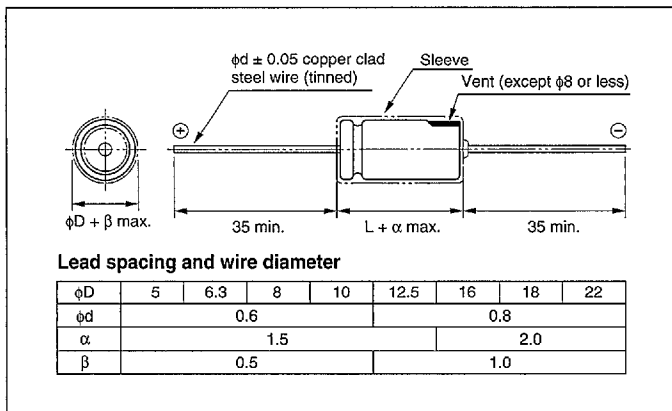


TE2 Miniature Aluminum Electrolytic Capacitors

Series TE2 Miniature Standard

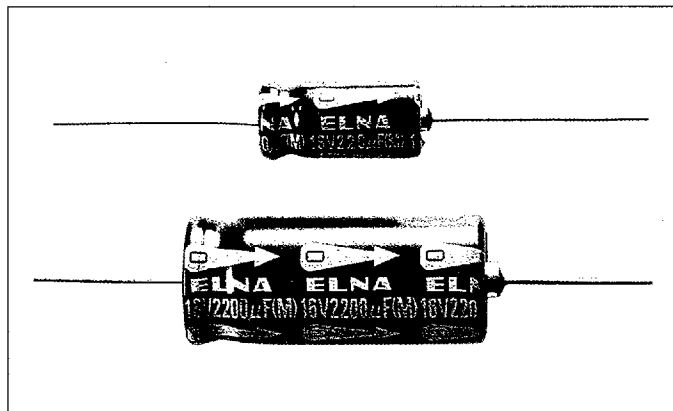
- Case size is one to two sizes smaller than TE Series.
- Extended rated voltage to 450 V.
- Case size 5 mm is added to line up.

Outline Drawing



Unit: mm

Photo



Specifications

No.	Item	Performance	
1	Temperature range (°C)	-40 to +85	-25 to +85
2	Rated voltage (V)	6.3 to 250	350 to 450
3	Leakage current (μA)	Less than 0.01 CV or 3 whichever is larger (after two minutes)	Less than 0.03 CV +10 (after five minutes)
4	Capacitance tolerance (%)	±20 (20°C, 120 Hz)	±20 (20°C, 120 Hz)
5	Tangent of loss angle (tan δ)	Rated voltage (V)	6.3 10 16 25 35 50 63 100 160 200 250
		tan δ	0.22 0.19 0.16 0.14 0.12 0.10 0.09 0.08 0.20 0.20 0.20
		0.02 is added to each 1000 μF increase over 1000 μF. (20°C, 120 Hz)	
6	Endurance (85°C) (Applied ripple current)	Test time	2000hrs
		Leakage current	Initial specified value or less
		Change in capacitance	Within ±20% of initial value
		tan δ	200% or less of initial specified value
		Test time	2000hrs
7	Max. storage temp. (85°C)	Test time 500hrs. Others have same as endurance in No. 6. Pretreatment performed (JIS C 5102).	
8	Applicable Standard	JIS C 5102 and JIS C 5141.	

Note: CV in the table is the product of rated capacitance C (μF) and rated voltage V (V).

Coefficients of Frequency for Ripple Current

Frequency (Hz)	50	120	1 k	10 k	20 k
Rated Voltage (V)					
100 or less	0.95	1	1.10	1.30	1.33
160 or more	0.90	1	1.20	1.50	1.55

Coefficients of Temperature for Ripple Current

Temperature (°C)	+40 or less	+55	+70	+85
Coefficients	2.9	2.4	1.9	1

TE2 Miniature Aluminum Electrolytic Capacitors

Case size by working voltage & capacitance (in mm)

WV(V) Cap.(µF)	6.3	10	16	25	35	50	63	100
0.47						5 x 12.5		5 x 12.5
1						5 x 12.5	5 x 12.5	5 x 12.5
2.2						5 x 12.5	5 x 12.5	5 x 12.5
3.3						5 x 12.5	5 x 12.5	6.3 x 12.5
4.7				5 x 12.5	5 x 12.5	5 x 12.5	5 x 12.5	6.3 x 12.5
10			5 x 12.5	5 x 12.5	5 x 12.5	5 x 12.5	6.3 x 12.5	6.3 x 16
22		5 x 12.5	5 x 12.5	5 x 12.5	6.3 x 12.5	6.3 x 12.5	6.3 x 16	8 x 16
33		5 x 12.5	5 x 12.5	6.3 x 12.5	6.3 x 16	6.3 x 16	6.3 x 16	8 x 20
47		5 x 12.5	6.3 x 12.5	6.3 x 16	6.3 x 16	6.3 x 16	8 x 16	8 x 20
100	6.3 x 12.5	6.3 x 16	6.3 x 16	6.3 x 16	8 x 16	8 x 16	8 x 20	10 x 25
220	6.3 x 16	6.3 x 16	8 x 16	8 x 16	8 x 20	10 x 20	10 x 25	12.5 x 31.5
330	8 x 16	8 x 16	8 x 16	8 x 20	10 x 20	10 x 25	12.5 x 25	16 x 25
470	8 x 16	8 x 16	8 x 20	10 x 20	10 x 25	12.5 x 25	12.5 x 31.5	16 x 40
1000	10 x 20	10 x 20	10 x 25	12.5 x 25	12.5 x 31.5	16 x 25	16 x 31.5	22 x 40
2200	12.5 x 25	12.5 x 25	12.5 x 31.5	16 x 25	16 x 31.5	18 x 40	22 x 40	
3300	12.5 x 25	12.5 x 31.5	16 x 25	16 x 31.5	16 x 40	22 x 40	22 x 50	
4700	12.5 x 31.5	16 x 25	16 x 31.5	18 x 40	22 x 40	22 x 50		
6800	16 x 31.5	16 x 31.5	16 x 40	22 x 40	22 x 50			
10000	16 x 40	18 x 40	22 x 40	22 x 50				
22000	22 x 40	22 x 50						

WV(V) Cap.(µF)	160	200	250	350	400	450
0.47	6.3 x 12.5		6.3 x 12.5	6.3 x 12.5	6.3 x 12.5	6.3 x 16
1	6.3 x 12.5	6.3 x 12.5	6.3 x 16	8 x 16	8 x 16	8 x 16
2.2	6.3 x 16	6.3 x 16	8 x 16	8 x 16	8 x 20	8 x 20
3.3	8 x 16	8 x 16	8 x 16	8 x 20	10 x 20	10 x 20
4.7	8 x 16	8 x 16	10 x 20	10 x 20	10 x 20	10 x 25
10	10 x 20	10 x 20	10 x 25	10 x 25	12.5 x 25	12.5 x 25
22	10 x 25	10 x 25	12.5 x 25	12.5 x 31.5	16 x 31.5	16 x 31.5
33	12.5 x 25	12.5 x 31.5	12.5 x 31.5	16 x 31.5	16 x 40	16 x 40
47	12.5 x 31.5	12.5 x 31.5	16 x 25	16 x 40	18 x 40	18 x 40
100	16 x 31.5	16 x 40	16 x 40			
220	22 x 40	22 x 40				

Axial Type

TE2

TE2 Miniature Aluminum Electrolytic Capacitors

Standard Ratings

ELNA PART NO. / WV (V)	CAP. (μF)	SIZE (φ x L) (mm)	tan δ	Ripple Current (mArms)
6.3 V				
TE2-6V101M	100	6.3 x 12.5	0.22	105
TE2-6V221M	220	6.3 x 16	0.22	185
TE2-6V331M	330	8 x 16	0.22	275
TE2-6V471M	470	8 x 16	0.22	330
TE2-6V102M	1000	10 x 20	0.22	635
TE2-6V222M	2200	12.5 x 25	0.24	1180
TE2-6V332M	3300	12.5 x 25	0.26	1450
TE2-6V472M	4700	12.5 x 31.5	0.28	1900
TE2-6V682M	6800	16 x 31.5	0.32	2645
TE2-6V103M	10000	16 x 40	0.40	3535
TE2-6V223M	22000	22 x 40	0.64	6410
10 V				
TE2-10V220M	22	5 x 12.5	0.19	54
TE2-10V330M	33	5 x 12.5	0.19	66
TE2-10V470M	47	5 x 12.5	0.19	79
TE2-10V101M	100	6.3 x 16	0.19	144
TE2-10V221M	220	6.3 x 16	0.19	214
TE2-10V331M	330	8 x 16	0.19	296
TE2-10V471M	470	8 x 16	0.19	353
TE2-10V102M	1000	10 x 20	0.19	690
TE2-10V222M	2200	12.5 x 25	0.21	1445
TE2-10V332M	3300	12.5 x 31.5	0.23	1713
TE2-10V472M	4700	16 x 25	0.25	2163
TE2-10V682M	6800	16 x 31.5	0.29	2846
TE2-10V103M	10000	18 x 40	0.37	4077
TE2-10V223M	22000	22 x 50	0.61	7540
16 V				
TE2-16V100M	10	5 x 12.5	0.16	40
TE2-16V220M	22	5 x 12.5	0.16	59
TE2-16V330M	33	5 x 12.5	0.16	72
TE2-16V470M	47	6.3 x 12.5	0.16	102
TE2-16V101M	100	6.3 x 16	0.16	157
TE2-16V221M	220	8 x 16	0.16	263
TE2-16V331M	330	8 x 16	0.16	322
TE2-16V471M	470	8 x 20	0.16	450

ELNA PART NO. / WV (V)	CAP. (μF)	SIZE (φ x L) (mm)	tan δ	Ripple Current (mArms)
TE2-16V102M	1000	10 x 25	0.16	819
TE2-16V222M	2200	12.5 x 31.5	0.18	1524
TE2-16V332M	3300	16 x 25	0.20	1975
TE2-16V472M	4700	16 x 31.5	0.22	2578
TE2-16V682M	6800	16 x 40	0.26	3419
TE2-16V103M	10000	22 x 40	0.34	5067
25 V				
TE2-25V4R7M	4.7	5 x 12.5	0.14	29
TE2-25V100M	10	5 x 12.5	0.14	42
TE2-25V220M	22	5 x 12.5	0.14	63
TE2-25V330M	33	6.3 x 12.5	0.14	91
TE2-25V470M	47	6.3 x 16	0.14	115
TE2-25V101M	100	6.3 x 16	0.14	168
TE2-25V221M	220	8 x 16	0.14	281
TE2-25V331M	330	8 x 20	0.14	403
TE2-25V471M	470	10 x 20	0.14	550
TE2-25V102M	1000	12.5 x 25	0.14	1000
TE2-25V222M	2200	16 x 25	0.16	1723
TE2-25V332M	3300	16 x 31.5	0.18	2310
TE2-25V472M	4700	18 x 40	0.20	3257
TE2-25V682M	6800	22 x 40	0.24	4467
TE2-25V103M	10000	22 x 50	0.32	5922
35 V				
TE2-35V4R7M	4.7	5 x 12.5	0.12	31
TE2-35V100M	10	5 x 12.5	0.12	46
TE2-35V220M	22	6.3 x 12.5	0.12	80
TE2-35V330M	33	6.3 x 16	0.12	104
TE2-35V470M	47	6.3 x 16	0.12	125
TE2-35V101M	100	8 x 16	0.12	205
TE2-35V221M	220	8 x 20	0.12	355
TE2-35V331M	330	10 x 20	0.12	496
TE2-35V471M	470	10 x 25	0.12	649
TE2-35V102M	1000	12.5 x 31.5	0.12	1187
TE2-35V222M	2200	16 x 31.5	0.14	2037
TE2-35V332M	3300	16 x 40	0.16	3048
TE2-35V472M	4700	22 x 40	0.18	4011

Note: Allowable Ripple Current 120 Hz at 85°C

TE2 Miniature Aluminum Electrolytic Capacitors**Standard Ratings**

ELNA PART NO. / WV (V)	CAP. (μ F)	SIZE (ϕ x L) (mm)	$\tan \delta$	Ripple Current (mA rms)
TE2-35V682M	6800	22 x 50	0.22	5275
50 V				
TE2-50VR47M	0.47	5 x 12.5	0.10	11
TE2-50V010M	1	5 x 12.5	0.10	16
TE2-50V2R2M	2.2	5 x 12.5	0.10	24
TE2-50V3R3M	3.3	5 x 12.5	0.10	29
TE2-50V4R7M	4.7	5 x 12.5	0.10	34
TE2-50V100M	10	5 x 12.5	0.10	50
TE2-50V220M	22	6.3 x 12.5	0.10	93
TE2-50V330M	33	6.3 x 16	0.10	114
TE2-50V470M	47	6.3 x 16	0.10	137
TE2-50V101M	100	8 x 16	0.10	224
TE2-50V221M	220	10 x 20	0.10	444
TE2-50V331M	330	10 x 25	0.10	595
TE2-50V471M	470	12.5 x 25	0.10	811
TE2-50V102M	1000	16 x 25	0.10	1375
TE2-50V222M	2200	18 x 40	0.12	2636
TE2-50V332M	3300	22 x 40	0.14	3682
TE2-50V472M	4700	22 x 50	0.16	4804
63 V				
TE2-63V010M	1	5 x 12.5	0.09	17
TE2-63V2R2M	2.2	5 x 12.5	0.09	25
TE2-63V3R3M	3.3	5 x 12.5	0.09	30
TE2-63V4R7M	4.7	5 x 12.5	0.09	36
TE2-63V100M	10	6.3 x 12.5	0.09	63
TE2-63V220M	22	6.3 x 16	0.09	98
TE2-63V330M	33	6.3 x 16	0.09	121
TE2-63V470M	47	8 x 16	0.09	162
TE2-63V101M	100	8 x 20	0.09	276
TE2-63V221M	220	10 x 25	0.09	512
TE2-63V331M	330	12.5 x 25	0.09	716
TE2-63V471M	470	12.5 x 31.5	0.09	939
TE2-63V102M	1000	16 x 31.5	0.09	1450
TE2-63V222M	2200	22 x 40	0.11	3169
TE2-63V332M	3300	22 x 50	0.13	4243

ELNA PART NO. / WV (V)	CAP. (μ F)	SIZE (ϕ x L) (mm)	$\tan \delta$	Ripple Current (mA rms)
100 V				
TE2-100V4R7M	0.47	5 x 12.5	0.08	12
TE2-100V010M	1	5 x 12.5	0.08	18
TE2-100V2R2M	2.2	5 x 12.5	0.08	26
TE2-100V3R3M	3.3	6.3 x 12.5	0.08	38
TE2-100V4R7M	4.7	6.3 x 12.5	0.08	46
TE2-100V100M	10	6.3 x 16	0.08	70
TE2-100V220M	22	8 x 16	0.08	118
TE2-100V330M	33	8 x 20	0.08	168
TE2-100V470M	47	8 x 20	0.08	201
TE2-100V101M	100	10 x 25	0.08	366
TE2-100V221M	220	12.5 x 31.5	0.08	682
TE2-100V331M	330	16 x 25	0.08	883
TE2-100V471M	470	16 x 40	0.08	1271
TE2-100V102M	1000	22 x 40	0.08	2266
160 V				
TE2-160V4R7M	0.47	6.3 x 12.5	0.20	9
TE2-160V010M	1	6.3 x 12.5	0.20	13
TE2-160V2R2M	2.2	6.3 x 16	0.20	21
TE2-160V3R3M	3.3	8 x 16	0.20	29
TE2-160V4R7M	4.7	8 x 16	0.20	34
TE2-160V100M	10	10 x 20	0.20	67
TE2-160V220M	22	10 x 25	0.20	109
TE2-160V330M	33	12.5 x 25	0.20	152
TE2-160V470M	47	12.5 x 31.5	0.20	199
TE2-160V101M	100	16 x 31.5	0.20	336
TE2-160V221M	220	22 x 40	0.20	672
200 V				
TE2-200V010M	1	6.3 x 12.5	0.20	13
TE2-200V2R2M	2.2	6.3 x 16	0.20	21
TE2-200V3R3M	3.3	8 x 16	0.20	29
TE2-200V4R7M	4.7	8 x 16	0.20	34
TE2-200V100M	10	10 x 20	0.20	67
TE2-200V220M	22	12.5 x 25	0.20	124
TE2-200V330M	33	12.5 x 31.5	0.20	167

Note: Allowable Ripple Current 120 Hz at 85°C

Axial Type

TE2

TE2 Miniature Aluminum Electrolytic Capacitors

Standard Ratings

ELNA PART NO. / WV (V)	CAP. (μF)	SIZE (φ x L) (mm)	tan δ	Ripple Current (mA rms)
TE2-200V470M	47	12.5 x 31.5	0.20	199
TE2-200V101M	100	16 x 40	0.20	371
TE2-200V221M	220	22 x 40	0.20	672
250 V				
TE2-250V4R7M	0.47	6.3 x 12.5	0.20	9
TE2-250V010M	1	6.3 x 16	0.20	14
TE2-250V2R2M	2.2	8 x 16	0.20	24
TE2-250V3R3M	3.3	8 x 16	0.20	29
TE2-250V4R7M	4.7	10 x 20	0.20	46
TE2-250V100M	10	10 x 25	0.20	73
TE2-250V220M	22	12.5 x 25	0.20	124
TE2-250V330M	33	12.5 x 31.5	0.20	167
TE2-250V470M	47	16 x 25	0.20	211
TE2-250V101M	100	16 x 40	0.20	371
350 V				
TE2-350V4R7M	0.47	6.3 x 12.5	0.23	8
TE2-350V010M	1	8 x 16	0.23	16
TE2-350V2R2M	2.2	8 x 16	0.23	23
TE2-350V3R3M	3.3	8 x 20	0.23	31
TE2-350V4R7M	4.7	10 x 20	0.23	43
TE2-350V100M	10	10 x 25	0.23	68
TE2-350V220M	22	12.5 x 31.5	0.23	127
TE2-350V330M	33	16 x 31.5	0.23	180
TE2-350V470M	47	16 x 40	0.23	237

ELNA PART NO. / WV (V)	CAP. (μF)	SIZE (φ x L) (mm)	tan δ	Ripple Current (mA rms)
400 V				
TE2-400V4R7M	0.47	6.3 x 12.5	0.23	8
TE2-400V010M	1	8 x 16	0.23	16
TE2-400V2R2M	2.2	8 x 20	0.23	26
TE2-400V3R3M	3.3	10 x 20	0.23	36
TE2-400V4R7M	4.7	10 x 20	0.23	43
TE2-400V100M	10	12.5 x 25	0.23	78
TE2-400V220M	22	16 x 31.5	0.23	147
TE2-400V330M	33	16 x 40	0.23	199
TE2-400V470M	47	18 x 40	0.23	254
450 V				
TE2-450V4R7M	0.47	6.3 x 16	0.23	9
TE2-450V010M	1	8 x 16	0.23	16
TE2-450V2R2M	2.2	8 x 20	0.23	26
TE2-450V3R3M	3.3	10 x 20	0.23	36
TE2-450V4R7M	4.7	10 x 25	0.23	47
TE2-450V100M	10	12.5 x 25	0.23	78
TE2-450V220M	22	16 x 31.5	0.23	147
TE2-450V330M	33	16 x 40	0.23	199
TE2-450V470M	47	18 x 40	0.23	254

Note: Allowable Ripple Current 120 Hz at 85°C

Axial Type

TE2