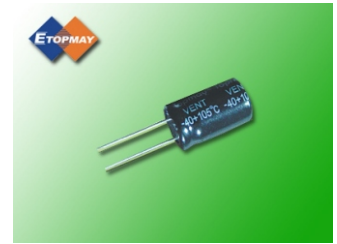


Features

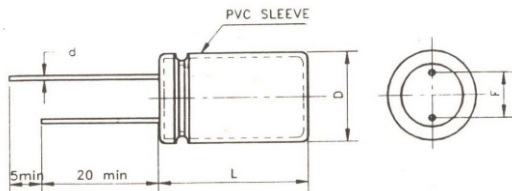
- Low E.S.R. and high ripple current at high frequency range.
- Load life of 2,000 hours (1,000 hours for case dia. 8mm or less) at 105°C.
- Wide operating temperature range, from -40°C to +105°C.
- Suitable for switching power supplies.
- Case size larger than 5mm diameter has safety vents.



Specifications

Item	Characteristics							
Operating temperature range	-40~+105°C							
Rated voltage range	6.3~63V							
Capacitance range	1~15,000 μ F							
Capacitance tolerance (at 20°C, 120Hz)	±20%(M)							
Leakage current(I) (at 20°C)	After 2 minutes application of rated voltage I ≤ 0.01CA or 3 μ A, whichever is greater Where c: Nominal capacitance in μ F, V: Rated voltage in V							
Dissipation factor(Tan δ) (at 20°C, 120Hz)	W.V.(v)	6.3	10	16	25	35	50	63
	Tan δ (max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.08
For capacitance of more than 1,000 μ F, add 0.02 for every increase of 1,000 μ F								
Low temperature characteristics (at 120Hz)	W.V.(v)			6.3~10		16~63		
	Impedance ratio	Z-25°C/Z+20°C			2		1.5	
	ZT/Z+20°C(max.)	Z-40°C/Z+20°C			4		3	
Load life	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage with max. ripple current has been applied for 2,000 hours (1,000 hours for case dia. 8mm or less) at 105°C.							
	Capacitance change			≤ ±20% of the initial value				
	tan δ			≤ 200% of the initial specified value				
	I			≤ 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 500 hours without voltage applied							
	Capacitance change			≤ ±20% of the initial value				
	tan δ			≤ 150% of the initial specified value				
	I			≤ 200% of the initial specified value				
Others	Satisfies characteristic W of JIS C5141							

Dimensions



D±0.5	5	6.3	8	10	13	16	18					
L	±1.0				±2.0							
	11	11	12	15	16	20	25	20	25	25	30	35
F±0.5	2.0	2.5	3.5	5.0			7.5					
d±0.05	0.5			0.6			0.8					



TMCE08 XL SERIES Aluminum Electrolytic Capacitor

Case Size DxL(mm) and Maximun Ripple current(at DC 12V,15.75kHz)

W.V.(v) Cap.(μ F)	6.3			10			16			25		
	Size	E.S.R.	Ripple	Size	E.S.R.	Ripple	Size	E.S.R.	Ripple	Size	E.S.R.	Ripple
22										5×11	470	0.21
33							5×11	450	0.21	5×11	450	0.21
47							5×11	450	0.21	5×11	450	0.21
68				5×11	430	0.22	5×11	430	0.22	6.3×11	300	0.30
100	5×11	430	0.22	5×11	430	0.22	6.3×11	300	0.30	6.3×11	300	0.30
150	5×11	430	0.22	6.3×11	300	0.30	6.3×11	200	0.37	8×12	130	0.55
220	6.3×11	300	0.30	6.3×11	200	0.37	8×12	130	0.55	8×12	72	0.75
330	6.3×11	200	0.37	8×12	130	0.55	8×12	72	0.75	8×15	56	0.91
470	8×12	130	0.55	8×12	72	0.75	8×15	56	0.91	10×16	38	1.31
680	8×12	72	0.75	8×12	56	0.91	10×16	41	1.26	10×20	23	1.81
1000	8×12	72	0.75	10×16	56	1.08	10×16	38	1.31	10×25	22	1.99
1500	10×16	38	1.31	10×16	38	1.31	10×20	23	1.81	13×25	18	2.62
2200	10×20	23	1.81	10×20	23	1.81	10×25	22	1.99	16×25	18	3.02
3300	10×25	21	2.04	13×20	21	2.26	13×25	18	2.62	16×30	17	3.29
4700	13×25	18	2.62	16×25	18	3.02	16×25	18	3.02	18×35	15	3.99
6800	16×25	18	3.02	16×25	17	3.11	16×30	16	3.39			
10000	18×30	16	3.39	16×25	15	3.69	18×35	15	3.99			
15000	18×35	15	3.99									

W.V.(v) Cap.(μ F)	6.3			10			16		
	Size	E.S.R.	Ripple	Size	E.S.R.	Ripple	Size	E.S.R.	Ripple
1.0				5×11	5000	0.03			
2.2				5×11	4000	0.07			
3.3				5×11	3500	0.08			
4.7				5×11	3000	0.08			
6.8				5×11	1000	0.09			
10	5×11	1000	0.14	5×11	1000	0.14	5×11	1000	0.14
15	5×11	800	0.16	5×11	800	0.16	5×11	800	0.16
22	5×11	700	0.17	5×11	650	0.18	6.3×11	650	0.20
33	5×11	600	0.18	6.3×11	480	0.24	6.3×11	480	0.24
47	6.3×11	300	0.30	6.3×11	300	0.30	8×12	300	0.37
68	6.3×11	240	0.34	8×12	170	0.49	8×12	160	0.50
100	8×12	100	0.63	8×12	140	0.53	8×15	130	0.59
150	8×12	85	0.39	10×16	90	0.85	10×16	90	0.85
220	8×15	56	0.91	10×16	85	0.87	10×20	72	1.02
330	10×16	38	1.31	10×25	72	1.10	13×20	48	1.49
470	10×20	23	1.81	13×20	48	1.49	13×25	36	1.85
680	10×25	21	2.04	13×25	36	1.85	16×25	30	2.34
1000	13×25	20	2.48	16×25	30	2.34	16×30	26	2.66
1500	16×25	19	2.94	16×35	26	2.80	18×35	25	3.09
2200	16×30	18	3.20	18×35	24	3.15			
3300	18×35	18	3.64						

Note: 8×15 can also be 10×12 as per customer' s request



Ripple Current Multipliers

Frequency multiplying factor

W.V.(v)	Freq.(Hz)	50	120	1K	10K	100K
	Cap.(μ F)					
6.3~35	10~100	0.41	0.52	0.66	0.82	1.00
	150~1000	0.42	0.55	0.68	0.83	1.00
	1500~15000	0.43	0.57	0.71	0.87	1.00
50~63	1~10	0.26	0.36	0.61	0.87	1.00
	15~150	0.49	0.62	0.87	0.97	1.00
	220~2200	0.49	0.71	0.88	0.98	1.00

Temperature multiplying factor

Temperature($^{\circ}$ C)	55	65	85	105
Factor	2.44	2.23	1.73	1.00