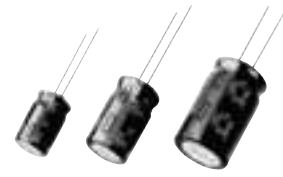


### Radial Lead Type

Series: **TA** Type: **A**



#### ■ Features

- Endurance: 125 °C 2000 h
- Heat cycle: 1000 cycle -40 °C to +125 °C
- AEC-Q200 qualified\*
- RoHS directive compliant

#### ■ Specifications

Category Temp. Range	-40 °C to + 125 °C							
Rated W.V. Range	10 V .DC to 63 V .DC							
Nominal Cap. Range	2.2 μF to 4700 μF							
Capacitance Tolerance	±20 % (120 Hz/+20 °C)							
DC Leakage Current	$I \leq 0.01 CV$ or 3 (μA) After 2 minutes (Whichever is greater)							
tan δ	W.V.(V)	10	16	25	35	50	63	(120Hz / +20 °C)
	tan δ	0.20	0.16	0.14	0.12	0.10	0.09	
For capacitance value ≥ 1000 μF , add 0.02 per every 1000 μF.								
Endurance	After following life test with DC voltage and +125 °C±2 °C ripple current value applied (The sum of DC and ripple peak voltage shall not exceed the rated working voltage), for 2000 hours, when the capacitors are restored to 20 °C, the capacitors, shall meet the limits specified below.							
	Capacitance change	±30% of initial measured value						
	tan δ	≤ 300 % of initial specified value						
	DC leakage current	≤ initial specified value						
Shelf Life	After storage for 1000 hours at +125 °C±2 °C with no voltage applied and then being stabilized at +20 °C, capacitors shall meet the limits specified in Endurance. (With voltage treatment)							

#### ■ Frequency correction factor for ripple current

W.V. (V.DC)	Cap. (μF)	Frequency (Hz)				
		60	120	1 k	10 k	100 k
10 to 63	1 to 330	0.55	0.65	0.85	0.90	1.00
	470 to 1000	0.70	0.75	0.90	0.95	1.00
	2200 to 4700	0.75	0.80	0.90	0.95	1.00

#### ■ Dimensions in mm (not to scale)

(Unit : mm)

Body Dia. φD	8	10	12.5	16	18
Lead Dia. φd	0.6	0.6	0.6	0.8	0.8
Lead space F	3.5	5.0	5.0	7.5	7.5

\* L<sub>≤16</sub> : L±1.0 (φ16×15, φ18×15 : L±1.5)  
L<sub>≥20</sub> : L±2.0

\* This product qualify for AEC-Q200, but it has some deviations.

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use. Should a safety concern arise regarding this product, please be sure to contact us immediately.

03 Mar. 2015

### ■ Standard Products

Endurance : 125 °C 2000 h

W.V.	Cap. (±20 %)	Case size		Specification		Lead Length			Part No.	Min. Packaging Q'ty		
		Dia.	Length	Ripple Current (100 kHz) (+125 °C) (mA r.m.s.)	Impedance (100 kHz) (+20 °C) (Ω)	Lead Dia. (mm)	Lead Space			Straight Leads (pcs)	Taping (pcs)	
							Straight (mm)	Taping *B (mm)				
(V)	(μF)	(mm)	(mm)	(mA r.m.s.)	(Ω)	(mm)	(mm)	(mm)		(pcs)	(pcs)	
10	330	8	11.5	500	0.130	0.6	3.5	5.0	EEUTA1A331( )	200	1000	
	470	10	12.5	680	0.100	0.6	5.0	5.0	EEUTA1A471( )	200	500	
	1000	10	20	1100	0.057	0.6	5.0	5.0	EEUTA1A102( )	200	500	
			12.5	15	1085	0.070	0.6	5.0	5.0	EEUTA1A102S( )	200	500
	2200	12.5	25	1750	0.033	0.6	5.0	5.0	EEUTA1A222L( )	200	500	
			16	20	1985	0.032	0.8	7.5	7.5	EEUTA1A222( )	100	250
			18	15	1800	0.042	0.8	7.5	7.5	EEUTA1A222S( )	100	250
	3300	16	25	2300	0.024	0.8	7.5	7.5	EEUTA1A332( )	100	250	
			18	20	2250	0.031	0.8	7.5	7.5	EEUTA1A332S( )	100	250
	4700	16	31.5	2710	0.020	0.8	7.5		EEUTA1A472	100		
18			25	2470	0.022	0.8	7.5	7.5	EEUTA1A472S( )	100	250	
16	220	8	11.5	500	0.130	0.6	3.5	5.0	EEUTA1C221( )	200	1000	
	330	10	12.5	680	0.100	0.6	5.0	5.0	EEUTA1C331( )	200	500	
	470	10	16	945	0.075	0.6	5.0	5.0	EEUTA1C471( )	200	500	
	1000	12.5	20	1490	0.042	0.6	5.0	5.0	EEUTA1C102( )	200	500	
			16	15	1520	0.047	0.8	7.5	7.5	EEUTA1C102S( )	100	250
	2200	16	25	2300	0.024	0.8	7.5	7.5	EEUTA1C222( )	100	250	
			18	20	2250	0.031	0.8	7.5	7.5	EEUTA1C222S( )	100	250
	3300	16	31.5	2710	0.020	0.8	7.5		EEUTA1C332	100		
			18	25	2470	0.022	0.8	7.5	7.5	EEUTA1C332S( )	100	250
	4700	18	31.5	3270	0.018	0.8	7.5		EEUTA1C472	50		
25	100	8	11.5	500	0.130	0.6	3.5	5.0	EEUTA1E101( )	200	1000	
	220	10	12.5	680	0.100	0.6	5.0	5.0	EEUTA1E221( )	200	500	
	330	10	16	945	0.075	0.6	5.0	5.0	EEUTA1E331( )	200	500	
	470	10	20	1100	0.057	0.6	5.0	5.0	EEUTA1E471( )	200	500	
			12.5	15	1085	0.070	0.6	5.0	5.0	EEUTA1E471S( )	200	500
	1000	12.5	25	1750	0.033	0.6	5.0	5.0	EEUTA1E102L( )	200	500	
			16	20	1985	0.032	0.8	7.5	7.5	EEUTA1E102( )	100	250
			18	15	1800	0.042	0.8	7.5	7.5	EEUTA1E102S( )	100	250
	2200	16	31.5	2710	0.020	0.8	7.5		EEUTA1E222	100		
			18	25	2470	0.022	0.8	7.5	7.5	EEUTA1E222S( )	100	250
3300	18	35.5	3310	0.017	0.8	7.5		EEUTA1E332	50			
35	100	10	12.5	555	0.180	0.6	5.0	5.0	EEUTA1V101( )	200	500	
	220	10	16	765	0.130	0.6	5.0	5.0	EEUTA1V221( )	200	500	
	330	10	20	930	0.100	0.6	5.0	5.0	EEUTA1V331( )	200	500	
	470	12.5	20	1330	0.070	0.6	5.0	5.0	EEUTA1V471( )	200	500	
			16	15	1450	0.088	0.8	7.5	7.5	EEUTA1V471S( )	100	250
	1000	16	25	2010	0.037	0.8	7.5	7.5	EEUTA1V102( )	100	250	
			18	20	2180	0.046	0.8	7.5	7.5	EEUTA1V102S( )	100	250
	2200	18	35.5	2790	0.025	0.8	7.5		EEUTA1V222	50		

- When requesting taped product, please put the letter "B" between the "( )". Lead wire pitch \*B=5 mm, 7.5 mm.
- Please refer to the page of "Taping Dimensions".

### ■ Standard Products

Endurance : 125 °C 2000 h

W.V.	Cap. (±20 %)	Case size		Specification		Lead Length			Part No.	Min. Packaging Q'ty	
		Dia.	Length	Ripple Current (100 kHz) (+125 °C) (mA r.m.s.)	Impedance (100 kHz) (+20 °C) (Ω)	Lead Dia. (mm)	Lead Space			Straight Leads (pcs)	Taping (pcs)
							Straight (mm)	Taping *B (mm)			
(V)	(μF)	(mm)	(mm)	(mA r.m.s.)	(Ω)	(mm)	(mm)	(mm)		(pcs)	(pcs)
50	10	8	11.5	180	0.950	0.6	3.5	5.0	EEUTA1H100( )	200	1000
	22	8	11.5	250	0.650	0.6	3.5	5.0	EEUTA1H220( )	200	1000
	33	8	11.5	300	0.450	0.6	3.5	5.0	EEUTA1H330( )	200	1000
	47	8	11.5	440	0.350	0.6	3.5	5.0	EEUTA1H470S( )	200	1000
	100	10	12.5	555	0.180	0.6	5.0	5.0	EEUTA1H101( )	200	500
	220	10	20	930	0.100	0.6	5.0	5.0	EEUTA1H221( )	200	500
	330	12.5	20	1330	0.070	0.6	5.0	5.0	EEUTA1H331( )	200	500
		16	15	1450	0.088	0.8	7.5	7.5	EEUTA1H331S( )	100	250
	470	12.5	25	1650	0.055	0.6	5.0	5.0	EEUTA1H471L( )	200	500
		16	20	1650	0.053	0.8	7.5	7.5	EEUTA1H471( )	100	250
		18	15	1710	0.075	0.8	7.5	7.5	EEUTA1H471S( )	100	250
	1000	16	31.5	2430	0.031	0.8	7.5		EEUTA1H102	100	
		18	25	2350	0.032	0.8	7.5	7.5	EEUTA1H102S( )	100	250
	63	22	8	11.5	310	0.470	0.6	3.5	5.0	EEUTA1J220( )	200
33		10	12.5	410	0.360	0.6	5.0	5.0	EEUTA1J330( )	200	500
47		10	16	460	0.270	0.6	5.0	5.0	EEUTA1J470( )	200	500
100		10	20	680	0.205	0.6	5.0	5.0	EEUTA1J101( )	200	500
220		12.5	25	1325	0.100	0.6	5.0	5.0	EEUTA1J221L( )	200	500
		16	20	1360	0.085	0.8	7.5	7.5	EEUTA1J221( )	100	250
		18	15	1300	0.120	0.8	7.5	7.5	EEUTA1J221S( )	100	250
330		16	25	1660	0.070	0.8	7.5	7.5	EEUTA1J331( )	100	250
		18	20	1760	0.077	0.8	7.5	7.5	EEUTA1J331S( )	100	250
470		16	31.5	2055	0.060	0.8	7.5		EEUTA1J471	100	
		18	25	1990	0.060	0.8	7.5	7.5	EEUTA1J471S( )	100	250

- When requesting taped product, please put the letter "B" between the "( )". Lead wire pitch \*B=5 mm, 7.5 mm.
- Please refer to the page of "Taping Dimensions".