>Leakage Current</td><td>Not more than the specified value.</td></tr>
<tr><td>Capacitance Change</td><td>Within ±25% of initial value.</td></tr>
<tr><td>Dissipation Factor</td><td>Not more than 200% of the specified value.</td></tr>
</table>
</td></tr>
<tr><td>Shelf Life</td><td>After leaving capacitors under no load at 105℃ for 1000 hours and applying voltage according to JIS C-5102 4-3, they meet the specified value for load life characteristics listed above.</td></tr>
<tr><td>Standard</td><td>According to JIS C 5101</td></tr>
</table>

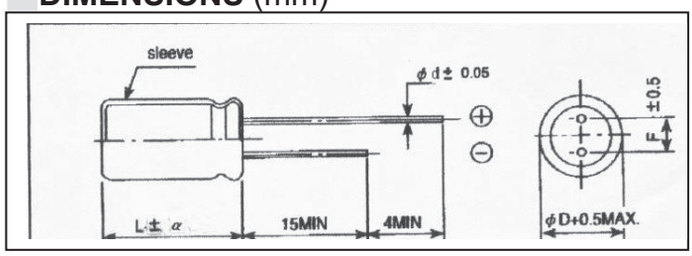
MULTIPLIER FOR RIPPLE CURRENT

Frequency coefficient

Frequency(Hz)	60(50)	120	1k	10k	≧100k
Coefficient	0.8	1.0	1.45	1.65	1.75

TL series

DIMENSIONS (mm)



φD	6.3	8	10	12.5	16	18
φd	0.5	0.6	0.6	0.6	0.8	0.8
F	2.5	3.5	5.0	5.0	7.5	7.5
α	L≦16: α=1.5, L≧20: α=2.0					

STANDARD SIZES AND PERMISSIBLE RIPPLE CURRENT

SIZE φDxL(mm)Ripple Current(mA 105℃,120HZ) r.m.s

Cap(μF) \ W.V		400		
		SIZE	Ripple Current	Impedance(Ωmax) 25℃ 100KHZ
2.2	2R2	6.3x11	22	18.00
3.3	3R3	8x11.5	35	12.0
4.7	4R7	8x11.5	60	8.5
6.8	6R8	8x16 10x12.5	70 72	6.8
10	100	10x16	85	5.0
15	150	10x20 12.5x16	117 120	3.5
22	220	10x25 12.5x20	130 160	2.5
27	270	8x40	240	2.0
33	330	8x45 10x40	300 360	1.2
		12.5x20	200	1.3
39	390	8x50 10x40	320 390	0.95
		12.5x25	350	1.0
47	470	8x60 10x40	380 430	0.80
		12.5x30	230	0.85
56	560	10x45 12.5x35	480 282	0.80
		16x25	282	0.82
68	680	10x55 12.5x40	490 480	0.73
		16x30	325	0.75
82	820	10x60 12.5x40	580 620	0.62
		18x25	375	0.65
100	101	12.5x50	730	0.40
		18x25	430	0.42
110	111	12.5x50 18x31.5	490 470	0.38
120	121	12.5x55	830	0.33
		16x40 18x31.5	500 510	0.35
150	151	18x35.5	548	0.33
180	181	18x45	670	0.30

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SIZE φ DxL(mm)Ripple Current(mA 105℃,120HZ) r.m.s

Cap(μF) \ W.V		420		
		SIZE	Ripple Current	Impedance(Ωmax) 25℃ 100KHZ
4.7	4R7	8x11.5	65	8.5
6.8	6R8	10x12.5	75	6.8
10	100	10x16	100	5.0
22	220	8x40	180	3.0
27	270	8x50	240	2.0
33	330	10x40	360	1.0
39	390	10x40	390	1.0
47	470	10x40	410	1.0
		12.5x40	550	0.9
56	560	10x50 12.5x40	490 480	0.8
68	680	10x60 12.5x40	500 490	0.7
82	820	12.5x45	630	0.5
100	101	12.5x55	730	0.4
120	121	16x35.5 18x31.5	550 610	0.38
150	151	18x40	710	0.30
180	181	18x45	720	0.30

TL series

SIZE φ DxL(mm)Ripple Current(mA 105℃,120HZ) r.m.s

Cap(μF) \ W.V		450		
		SIZE	Ripple Current	Impedance(Ωmax) 25℃ 100KHZ
3.3	3R3	8x16 10x12.5	45 60	12.0
4.7	4R7	10x12.5 10x16	65 70	8.5
6.8	6R8	10x16	80	6.8
10	100	12.5x20	145	5.0
15	150	12.5x20	150	3.5
22	220	8x45	240	2.3
		16x25	190	2.5
27	270	8x50	310	2.0
33	330	8x60	320	0.95
		10x40 12.5x30	360 220	1.0
		16x25	240	1.0
39	390	10x40	390	0.90
		16x31.5	250	0.95
47	470	10x45	440	0.78
		12.5x40	450	0.80
		16x25	270	0.85
56	560	10x55	500	0.78
		12.5x40	490	0.80
		16x35.5	350	0.75
68	680	12.5x40 16x31.5	560 350	0.70
82	820	12.5x50	650	0.48
		18x31.5	390	0.50
100	101	12.5x55	720	0.38
		18x31.5 18x35.5	480 490	0.40
110	111	18x35.5	510	0.38
120	121	18x40	525	0.35
150	151	18x45	840	0.33
180	181	20x46.5	950	0.30