

TM Series

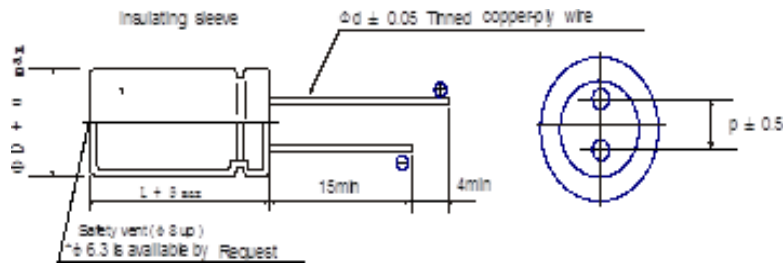
- Low impedance for high frequency ,Anti-solent Desingn
- Load life of 2000 hours at 105 depending on case size.
- Radial type for switching power supply
- Rohs compliance.



SPECIFICATIONS

Item	Characteristics																											
Operating Temperature Range	- 40 ~ +105℃																											
Voltage Range	6.3 ~100 V.DC																											
Nominal Cap. Range	10~ 12000 μF																											
Capacitance Tolerance	- 20% ~ + 20% (at 20℃, 120Hz)																											
Leakage Current	I = 0.01CV or 3(μA) whichever is greater.(after 2 minutes) where,I: Max Leakage Current(μA), C: Nominal Capacitance(μF), V: Rated Voltage(V) (at 20℃)																											
Dissipation Factor (tanδ) (at 120Hz, +20℃)	<table><tr><td>WV</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td>tanδ</td><td>0.22</td><td>0.19</td><td>0.16</td><td>0.14</td><td>0.12</td><td>1.00</td><td>0.09</td><td>0.08</td></tr></table> Add 0.02 per 1,000 μF for more then 1,000 μF items	WV	6.3	10	16	25	35	50	63	100	tanδ	0.22	0.19	0.16	0.14	0.12	1.00	0.09	0.08									
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Low Temp. Impedance Stability at 120Hz	<table><tr><td>W. V .</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td>Z(- 25℃) / Z (+ 25℃)</td><td>4</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td></tr><tr><td>Z(- 40℃) / Z (+ 25℃)</td><td>8</td><td>6</td><td>4</td><td>4</td><td>3</td><td>3</td><td>3</td><td>3</td></tr></table>	W. V .	6.3	10	16	25	35	50	63	100	Z(- 25℃) / Z (+ 25℃)	4	3	2	2	2	2	2	2	Z(- 40℃) / Z (+ 25℃)	8	6	4	4	3	3	3	3
W. V .	6.3	10	16	25	35	50	63	100																				
Z(- 25℃) / Z (+ 25℃)	4	3	2	2	2	2	2	2																				
Z(- 40℃) / Z (+ 25℃)	8	6	4	4	3	3	3	3																				
Impedance (Ω)	See case size table																											
High Temp. Load Test	After 2000 hours, application of DC rated working voltage at 105℃ , the capacitor shall meet the following limits: Capacitance change ... ≦ ±20% of the initial measured value Tan δ ... ≦ 200% of the initial specified value DC leakage current ... ≦ the initial specified value																											
High Temp. Non-Load Test	After storage for 1000 hours at 105℃ with no voltage applied, voltage treatment of JIS-C-5102 article 4-4 is to be given and then measurement shall be made, at which time requirements specified in the table "High temperature loading" can be met.																											

DRAWING



Unit: (mm)

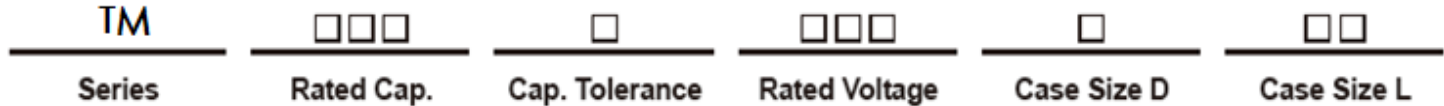
φD	5	6.3	8	10	13	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
φd	0.5			0.6		0.8	
β	1.5						
α	0.5						

MULTIPLIER FOR RIPPLE CURRENT

Frequency coefficient

Freq.(HZ) Cap(µF)	120	1K	10K	100K
6.8~ 680	0.49	0.73	0.92	1.00
820 ~ 1800	0.60	0.80	0.96	1.00
2200 ~ 18000	0.70	0.85	0.98	1.00

PART NUMBERING SYSTEM



TM Series

STANDARD RATINGS

WV(Vdc) Parameter Cap (μF)	6.3V				WV(Vdc) Parameter Cap (μF)	10V			
	ΦDxL (mm)	Ripple current (mArms) 105℃,100KHZ	Impedance			ΦDxL (mm)	Ripple current (mArms) 105℃,100KHZ	Impedance	
			20℃ 100KHZ	-10℃ 100KHZ				20℃ 100KHZ	-10℃ 100KHZ
100	5X11	155	0.850	1.700	100	6.3X11	170	0.800	1.600
220	6.3X11	255	0.350	0.700	220	6.3X11	260	0.240	0.480
330	8X11.5	330	0.250	0.500	470	8X14	550	0.120	0.240
470	8X11.5	550	0.140	0.280	680	8X20	640	0.085	0.170
560	8X16	635	0.120	0.240	1000	10X16	1010	0.060	0.120
680	8X20	695	0.100	0.200	1000	10X20	1060	0.055	0.110
820	8X20	795	0.090	0.180	1200	10X20	1240	0.050	0.100
1000	10X16	820	0.080	0.160	1500	10X25	1450	0.045	0.090
1200	10X16	1060	0.065	0.130	2200	10X28	1700	0.034	0.680
1500	10X20	1240	0.055	0.110	2200	13X25	1780	0.030	0.060
2200	10X20	1450	0.043	0.086	2700	13X30	1980	0.028	0.056
2700	13X20	1700	0.038	0.072	3300	13X30	2230	0.026	0.052
3300	13X25	1750	0.034	0.068	4700	16X31.5	2510	0.023	0.046
3900	13X30	1980	0.031	0.062	6800	16X35	2770	0.020	0.040
4700	13X30	2230	0.029	0.058	8200	18X35.5	3110	0.019	0.038
5600	13X34	2460	0.026	0.052	8200	18X31.5	3200	0.018	0.036
6800	16X31.5	2510	0.024	0.048	10000	18X35.5	3250	0.017	0.034
8200	16X35.5	2770	0.022	0.044	10000	18X40	3300	0.016	0.032
10000	16X40	3110	0.020	0.040	12000	18X40	3450	0.015	0.030

WV(Vdc) Parameter	16V				WV(Vdc) Parameter	25V			
	ΦDxL (mm)	Ripple current	Impedance			ΦDxL (mm)	Ripple current	Impedance	
		mAr.m.s (mArms)	20℃ 100KHZ	-10℃ 100KHZ			(mArms) 105℃,100KHZ	20℃ 100KHZ	-10℃ 100KHZ
Cap (μF)					Cap (μF)				
100	6.3X11	185	0.350	0.700	47	5X11	220	0.500	1.000
120	6.3X11	215	0.330	0.660	100	8X11.5	270	0.240	0.048
220	8X11.5	340	0.160	0.320	220	8X14	495	0.180	0.036
330	8X14	495	0.120	0.240	330	6.3X15	231	0.270	0.540
470	8X16	750	0.090	0.180	330	8X16	640	0.120	0.024
560	8X20	810	0.075	0.150	470	10X20	1060	0.065	0.130
680	8X20	1060	0.065	0.130	680	10X25	1280	0.046	0.096
820	10X20	1240	0.055	0.110	820	10X25	1450	0.041	0.082
1000	10X20	1380	0.047	0.094	1000	13X25	1700	0.036	0.072
1200	10X20	1450	0.041	0.082	1200	13X25	1750	0.032	0.064
2200	13X25	1980	0.028	0.056	1500	13X30	1980	0.029	0.058
2700	13X25	2230	0.025	0.050	2200	13X34	2460	0.024	0.048
3300	13X30	2460	0.023	0.046	2700	16X30	2510	0.022	0.044
3900	16X30	2510	0.022	0.044	3300	16X35	2770	0.020	0.040
4700	16X30	2770	0.020	0.040	4700	18X35.5	3300	0.018	0.036

TM Series

STANDARD RATINGS

Cap (μF)	WV(Vdc)	35V				Cap (μF)	WV(Vdc)	50V			
	Parameter	ΦDxL (mm)	Ripple current (mArms) 105℃,100KHZ	Impedance			Parameter	ΦDxL (mm)	Ripple current (mArms) 105℃,100KHZ	Impedance	
				20℃ 100KHZ	-10℃ 100KHZ					20℃ 100KHZ	-10℃ 100KHZ
56		6.3X11	255	0.28	0.56	56		8X11.5	310	0.25	0.50
100		8X11.5	350	0.35	0.7	68		8X11.5	415	0.20	0.40
150		8X11.5	420	0.25	0.5	100		8X16	510	0.14	0.28
220		8X20	640	0.12	0.24	150		10X16	680	0.10	0.20
330		10X16	1060	0.08	0.16	220		10X20	1060	0.075	0.15
470		10X25	1300	0.055	0.11	330		10X25	1230	0.055	0.110
560		10X25	1450	0.041	0.082	470		13X25	1500	0.044	0.088
680		13X25	1700	0.036	0.072	560		13X25	1680	0.04	0.08
1000		13X25	1980	0.027	0.054	680		13X30	1900	0.036	0.072
1200		13X30	2230	0.026	0.052	820		13X34	2120	0.033	0.066
1500		13X35	2460	0.024	0.048	1000		16X30	2150	0.030	0.060
1800		16X31.5	2930	0.023	0.046	1200		16X30	2320	0.028	0.056
2200		16X35	2770	0.020	0.04	1500		16X35	2650	0.026	0.052
2700		16X35	3110	0.018	0.036	2200		18X40	2790	0.024	0.048
3300		18X40	3300	0.017	0.034						
3900		18X40	3680	0.016	0.032						

Parameter Cap (μF)	63V				Parameter Cap (μF)	100V			
	ΦDxL (mm)	Ripple current (mArms) 105℃,100KHZ	Impedance			ΦDxL (mm)	Ripple current (mArms) 105℃,100KHZ	Impedance	
			20℃ 100KHZ	-10℃ 100KHZ				20℃ 100KHZ	-10℃ 100KHZ
47	8X11.5	290	0.56	1.12	10	6.3X11	130	1.77	3.54
56	8X11.5	320	0.38	0.76	22	8X11.5	220	0.85	1.70
68	10X16	480	0.31	0.62	33	8X16	320	0.69	1.38
100	10X16	590	0.24	0.48	47	8X16	370	0.58	1.18
120	10X16	660	0.16	0.32	56	10X16	400	0.42	0.84
150	10X20	790	0.11	0.22	100	10X25	560	0.30	0.60
220	10X25	1020	0.082	0.164	120	10X25	660	0.22	0.44
330	10X25	1200	0.064	0.128	150	13X20	780	0.174	0.348
470	16X25	1750	0.048	0.096	180	13X20	820	0.142	0.284
560	16X25	1830	0.044	0.088	220	13X25	880	0.13	0.26
680	16X31.5	2070	0.04	0.080	330	16X25	1440	0.10	0.20
820	16X31.5	2300	0.035	0.070	470	16X31.5	1650	0.09	0.18
1000	16X35.5	2450	0.031	0.062	560	16X35.5	1720	0.085	0.17
1200	18X31.5	2500	0.026	0.052	680	18X35.5	1790	0.08	0.16
1500	18X31.5	2700	0.025	0.050	820	18X35.5	1840	0.071	0.14