

# Aluminum Electrolytic Capacitors

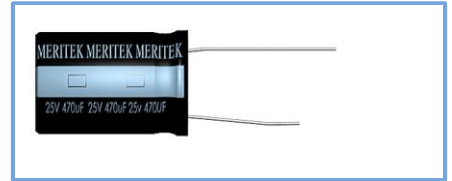


RFL Series  
(High R.C., Long Life)

MERITEK

## FEATURES

- Endurance 105°C 8,000 to 10,000 hours.
- 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			<b>I : Leakage Current (μA)</b> <b>C : Rated Capacitance(μF)</b> <b>V : Working Voltage (V)</b>			
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=10mm 8000hrs, φD ≥12.5mm 10000hrs) 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 capacitor shall meet the limits for load life characteristics. ( with voltage treatment )						

## PART NUMBER SYSTEM

RFL 160V 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

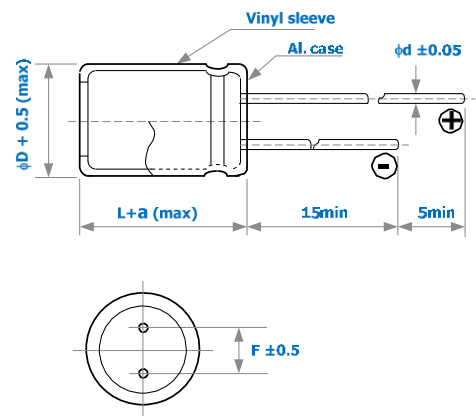
M - ±20%

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			
160~450	0.50	0.80	0.90	1.00

Temperature(°C)	65	75	85	95	105
Multiplier	1.80	1.65	1.50	1.25	1.00

## CASE SIZE & MAX RIPPLE CURRENT

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

Cap. (uF)	V	160		200		250	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
10		10x16	250	10x16	250	10x20	280
22		10x20	500	10x20	500	12.5x20	600
33		10x20	500	12.5x20	600	12.5x20	600
47		12.5x20	660	12.5x20	660	12.5x25	720
						16x20	720
68		12.5x25	760	12.5x25	760	16x25	920
		16x20	760	16x20	760	18x20	920
100		16x25	1120	16x25	1120	16x31.5	1200
		18x20	1120	18x20	1120	18x25	1200
150		16x31.5	1360	16x31.5	1360	18x31.5	1500
		18x25	1360	18x25	1360		
220		16x31.5	1400	18x31.5	1700		
		18x25	1400				

Cap. (uF)	V	350		400		450	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
6.8		10x16	220	10x16	220	10x20	150
10		10x20	280	10x20	280	12.5x20	320
22	12.5x20	350		12.5x25	430	16x25	560
				12.5x20	430	18x20	560
				16x20	430		
33	16x20	500		16x25	640	16x31.5	700
				18x20	640	18x25	700
47	16x25	660		16x31.5	840	18x31.5	880
	18x20	660		18x25	840		
68	16x31.5	850		18x31.5	1000	18x35.5	1150
	18x25	850					

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

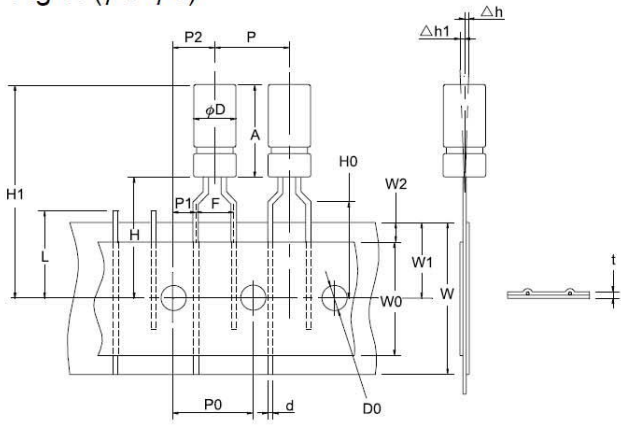


Fig 2. ( $\phi 4\sim\phi 5$ )

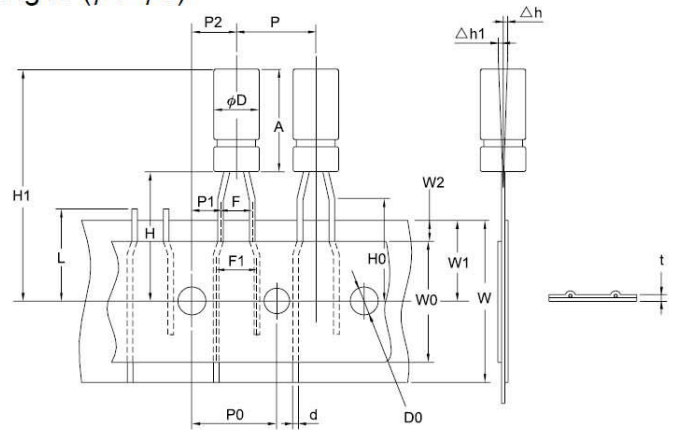


Fig 3. ( $\phi 4\sim\phi 8$ )

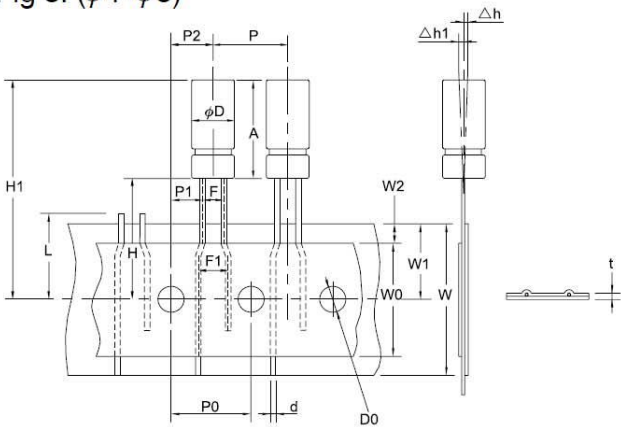


Fig 4. ( $\phi 10$ )

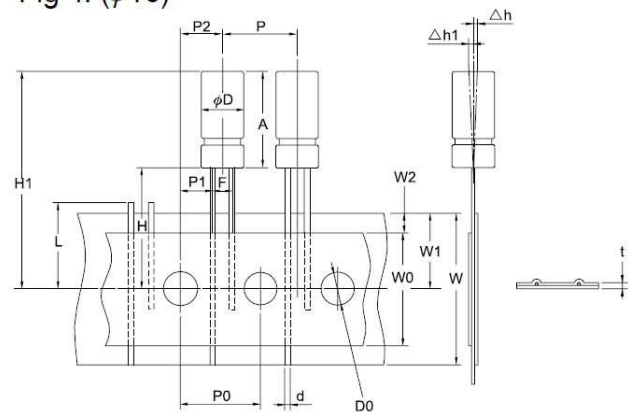


Fig 5. ( $\phi 12.5$ )

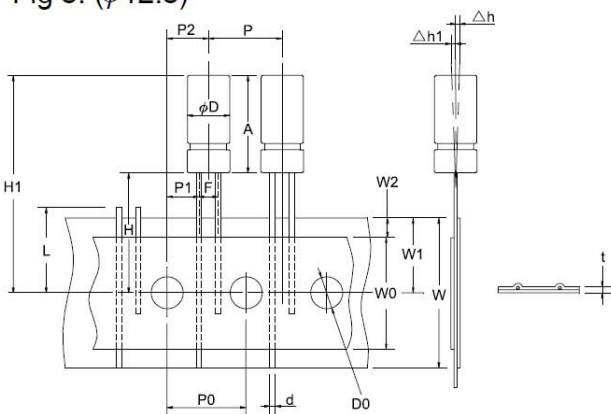
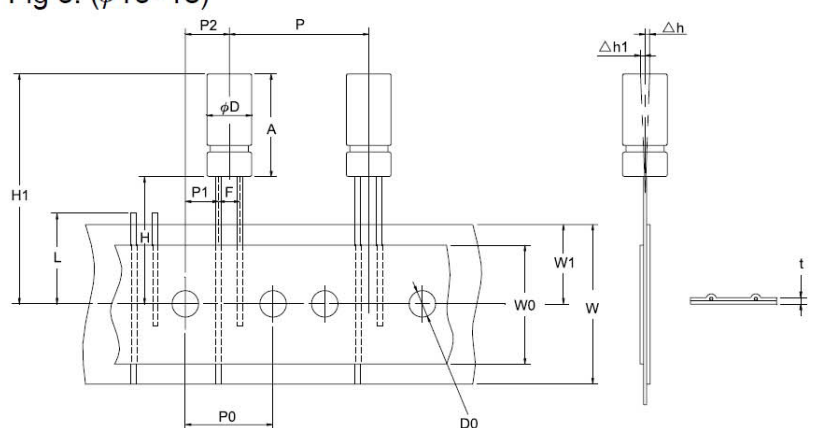


Fig 6. ( $\phi 16\sim 18$ )





## 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