

## Features

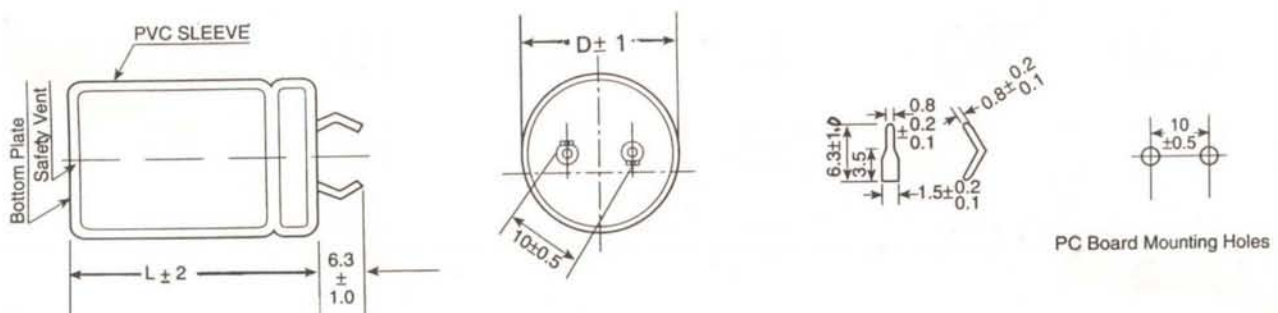
- Load life of 2,000 hours at 105°C
- Snap-in terminal type, wide temperature range.
- Suitable for use in switching power supplies.
- Having safety vents.



## Specifications

Item	Characteristics									
Operating temperature range	-40~+105°C(for 10V to 250V) -25~+105°C(for 315V to 400V)									
Rated voltage range	10~400V									
Capacitance range	39~82,000 μF									
Capacitance tolerance (at 20°C, 120Hz)	±20%(M)									
Leakage current(I) (at 20°C)	After 1 minute application of rated voltage. I ≤ 0.02CV or 5mA, whichever is smaller. Where C: Nominal capacitance in μF, V: Rated voltage in V.									
Dissipation factor(Tan δ) (at 20°C, 120Hz)	W.V.(V)	10	16	25	35	50	60~100	160~200	250~450	
	Tan δ (max.)	0.50	0.40	0.30	0.25	0.20	0.15	0.12	0.15	
For capacitance of more than 1,000 μF, add 0.02 for every increase of 1,000 μF.										
Low temperature characteristics (at 120Hz)	W.V.(v)	10~16		25	35	50~63	80~100	160~250	315~400	
	impedance ratio ZT/Z+20°C(max)	Z-25°C/Z+20°C	4	3	2	3	4			
Load life	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage has been applied for 2,000 hours at 105°C									
	Capacitance change	≤20% of the initial value								
	tan δ	≤200% of the initial specified value								
Shelf life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them at 105°C for 1,000 hours without voltage applied									
	Capacitance change	≤20% of the initial value								
	tan δ	≤150% of the initial specified value								
Others	Satisfies characteristic W of JIS C5141									

## Dimensions





**Case Size DxL(mm) and Maximun Ripple current(A rms/at 105°C,120Hz)**

W.V.(V)		10								16							
Cap.(μF)	D	22	25	30	35	22	25	30	35	22	25	30	35				
6,800						22×25	1.42										
8,200						22×30	1.69										
10,000	22×25	1.54				22×30	1.86	25×25	1.86								
12,000	22×30	1.82				22×35	2.18	25×30	2.20								
15,000	22×30	2.04	25×25	2.04		22×40	2.58	25×35	2.65	30×25	2.55						
18,000	22×35	2.39	25×30	2.41		22×50	3.12	25×35	2.87	30×30	3.00						
22,000	22×40	2.80	25×35	2.84	30×25	2.76		25×45	3.54	30×30	3.31	35×25	3.40				
27,000	22×50	3.42	25×40	3.33	30×30	3.28		25×50	4.10	30×35	3.91	35×30	4.03				
33,000			25×45	3.87	30×35	3.86	35×25	3.72			30×40	4.57	35×35	4.73			
39,000			25×50	4.41	30×35	4.20	35×30	4.33			30×45	5.22	35×35	5.15			
47,000				30×40	4.88	35×35	5.05						35×40	5.96			
56,000				30×50	5.86	35×35	5.52						35×45	6.66			
68,000						35×40	6.42										
82,000						35×45	7.74										

W.V.(V)		25								35							
Cap.(μF)	D	22	25	30	35	22	25	30	35	22	25	30	35				
3,300						22×25	1.25										
3,900						22×30	1.47										
4,700	22×25	1.37				22×35	1.72	25×25	1.61								
5,600	22×30	1.61				22×35	1.88	25×30	1.90								
6,800	22×30	1.77	25×25	1.77		22×40	2.20	25×35	2.23	30×25	2.17						
8,200	22×35	2.08	25×30	2.10		22×50	2.67	25×40	2.59	30×30	2.56						
10,000	22×40	2.43	25×35	2.47	30×25	2.40		30×45	3.01	30×35	3.10	35×25	2.90				
12,000	22×45	2.81	25×40	2.86	30×30	2.83		25×50	3.46	30×35	3.30	35×30	3.40				
15,000			25×45	3.37	30×35	3.36	35×25	3.24			30×45	4.10	35×35	4.04			
18,000			25×50	3.87	30×35	3.68	35×30	3.80			30×50	4.69	35×40	4.67			
22,000				30×45	4.53	35×35	4.46						35×45	5.42			
27,000				30×50	5.25	35×40	5.22						35×50	6.28			
33,000						35×45	6.06										
39,000						35×50	6.89										

W.V.(V)		50								63							
Cap.(μF)	D	22	25	30	35	22	25	30	35	22	25	30	35				
1,200						22×25	0.98										
1,500						22×30	1.18										
1,800	22×25	1.04				22×30	1.29	25×25	1.29								
2,200	22×30	1.23				22×35	1.52	25×30	1.54								
2,700	22×35	1.46	25×25	1.37		22×40	1.79	25×35	1.81	30×25	1.76						
3,300	22×35	1.62	25×30	1.63		22×50	2.18	25×40	2.12	30×30	2.10						
3,900	22×40	1.86	25×35	1.89	30×25	1.84		25×45	2.43	30×35	2.43	35×25	2.33				
4,700			22×50	2.26	30×30	2.20		25×50	2.80	30×35	2.66	35×30	2.75				
5,600	22×50	2.26	22×45	2.40	30×30	2.30	25×25	2.42			30×40	3.07	35×35	3.18			
6,800			25×50	2.91	30×35	2.77	35×30	2.86			30×50	3.73	35×35	3.51			
8,200				30×40	3.22	35×35	3.34						35×40	4.07			
10,000				30×50	3.92	35×35	3.69						35×50	4.93			
12,000						35×40	4.26										
15,000						35×50	5.23										



# TMCE18 SR Series Aluminum Electrolytic Capacitors

W.V.(V)		80						100									
Cap.( $\mu$ F)	D	22		25		30		35		22		25		30		35	
560										22×25	0.67						
680										22×30	0.79						
820		22×25	0.81							22×30	0.87	25×25	0.87				
1,000		22×30	0.96							22×35	1.03	25×30	1.04				
1,200		22×30	1.05	25×25	1.05					22×40	1.19	25×30	1.13	30×25	1.18		
1,500		22×35	1.26	25×30	1.18					22×45	1.40	25×35	1.35	30×30	1.41		
1,800		22×40	1.46	25×30	1.48	30×25	1.44					25×40	1.57	30×30	1.55	35×25	1.59
2,200		22×45	1.70	25×35	1.64	30×30	1.71			22×60	1.74	25×50	1.91	30×35	1.82	35×30	1.88
2,700				25×40	2.02	30×30	1.90	35×25	1.94					30×40	2.13	35×35	2.21
3,300				25×45	2.34	30×35	2.30	35×30	2.86					30×45	2.48	35×35	2.44
3,900						30×40	2.56	35×35	2.66							35×40	2.81
4,700						30×45	2.96	35×35	2.92							35×45	3.23
5,600								35×40	3.36								
6,800								35×45	3.89								

W.V.(V)		160						180									
Cap.( $\mu$ F)	D	22		25		30		35		22		25		30		35	
150										22×25	0.39						
180		22×25	0.42							22×30	0.46						
220		22×30	0.50	25×25	0.50					22×30	0.50	25×25	0.50				
270		22×35	0.60	25×30	0.56					22×35	0.60	25×30	0.60				
330		22×40	0.70	25×30	0.62					22×40	0.70	25×35	0.71	30×25	0.69		
390		22×45	0.80	25×35	0.77	30×25	0.75			22×50	0.84	25×40	0.82	30×30	0.81		
470		22×50	0.92	25×40	0.90	30×30	0.88					25×45	0.91	30×35	0.94	35×25	0.91
560				25×45	1.03	30×30	1.03	35×25	0.99			25×50	1.08	30×35	1.03	35×30	1.06
680				25×50	1.19	30×40	1.20	35×30	1.17					30×40	1.20	35×35	1.24
820						30×45	1.38	35×35	1.36					30×45	1.38	35×35	1.36
1,000						30×50	1.60	35×40	1.59							35×40	1.59
1,200								35×45	1.83							35×50	1.91
1,500								35×50	2.14								
2,700								35×60	2.53								

W.V.(V)		200						250									
Cap.( $\mu$ F)	D	22		25		30		35		22		25		30		35	
100										22×25	0.28						
120		22×25	0.35							22×30	0.33						
150		22×30	0.42							22×30	0.37	25×25	0.37				
180		22×30	0.46	25×25	0.46					22×35	0.44	25×30	0.44				
220		22×35	0.54	25×30	0.54					22×40	0.51	25×35	0.52	30×25	0.50		
270		22×40	0.63	25×30	0.60	30×25	0.63			22×50	0.62	25×40	0.61	30×30	0.60		
330		22×45	0.74	25×35	0.71	30×30	0.74					25×45	0.71	30×30	0.71	35×25	0.68
390		22×50	0.84	25×40	0.82	30×30	0.81	35×25	0.83			25×50	0.81	30×35	0.77	35×30	0.79
470				25×45	0.94	30×35	0.94	35×30	0.97					30×40	0.89	35×35	0.92
560						30×35	1.09	35×30	1.06					30×45	1.02	35×35	1.01
680						30×45	1.26	35×35	1.24							35×40	1.17
820						30×50	1.45	35×35	1.44							35×45	1.41
1,000								35×45	1.67								
1,200								35×50	1.91								



W.V.(V)		315						350									
Cap.( $\mu$ F)	D	22	25	30	35	22	25	30	35	22	25	30	35				
47						22×25	0.19										
56						22×30	0.23										
68		22×25	0.23			22×30	0.25	25×25	0.25								
82		22×30	0.28			22×35	0.29	25×30	0.30								
100		22×30	0.30	25×25	0.30					22×40	0.34	25×30	0.33	30×25	0.34		
120		22×35	0.36	25×30	0.36					22×45	0.40	25×35	0.38	30×30	0.40		
150		22×40	0.42	25×35	0.43	30×25	0.42					25×40	0.45	30×30	0.45	35×25	0.46
180		22×45	0.49	25×40	0.47	30×30	0.49					25×45	0.52	30×35	0.52	35×30	0.54
220			25×45	0.55	30×30	0.54	35×25	0.55						30×40	0.61	35×30	0.59
270			25×50	0.67	30×35	0.64	35×30	0.66						30×45	0.71	35×35	0.70
330					30×40	0.75	35×35	0.77								35×40	0.82
390					30×45	0.85	35×35	0.84								35×45	0.93
470							35×40	0.97									
560							35×45	1.12									

W.V.(V)		400						450								
Cap.( $\mu$ F)	D	22	25	30	35	22	25	30	35	22	25	30	35			
39						22×25	0.18									
47		22×25	0.19			22×30	0.21	25×25	0.21							
56		22×30	0.23			22×35	0.24	25×30	0.25							
68		22×30	0.25	25×25	0.25			22×40	0.28	25×30	0.27					
82		22×35	0.29	25×30	0.30			22×45	0.33	25×35	0.32	30×25	0.31			
100		22×40	0.34	25×30	0.33	30×25	0.34		22×50	0.38	25×40	0.37	30×30	0.36		
120		22×45	0.40	25×35	0.38	30×30	0.40				25×45	0.43	30×35	0.43	35×25	0.41
150			25×40	0.45	30×30	0.45	35×25	0.46					30×40	0.50	35×30	0.49
180			25×45	0.52	30×35	0.52	35×30	0.54					30×45	0.58	35×35	0.57
220					30×40	0.61	35×30	0.59					30×50	0.67	35×40	0.67
270					30×45	0.71	35×35	0.70							35×45	0.78
330							35×40	0.82							35×50	0.90
390							35×45	0.93								
470							35×50	1.07								

## Ripple Current Multipliers

Frequency multiplying factor

Cap.( $\mu$ F)	Freq(Hz)				
	50	60	120	1k	10~15K
16~100	0.88	0.90	1.00	1.15	1.15
160~250	0.85	0.88	1.00	1.15	1.20
315~450	0.88	0.90	1.00	1.10	1.15

Temperature multiplying factor

Temperature(°C)	45	60	70	85	105
Factor	2.47	2.37	2.17	1.67	1.00