Panasonic INDUSTRY

⚠ This Series is no longer available for purchase in the country of Japan.

Aluminum Electrolytic Capacitors

Radial Lead Type

TP-A series

Features

- Endurance : 125 ℃ 2000 h to 5000 h or 135 ℃ 1000 h to 2000 h
- Smaller than series TA
- High ripple current (at high frequency) : 20 to 40% higher than TA series
- AEC-Q200 compliant
- RoHS compliant

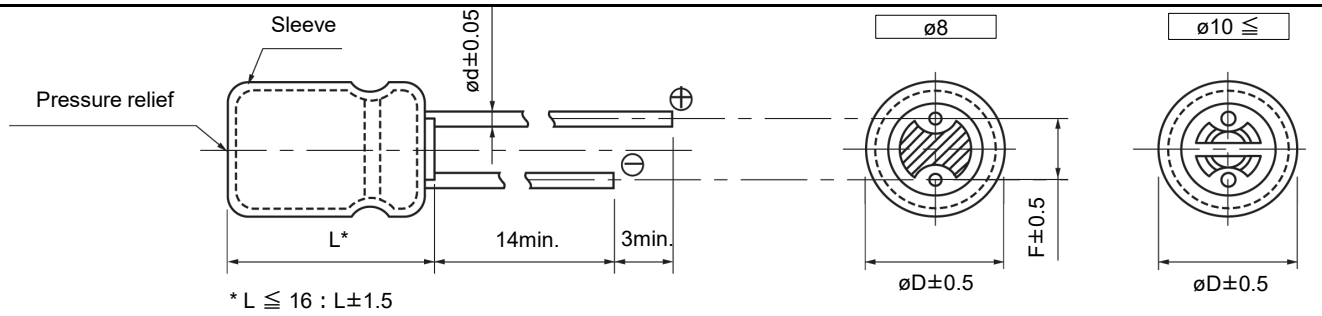
Specifications

Category temp. range	–40 ℃ to +135 ℃			
Rated voltage range	25 V to 35 V			
Capacitance range	100 µF to 5100 µF			
Capacitance tolerance	±20 % (120 Hz / +20℃)			
Leakage current	I ≦ 0.01 CV (µA) After 2 minutes			
Dissipation factor（tan δ）	Rated voltage（V）	25	35	(120 Hz /+20℃)
	Dissipation factor（tan δ）	0.14	0.12	
	For capacitance value ≧ 1000 µF , add 0.02 per every 1000 µF.			
Endurance 1	After following life test with DC voltage and +125 ℃±2 ℃ ripple current value applied (The sum of DC and ripple peak voltage shall not exceed the rated working voltage)when the capacitors are restored to 20 ℃, the capacitors shall meet the limits specified bellow. Duration ø8 : 2000 h, ø10 : 3000 h, ø12.5 : 4000 h, ø16 to ø18 : 5000 h			
	Capacitance change	Within ±30 % of the initial value		
	Dissipation factor（tan δ）	≦ 300 % of the initial limit		
	DC leakage current	Within the initial limit		
Endurance 2	After following life test with DC voltage and +135 ℃±2 ℃ ripple current value applied (The sum of DC and ripple peak voltage shall not exceed the rated working voltage)when the capacitors are restored to 20 ℃, the capacitors shall meet the limits specified bellow. Duration ø8: 1000 h, ø10 to ø18: 2000 h			
	Capacitance change	Within ±30 % of the initial value		
	Dissipation factor（tan δ）	≦ 300 % of the initial limit		
	DC leakage current	Within the initial limit		
Shelf life 1	After storage for 1000 h at +125 ℃±2 ℃ with no voltage applied and then being stabilized at +20 ℃, capacitors shall meet the limits specified in endurance. (With voltage treatment)			
Shelf life 2	After storage for 1000 h at +135 ℃±2 ℃ with no voltage applied and then being stabilized at +20 ℃, capacitors shall meet the limits specified in endurance. (With voltage treatment)			

Frequency correction factor for ripple current

Cap. (µF) \ Freq. (Hz)	60	120	1 k	10 k	100 k
100 to 330	0.55	0.65	0.85	0.90	1.00
390 to 1000	0.70	0.75	0.90	0.95	1.00
1200 to 5100	0.75	0.80	0.90	0.95	1.00

Dimensions



* L ≦ 16 : L±1.5

Unit : mm

øD	8.0	10.0	12.5	16.0	18.0
ød	0.6	0.6	0.6	0.8	0.8
F	3.5	5.0	5.0	7.5	7.5

Characteristics list

Endurance : 125℃ 2000 h / ø8, 125℃ 3000 h / ø10, 125℃ 4000 h / ø12.5, 125℃ 5000 h / ø16 to ø18

Rated voltage (V)	Capacitance (±20 %) (μF)	Case size (mm)		Specification						Lead length (mm)			Part No. ★:Substandard (E24 series numbers)	Min. Packaging Q'ty (PCS)	
				Ripple current*1 (mA rms)		ESR*2 (Ω)	tan δ*3	Endurance (h)		Lead dia. (ød)	Lead space				
		øD	L	125℃	135℃			125℃	135℃		Straight	Taping ✻B		Straight leads	Taping
25	220	10.0	12.5	580	500	0.190	0.14	3000	2000	0.6	5.0	5.0	EEUTP1E221( )	200	500
	330	10.0	16.0	1100	945	0.130	0.14	3000	2000	0.6	5.0	5.0	EEUTP1E331( )	200	500
	470	8.0	20.0	1060	760	0.067	0.14	2000	1000	0.6	3.5	5.0	EEUTP1E471L( )	200	1000
		10.0	16.0	1100	945	0.130	0.14	3000	2000	0.6	5.0	5.0	EEUTP1E471( )	200	500
	510	10.0	16.0	1100	945	0.130	0.14	3000	2000	0.6	5.0	5.0	EEUTP1E511( )★	200	500
	820	10.0	20.0	1540	1100	0.052	0.14	3000	2000	0.6	5.0	5.0	EEUTP1E821( )	200	500
	1000	12.5	20.0	1860	1490	0.038	0.14	4000	2000	0.6	5.0	5.0	EEUTP1E102( )	200	500
	1200	12.5	20.0	1860	1490	0.038	0.14	4000	2000	0.6	5.0	5.0	EEUTP1E122( )	200	500
	1800	12.5	25.0	2180	1750	0.030	0.14	4000	2000	0.6	5.0	5.0	EEUTP1E182( )	200	500
		16.0	20.0	2380	1985	0.029	0.14	5000	2000	0.8	7.5	7.5	EEUTP1E182S( )	100	250
	2000	16.0	20.0	2380	1985	0.029	0.16	5000	2000	0.8	7.5	7.5	EEUTP1E202S( )★	100	250
	2200	16.0	25.0	2760	2300	0.022	0.16	5000	2000	0.8	7.5	7.5	EEUTP1E222( )	100	250
		18.0	20.0	2700	2250	0.028	0.16	5000	2000	0.8	7.5	7.5	EEUTP1E222S( )	100	250
	2700	16.0	25.0	2760	2300	0.022	0.16	5000	2000	0.8	7.5	7.5	EEUTP1E272( )	100	250
		18.0	20.0	2700	2250	0.028	0.16	5000	2000	0.8	7.5	7.5	EEUTP1E272S( )	100	250
	3300	16.0	31.5	3250	2710	0.018	0.18	5000	2000	0.8	7.5	—	EEUTP1E332	100	—
		18.0	25.0	2960	2470	0.020	0.18	5000	2000	0.8	7.5	7.5	EEUTP1E332S( )	100	250
	3900	16.0	31.5	3250	2710	0.018	0.18	5000	2000	0.8	7.5	—	EEUTP1E392	100	—
		18.0	25.0	2960	2470	0.020	0.18	5000	2000	0.8	7.5	7.5	EEUTP1E392S( )	100	250
	4700	18.0	31.5	3480	2900	0.016	0.20	5000	2000	0.8	7.5	—	EEUTP1E472	50	—
	5100	18.0	31.5	3480	2900	0.016	0.22	5000	2000	0.8	7.5	—	EEUTP1E512★	50	—
35	100	10.0	12.5	580	500	0.190	0.12	3000	2000	0.6	5.0	5.0	EEUTP1V101( )	200	500
	120	10.0	12.5	580	500	0.190	0.12	3000	2000	0.6	5.0	5.0	EEUTP1V121( )	200	500
	220	8.0	20.0	1060	760	0.067	0.12	2000	1000	0.6	3.5	5.0	EEUTP1V221L( )	200	1000
		10.0	16.0	1100	945	0.130	0.12	3000	2000	0.6	5.0	5.0	EEUTP1V221( )	200	500
	270	8.0	16.0	1060	760	0.067	0.12	2000	1000	0.6	3.5	5.0	EEUTP1V271L( )	200	1000
		10.0	16.0	1100	945	0.130	0.12	3000	2000	0.6	5.0	5.0	EEUTP1V271( )	200	500
	330	10.0	20.0	1540	1100	0.052	0.12	3000	2000	0.6	5.0	5.0	EEUTP1V331( )	200	500
	390	10.0	20.0	1540	1100	0.052	0.12	3000	2000	0.6	5.0	5.0	EEUTP1V391( )	200	500
	470	12.5	20.0	1860	1490	0.038	0.12	4000	2000	0.6	5.0	5.0	EEUTP1V471( )	200	500
	560	12.5	20.0	1860	1490	0.038	0.12	4000	2000	0.6	5.0	5.0	EEUTP1V561( )	200	500
	620	12.5	20.0	1860	1490	0.038	0.12	4000	2000	0.6	5.0	5.0	EEUTP1V621( )★	200	500
	820	12.5	25.0	2180	1750	0.030	0.12	4000	2000	0.6	5.0	5.0	EEUTP1V821( )	200	500
	1000	16.0	20.0	2380	1985	0.029	0.12	5000	2000	0.8	7.5	7.5	EEUTP1V102( )	100	250
	1200	16.0	20.0	2380	1985	0.029	0.12	5000	2000	0.8	7.5	7.5	EEUTP1V122( )	100	250
	1500	16.0	25.0	2760	2300	0.022	0.12	5000	2000	0.8	7.5	7.5	EEUTP1V152( )	100	250
		18.0	20.0	2700	2250	0.028	0.12	5000	2000	0.8	7.5	7.5	EEUTP1V152S( )	100	250
	1600	16.0	25.0	2760	2300	0.022	0.12	5000	2000	0.8	7.5	7.5	EEUTP1V162( )★	100	250
	1800	16.0	31.5	3250	2710	0.018	0.12	5000	2000	0.8	7.5	—	EEUTP1V182	100	—
		18.0	25.0	2960	2470	0.020	0.12	5000	2000	0.8	7.5	7.5	EEUTP1V182S( )	100	250
	2000	16.0	31.5	3250	2710	0.018	0.14	5000	2000	0.8	7.5	—	EEUTP1V202★	100	
		18.0	25.0	2960	2470	0.020	0.14	5000	2000	0.8	7.5	7.5	EEUTP1V202S( )★	100	250
	2200	18.0	31.5	3480	2900	0.016	0.14	5000	2000	0.8	7.5	—	EEUTP1V222	50	—
	2700	18.0	31.5	3480	2900	0.016	0.14	5000	2000	0.8	7.5	—	EEUTP1V272	50	—

*1: Ripple current (100 kHz / +125 ℃ or 135 ℃)
*2: ESR (100 kHz / +20 ℃)
*3: tan δ (120 Hz / +20 ℃)
・When requesting taped product, please put the letter "B" be tween the "( )".
Lead wire pitch ✻B=5 mm, 7.5 mm.
・Please refer to the page of “Taping dimensions”.