

Aluminum Electrolytic Capacitors

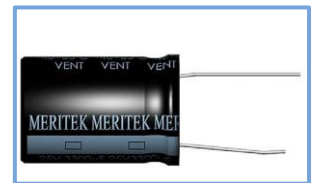


RB Series
(General Purposes)

MERITEK

FEATURES

- This series has high value of CV for general purposes

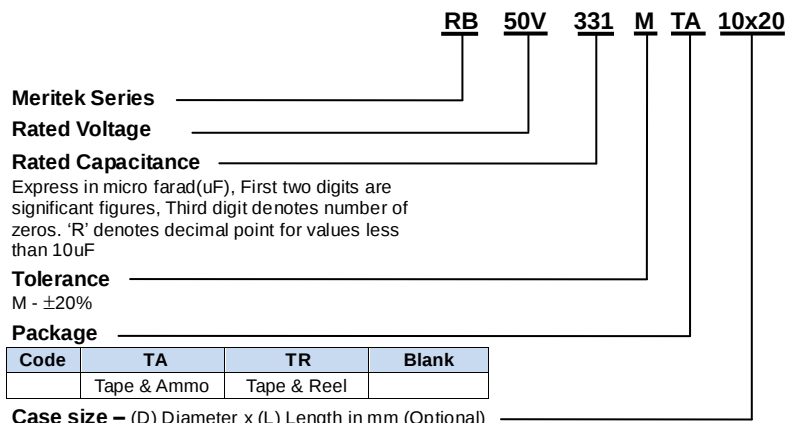


SPECIFICATIONS

Item	Characteristic																
Operating Temp Range	- 40 ~ +85°C								- 25 ~ +85°C								
Rated Working Voltage	6.3 ~ 100VDC								160 ~ 450VDC								
Capacitance Tolerance (120Hz 20°C)	± 20%(M)																
Leakage Current (20°C)	6.3 ~ 100 VDC I ≤ 0.01CV or 4 (μA)								160 ~ 450 VDC I ≤ 0.03CV + 40 (μA) max								
	* Whichever is greater after 3 minutes I : Leakage Current (μA) C : Rated Capacitance(μF) V : Working Voltage (V)																
Surge Voltage (20°C)	W.V.	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450		
	S.V.	8	13	20	32	44	63	79	125	200	250	300	400	450	500		
Dissipation Factor (tan δ) (120Hz 20°C)	add 0.02 per 1000uF for more than 1000uF																
	W.V.	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450		
	tan δ	0.22	0.19	0.16	0.14	0.12	0.10	0.10	0.08	0.15	0.15	0.15	0.20	0.20	0.20		
Low Temperature Stability	Impedance ratio at 120Hz																
	Rated Voltage (V)			6.3	10	16	25	35~100			160~250			350~400			450
	-25°C / +20°C			4	3	2	2	2			3			6			15
	-40°C / +20°C			8	6	4	3	3			6			6			-
Load Life	After 2000 hours application of W.V. and +85°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			≤ 150% of initial specified value													
	Leakage Current			≤ initial specified value													
Shelf Life	At +85°C no voltage application after 1000 hours the capacitor shall meet the following limits. (with voltage treatment)																
	Capacitance Change			≤ ±20% of initial													
	Dissipation Factor			≤ 200% of initial specified value													
	Leakage Current			≤ 200% of initial specified value													

PART NUMBER SYSTEM

RIPPLE CURRENT COEFFICIENTS



Temperature(°C)	65	75	85
Multiplier	1.25	1.14	1.00

Frequency(Hz)	60	120	1K	≥ 10k
W.V.	Multiplier			
6.3~25V	0.85	1.00	1.10	1.20
35~100V	0.80	1.00	1.15	1.25
160~250V	0.75	1.00	1.25	1.40
350~450V	0.70	1.00	1.30	1.50

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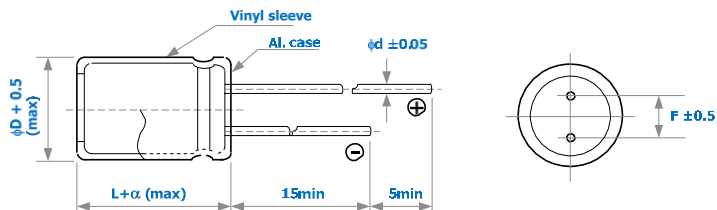


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DIMENSIONS (mm)

φD	5	6.3	8	10	12.5	16	18	22	25
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0	12.5
d	0.5	0.5	0.6	0.6	0.6	0.8	0.8	1.0	1.0
α	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.0	2.0



CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)
Max. ripple current : mA(rms) 85°C 120Hz

Cap. (uF)	V	6.3		10		16	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
47						5x11	130
100		5x11	160	5x11	170	6.3x11	210
220		5x11	240	5x11	250	6.3x11	310
		6.3x11	270	6.3x11	290	8x11.5	370
330		6.3x11	330	6.3x11	350	8x11.5	450
		8x11.5	380	8x11.5	410	10x12.5	470
470		6.3x11	390	6.3x11	420	8x11.5	540
		8x11.5	460	8x11.5	490	10x12.5	560
1000		8x11.5	670	10x12.5	760	10x16	920
		10x12.5	700	10x16	840	10x20	1010
2200		10x16	1110	10x20	1310	12.5x20	1510
		10x20	1220	12.5x20	1390	12.5x25	1660
3300		10x20	1440	12.5x20	1630	12.5x25	1930
		12.5x20	1530	12.5x25	1800	16x25	1940
4700		12.5x20	1730	12.5x25	2020	16x25	2160
		12.5x25	1910	16x25	2030	16x31.5	2390
6800		12.5x25	2160	16x25	2270	16x31.5	2650
		16x25	2170	16x31.5	2510	18x35.5	2980
8200		16x25	2280	16x31.5	2630	16x35.5	2910
		16x31.5	2520	18x35.5	2960	18x40	3280
10000		16x25	2390	16x35.5	2900	18x35.5	3230
		16x31.5	2640	18x35.5	3090	18x40	3400
15000		16x35.5	3050	18x35.5	3360	22x40	4090
		18x35.5	3260	18x40	3540	22x50	4520
22000		18x40	3680	22x50	4650	25x50	5120

Cap. (uF)	V	25		35		50	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
0.01~0.47					→	5x11	13
1					→	5x11	24
2.2					→	5x11	35
3.3					→	5x11	43
4.7					→	5x11	50
10		5x11	60	5x11	70	5x11	75
22		5x11	95	5x11	100	5x11	110

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

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CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)
Max. ripple current : mA(rms) 85°C 120Hz

Cap. (uF)	V Item	25		35		50	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
33		5x11	110	5x11	120	5x11	140
		6.3x11	130	6.3x11	140	6.3x11	150
47		5x11	140	5x11	150	6.3x11	180
		6.3x11	160	6.3x11	170	8x11.5	210
100		6.3x11	230	6.3x11	240	8x11.5	310
		8x11.5	260	8x11.5	290	10x12.5	330
220		8x11.5	390	8x11.5	420	10x12.5	490
		10x12.5	410	10x12.5	450	10x16	540
330		8x11.5	480	10x12.5	550	10x16	670
		10x12.5	510	10x16	610	10x20	730
470		10x12.5	600	10x16	720	10x20	820
		10x16	670	10x20	800	12.5x20	930
1000		10x20	1080	12.5x20	1240	12.5x25	1500
		12.5x20	1150	12.5x25	1370	16x25	1510
2200		12.5x25	1760	16x25	1890	16x35.5	2390
		16x25	1770	16x31.5	2090	18x35.5	2550
3300		16x25	2040	16x35.5	2530	18x35.5	2890
		16x31.5	2260	18x35.5	2700	18x40	3050
4700		16x31.5	2500	18x35.5	2960	22x45	3880
		18x35.5	2810	18x40	3120		
6800		18x35.5	3100	22x45	4020		
		18x40	3270			25x50	4730
8200		22x45	4000	22x50	4350		
10000		22x50	4330	25x50	4800		
15000		25x50	4970				

Cap. (uF)	V Item	63		100	
		DxL	R.C.	DxL	R.C.
0.47			→	5x11	18
1			→	5x11	26
2.2			→	5x11	39
3.3			→	5x11	48
4.7			→	5x11	55
10		5x11	75	6.3x11	95
22		5x11	110	6.3x11	140
		6.3x11	130	8x11.5	160
33		6.3x11	150	8x11.5	200
		8x11.5	180	10x12.5	210
47		6.3x11	180	10x12.5	250
		8x11.5	210	10x16	280
100		10x12.5	330	10x20	450
		10x16	370	12.5x20	480
220		10x16	540	12.5x25	790
		10x20	600	16x25	790
330		10x20	730	12.5x25	960
		12.5x20	780	16x25	970
470		12.5x20	930	16x25	1160
		12.5x25	1030	16x31.5	1280
1000		16x25	1510	18x40	2220
		16x31.5	1670	22x35	2340
2200		22x35	2830	25x50	3900
3300		22x50	3760		
4700		25x50	4370		

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CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)
Max. ripple current : mA(rms) 85°C 120Hz

Cap. (uF)	V Item	160		200		250	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
0.47		6.3x11	17	6.3x11	18	6.3x11	20
1		6.3x11	25	6.3x11	27	6.3x11	29
2.2		6.3x11	37	6.3x11	39	6.3x11	43
3.3		6.3x11	45	6.3x11	48	8x11.5	60
4.7		6.3x11	55	8x11.5	65	8x11.5	75
10		8x11.5	90	10x12.5	100	10x16	120
22		10x16	160	10x20	190	12.5x20	220
33		10x20	210	12.5x20	250	12.5x20	270
47		12.5x20	270	12.5x20	290	12.5x25	350
100		12.5x25	440	16x25	470	16x31.5	570
220		16x35.5	760	18x40	920		
		22x30	850	22x30	910	22x35	1060
330		18x40	1050				
		22x30	1040	22x40	1260	22x45	1450
470		22x40	1400	22x45	1590	25x45	1850
560		22x45	1610	22x50	1820	25x50	2120
680		22x50	1860	25x50	2150		
820		25x50	2200				

Cap. (uF)	V Item	350		400		450	
		DxL	R.C.	DxL	R.C.	DxL	R.C.
0.47		8x11.5	20	8x11.5	20	8x11.5	20
1		8x11.5	29	8x11.5	30	8x11.5	29
2.2		8x11.5	43	8x11.5	44	10x12.5	45
3.3		10x12.5	55	10x12.5	55	10x16	60
4.7		10x12.5	65	10x16	75	10x18	75
10		10x20	120	12.5x20	130	12.5x20	130
22		12.5x20	190	12.5x25	210	16x25	210
33		12.5x25	250	16x25	260	16x31.5	280
47		16x25	300	16x31.5	350	18x35.5	380
				22x30	410		
100		18x35.5	550	18x35.5	570	18x35.5	550
		22x35	610	22x40	670		
150		22x40	790	25x50	970		
220		22x50	1060				

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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
		4 x 5	5 x 5	6.3x5	8 x 5	4 x 7	5 x 7	6.3x7	8 x 7	5 x 11	6.3x11	8 x 11.5	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 ₀	12.7																±0.2	
Distance between holes and lead wire	P ₁	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 ₂	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 ₁ :5.0 ^{+0.5}		
		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 ₁ :5.0 ^{+0.5}		
Base tape width	W	18.0																±0.5	
Adhesive tape width	W ₀	12.5																MIN	
Deviation between holes and base tape	W ₁	9.0																±0.5	
Deviation between adhesive and base tape	W ₂	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 ₀	16.0																±0.5	
Distance between body top and tape center	H ₁	24.5				27.5				32.5		33.0	36.0	38.0	41.0	MAX			
Punched hole diameter	D ₀	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 ₁	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 ₀	15.0							±0.2	
Distance between holes and lead wire	P ₁	5.0			3.75				±0.7	
Distance between holes and bodies	P ₂	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 ₀	15.0							MIN	
Deviation between holes and base tape	W ₁	9.0							±0.5	
Deviation between adhesive and base tape	W ₂	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 ₁	40.5	45.5	50.5	46.5	53.5	56.5	56.5	MAX	
Punched hole diameter	D ₀	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 ₁	0							±1.0	



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

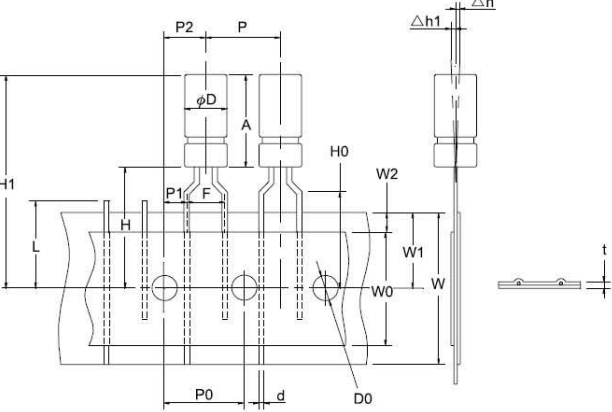


Fig 2. ($\phi 4 \sim \phi 5$)

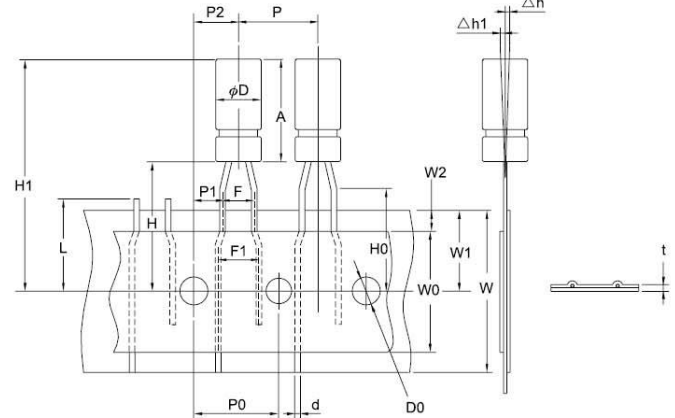


Fig 3. ($\phi 4 \sim \phi 8$)

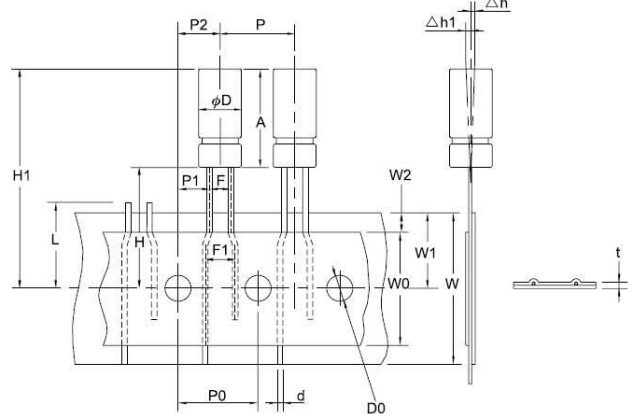


Fig 4. ($\phi 10$)

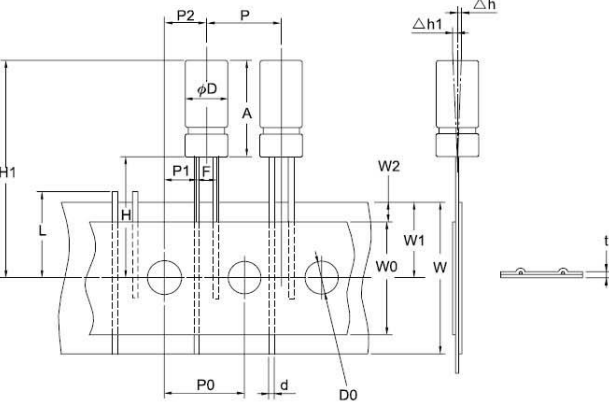


Fig 5. ($\phi 12.5$)

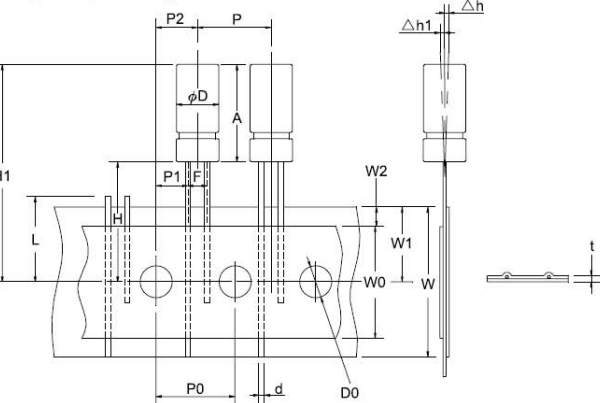
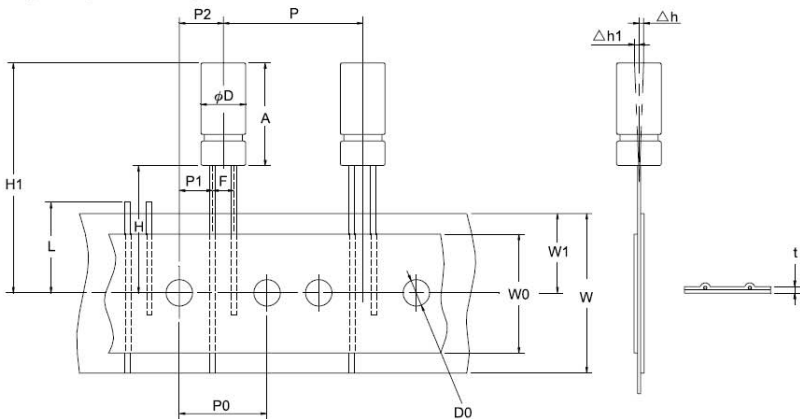


Fig 6. ($\phi 16 \sim 18$)



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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 ± 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 ± 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