

# Aluminum Electrolytic Capacitors

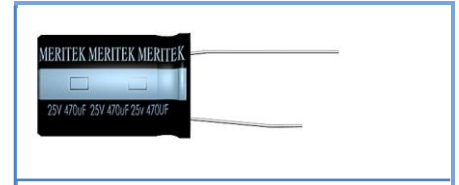


**RFX Series**  
(High R.C., High Reliability)

**MERITEK**

## FEATURES

- High ripple current, low E.S.R. and long life
- Suitable for electronic ballast, adaptor and switching power



## SPECIFICATIONS

Item	Characteristic						
Operating Temp Range	- 40 ~ +105°C			- 25 ~ +105°C			
Rated Working Voltage	160 ~ 400VDC			450VDC			
Capacitance Tolerance (120Hz 20°C)	± 20%(M)						
Leakage Current (20°C)	I ≤ 0.06CV+10 (uA) * After 2 minutes			I : Leakage Current (uA) C : Rated Capacitance(uF) V : Working Voltage (V)			
Surge Voltage (20°C)	W.V.	160	200	250	350	400	450
	S.V.	200	250	300	400	450	500
Dissipation Factor ( tan δ ) (120Hz 20°C)	W.V.	160	200	250	350	400	450
	tan δ	0.15	0.15	0.15	0.24	0.24	0.24
Low Temperature Stability	Impedance ratio at 120Hz						
	Rated Voltage (V)	160~250	350~400	450			
	-25°C / +20°C	3	6	6			
	-40°C / +20°C	4	6	-			
Load Life	After hours application (φD≤8mm 3000hrs, φD ≥10mm 5000hrs) of W.V. and +105°C ripple current value, the capacitor shall meet the following limits. ( DC + ripple peak voltage ≤ rated working voltage )						
	Capacitance Change	≤ ±20% of initial value.					
	Dissipation Factor	≤ 200% of initial specified value					
	Leakage Current	≤ initial specified value					
Shelf Life	At +105°C no voltage application after 1000 hours. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes, at least 24 hrs and not more than 48 hrs before measurement. Cap& DF shall meet the limits for load life characteristics, leakage current ≤ 500% of the initial specified value.						

## PART NUMBER SYSTEM

**RFX 200V 101 M TA 16x25**

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Rated Voltage

Rated Capacitance

Express in micro farad(uF), First two digits are significant figures, Third digit denotes number of zeros. 'R' denotes decimal point for values less than 10uF

Tolerance

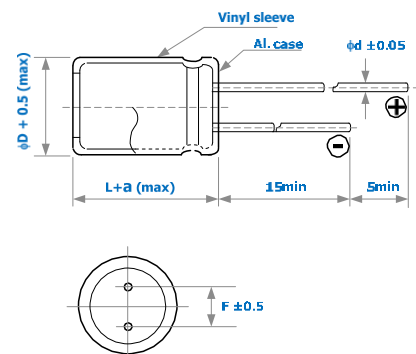
M - ±20%

Package

Code	TA	TR	Blank
	Tape & Ammo	Tape & Reel	

Case size – (D) Diameter x (L) Length in mm (Optional)

## DIMENSIONS (mm)



φD	10	12.5	16	18
F	5.0	5.0	7.5	7.5
d	0.6	0.6	0.8	0.8
a	1.5	1.5	1.5	1.5

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## RIPPLE CURRENT COEFFICIENTS

Frequency(Hz)		120	1k	10k	100k
W.V.		Multiplier			
160~450V	φD=10mm	0.25	0.61	0.88	1.00
	φD>10mm	0.35	0.66	0.89	1.00

Temperature(°C)	65	75	85	95	105
Multiplier	1.8	1.65	1.50	1.25	1.00

## CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)  
 Max. impedance : Ω 20°C 100kHz  
 Max. ripple current : mA(rms) 105°C 100kHz

Cap. (uF)	V	160			200			250		
		Item	DxL	IMP	R.C.	DxL	IMP	R.C.	DxL	IMP
10							→	10x20	3.18	240
22		10x20	1.47	350	10x20	1.47	350	12.5x20	1.74	380
33		10x20	1.15	430	12.5x20	1.15	460	12.5x25	1.35	510
47		12.5x20	0.92	550	12.5x20	0.92	550	12.5x25	1.08	610
68		12.5x25	0.71	730	12.5x25	0.71	730	16x25	0.84	730
100		16x25	0.59	890	16x25	0.59	890	16x31.5	0.70	980
150		16x31.5	0.41	1210	16x31.5	0.41	1210	18x31.5	0.49	1290
220		16x31.5	0.31	1460	18x35.5	0.31	1640	18x40	0.36	1730
330		18x35.5	0.25	2010						

Cap. (uF)	V	350			400			450		
		Item	DxL	IMP	R.C.	DxL	IMP	R.C.	DxL	IMP
3.3							→	10x20	4.47	150
4.7							→	12.5x20	3.77	190
10		10x20	2.94	220	10x20	2.94	290	12.5x25	2.95	300
22		12.5x20	1.60	340	12.5x25	1.60	460	16x25	1.61	450
33		12.5x25	1.25	460	12.5x25	1.25	620	16x31.5	1.25	620
47		16x25	1.00	560	16x25	1.00	740	18x31.5	1.01	780
68		16x31.5	0.78	740	16x31.5	0.78	990	18x35.5	0.78	990
100		18x35.5	0.65	1010	18x35.5	0.65	1350			

All blank voltage on sleeve marking is the same voltage as “→” point to.

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## TAPING SPECIFICATION

- Lead taping is designed for automatic insertion equipment.
- Capacitors with case size of 18mm x 35.5mm or smaller are available in taping type.

## DIMENSIONS (Ø4~ Ø10)

Item	Symbol	Case Size																Tolerance	Remark
		4x5	5x5	6.3x5	8x5	4x7	5x7	6.3x7	8x7	5x11	6.3x11	8x11.5	10x12.5	10x16	10x18	10x20			
Lead wire diameter	d	0.45						0.5				0.6						±0.05	
Body height	A	6.0				8.0				12.5		13	14	17.5	19.5	21.5	MAX		
Intervals of bodies	P	12.7																±1.0	
Intervals of punched holes	P <sub>0</sub>	12.7																±0.2	
Distance between holes and lead wire	P <sub>1</sub>	3.85																±0.7	Fig 1. Fig 4.
		5.35	5.1	5.1			5.35	5.1	5.1			5.1							Fig 2.
		5.6	5.35	5.1	5.1	5.6	5.35	5.1	4.6	5.35	5.1	4.6							Fig 3.
Distance between holes and bodies	P <sub>2</sub>	6.35																±1.0	
Distance between lead and lead	F	5.0																+0.8 -0.2	Fig 1. Fig 4.
		2.0	2.5	2.5			2.0	2.5	2.5			2.5							Fig 2. F <sub>1</sub> :5.0 <sup>+0.5</sup>
		1.5	2.0	2.5	2.5	1.5	2.0	2.5	3.5	2.0	2.5	3.5							Fig 3. F <sub>1</sub> :5.0 <sup>+0.5</sup>
Base tape width	W	18.0																±0.5	
Adhesive tape width	W <sub>0</sub>	12.5																MIN	
Deviation between holes and base tape	W <sub>1</sub>	9.0																±0.5	
Deviation between adhesive and base tape	W <sub>2</sub>	1.5																MAX	
Distance between body bottom and tape center	H	17.5						18.5		20.0	18.5						±0.5	Fig 1. Fig 4.	
		17.5						18.5		18.5								Fig 2. Fig 3.	
Lead wire clinched height	H <sub>0</sub>	16.0																±0.5	
Distance between body top and tape center	H <sub>1</sub>	24.5				27.5				32.5		33.0	36.0	38.0	41.0	MAX			
Punched hole diameter	D <sub>0</sub>	4.0																±0.3	
Length of not good lead slit	L	11.0																MAX	
Base and adhesive tape thickness	t	0.6																±0.3	
Deviation of body alignment	Δh	0																±2.0	
Deviation of body alignment	Δh <sub>1</sub>	0																±1.0	

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## DIMENSIONS (Ø12.5~ Ø18)

Item	Symbol	Case Size							Tolerance	Remark
		12.5 x 20	12.5 x 25	12.5 x 30	16 x 25	16 x 31.5	16 x 35.5	18 x 35.5		
Lead wire diameter	d	0.6			0.8				±0.05	
Body height	A	21.5	26.5	31.5	26.5	33	37.0	37.0	MAX	
Intervals of bodies	P	15.0			30.0				±1.0	Fig 5. Fig 6.
Intervals of punched holes	P <sub>0</sub>	15.0							±0.2	
Distance between holes and lead wire	P <sub>1</sub>	5.0			3.75				±0.7	
Distance between holes and bodies	P <sub>2</sub>	7.5							±1.0	
Distance between lead and lead	F	5.0			7.5				+0.8 -0.2	
Base tape width	W	18.0							±0.5	
Adhesive tape width	W <sub>0</sub>	15.0							MIN	
Deviation between holes and base tape	W <sub>1</sub>	9.0							±0.5	
Deviation between adhesive and base tape	W <sub>2</sub>	1.5							MAX	
Distance between body bottom and tape center	H	16.5			18.5				±0.5	Fig 5. Fig 6.
Distance between body top and tape center	H <sub>1</sub>	40.5	45.5	50.5	46.5	53.5	56.5	56.5	MAX	
Punched hole diameter	D <sub>0</sub>	4.0							±0.3	
Length of not good lead slit	L	11.0							MAX	
Base and adhesive tape thickness	t	0.6							±0.3	
Deviation of body alignment	Δh	0							±2.0	
Deviation of body alignment	Δh <sub>1</sub>	0							±1.0	

Fig 1. ( $\phi 4\sim\phi 8$ )

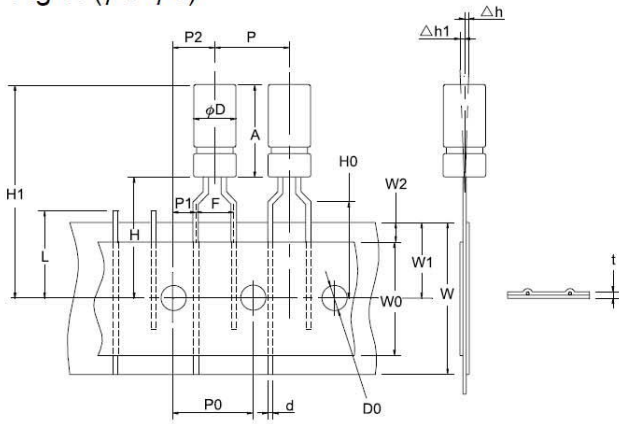


Fig 2. ( $\phi 4\sim\phi 5$ )

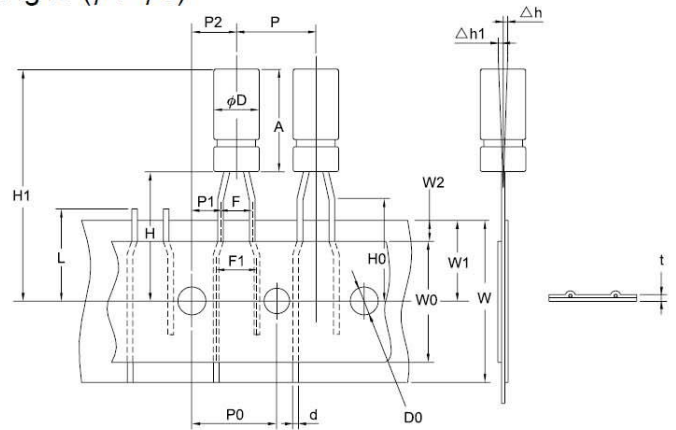


Fig 3. ( $\phi 4\sim\phi 8$ )

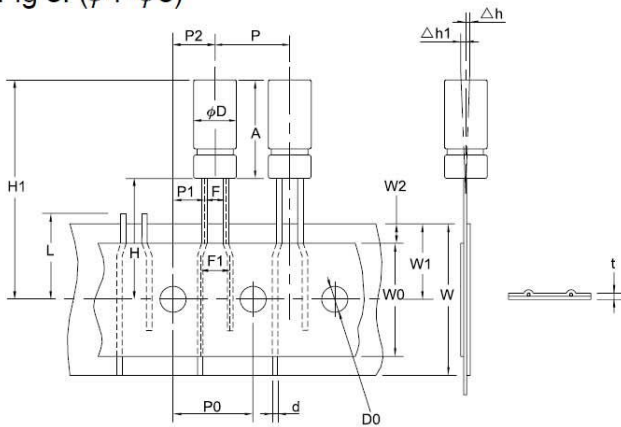


Fig 4. ( $\phi 10$ )

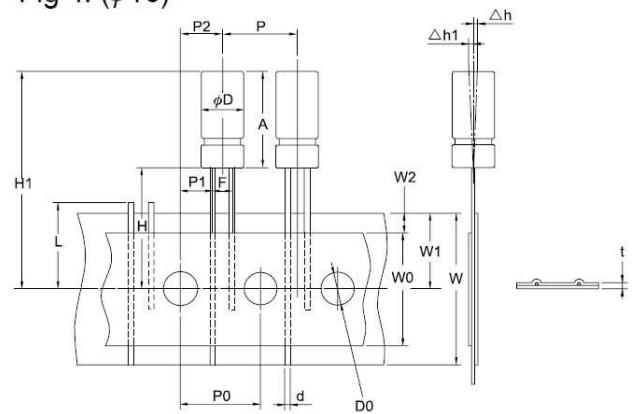


Fig 5. ( $\phi 12.5$ )

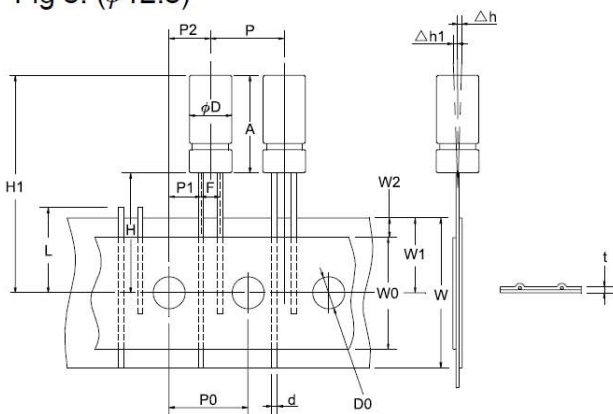
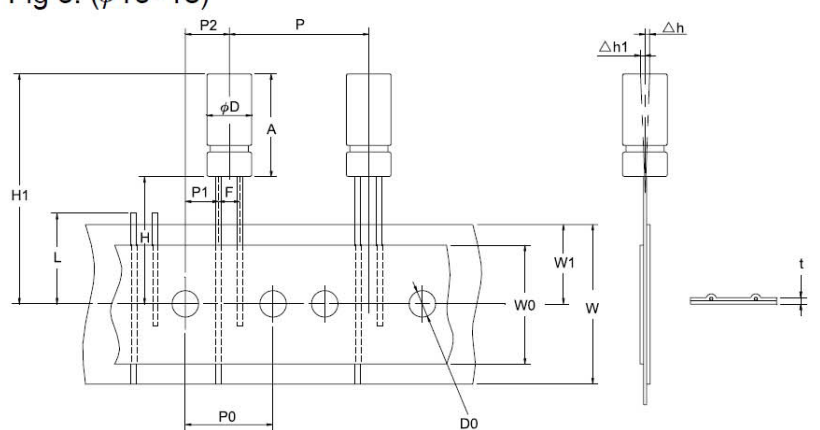


Fig 6. ( $\phi 16\sim 18$ )



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## SOLDERABILITY

Capacitor lead wire is dipping into the oven, and then, dipping in  $245\pm 3^{\circ}\text{C}$ , solder liquid for  $3\pm 0.5$  seconds, the substance is above the liquid solder 2mm, the dipping lead must be adherent 95% fresh tin at least.

## RESISTANCE TO SOLDERING HEAT

Put capacitor lead wire to dip  $260\pm 5^{\circ}\text{C}$  in solder liquor away the body 2mm, after  $10\pm 1$  seconds taken out, after 2 hours in room temperature, should do final measurements, the values are following:

- (A) Capacitance change:  $\leq \pm 10\%$  of initial value
- (B) Dissipation factor:  $\leq$  initial specified value
- (C) Leakage current:  $\leq$  initial specified value
- (D) Visual: No damage