

Surface Mount Aluminum Electrolytic Capacitors



SHB Series
(Bi-Polar, 105°C)

MERITEK

FEATURES

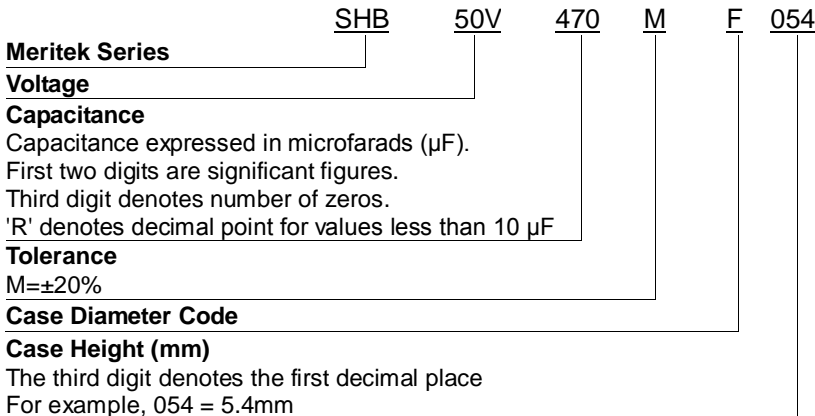
- Height : 5.4mm
- Load life : 105°C 1000 hours
- SHB series is Bi-Polar type



SPECIFICATIONS

Item	Characteristic						
Operation Temperature Range	-55 ~ +105°C						
Rated Working Voltage	6.3 ~ 50VDC						
Capacitance Tolerance (120Hz 20°C)	±20%(M)						
Leakage Current (20°C)	I ≤ 0.05CV or 10 (μA) *Whichever is greater after 2 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
	S.V.	8	13	20	32	44	63
Dissipation Factor (tan δ) (120Hz 20°C)	W.V.	6.3	10	16	25	35	50
	tan δ	0.26	0.22	0.20	0.20	0.20	0.18
Low Temperature Stability	Impedance ratio at 120Hz						
	Rated Voltage (V)	6.3	10	16	25	35	50
	-25°C / +20°C	4	3	2	2	2	2
	-40°C / +20°C	8	6	4	4	3	3
Load Life	After 1000 hours application of W.V. and +105°C ripple current value, the capacitor shall meet the following limits. (DC + ripple peak voltage ≤ rate working voltage) (The polarity need to exchange every 250 hours)						
	Capacitance Change	≤ ±25% of initial value					
	Dissipation Factor	≤ 200% of initial specified value					
	Leakage current	≤ initial specified value					
Shelf Life	At +105°C, no voltage application after 500 hours, the capacitor shall meet the limits for load life characteristics. (With voltage treatment)						
Resistance to Soldering Heat	Capacitors placed on a 250°C hot plate for 30 seconds with their electrode terminals facing downward will fulfill the following conditions after being cooled to room temperature.						
	Capacitance Change	≤ ±10% of initial value					
	Dissipation Factor	≤ initial specified value					
	Leakage current	≤ initial specified value					

PART NUMBERING SYSTEM



Case Diameter Code	Φ D
D	Φ 4.0
E	Φ 5.0
F	Φ 6.3

Surface Mount Aluminum Electrolytic Capacitors

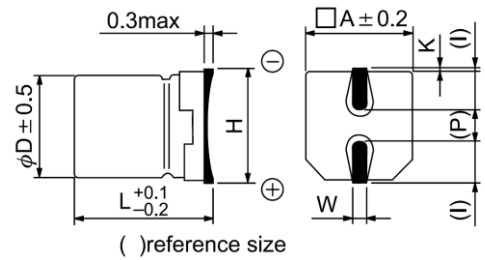


SHB Series
(Bi-Polar, 105°C)

MERITEK

DIMENSIONS (mm)

ΦD	L	A	H	I	W	P	K
Φ 4.0	5.4	4.3	5.5MAX	1.8	0.65±0.1	1.0	0.35 ^{+0.15} _{-0.20}
Φ 5.0	5.4	5.3	6.5MAX	2.2	0.65±0.1	1.5	0.35 ^{+0.15} _{-0.20}
Φ 6.3	5.4	6.6	7.8MAX	2.6	0.65±0.1	2.1	0.35 ^{+0.15} _{-0.20}



CASE SIZE & MAX RIPPLE CURRENT

Case size : D x L (mm)
Max ripple current : mA(ms) 85°C 120Hz

Cap. (μF)	V	6.3		10		16		25		35		50	
		Item	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL
0.1	0R1											4x5.4	2
0.22	R22											4x5.4	3
0.33	R33											4x5.4	4
0.47	R47											4x5.4	4
1.0	010											4x5.4	6
2.2	2R2									4x5.4	9	5x5.4	10
3.3	3R3							5x5.4	12	5x5.4	13	5x5.4	13
4.7	4R7					4x5.4	12	5x5.4	14	5x5.4	15	6.3x5.4	17
10	100			4x5.4	17	5x5.4	21	6.3x5.4	24	6.3x5.4	25		
22	220	5x5.4	26	6.3x5.4	32	6.3x5.4	35						
33	330	6.3x5.4	36	6.3x5.4	40	6.3x5.4	43						
47	470	6.3x5.4	43										

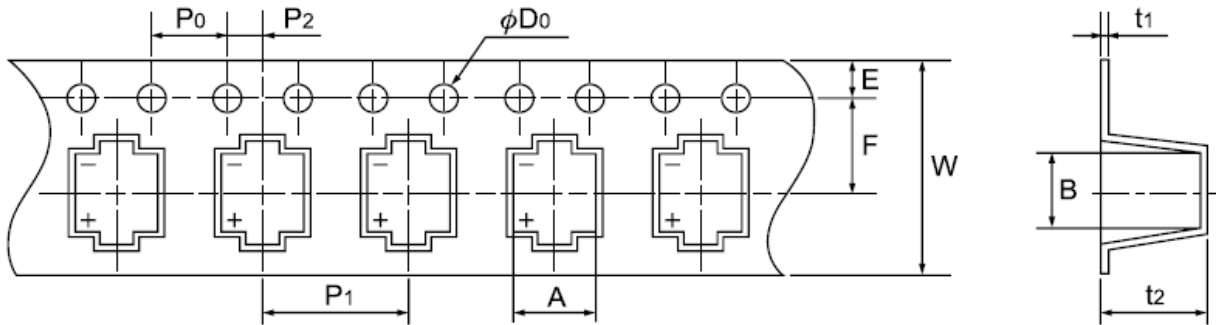
Surface Mount Aluminum Electrolytic Capacitors



SHB Series
(Bi-Polar, 105°C)

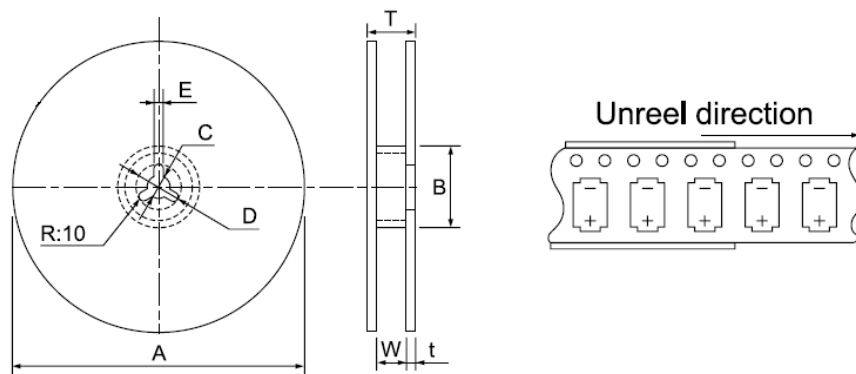
MERITEK

TAPING



D x L	W ± 0.3	A ± 0.2	B ± 0.2	P_0 ± 0.1	P_1 ± 0.1	P_2 ± 0.1	F ± 0.1	ϕD_0 ± 0.1	t_1 ± 0.1	E ± 0.1	t_2 ± 0.2
$\phi 4 \times 5.4$	12.0	4.7	4.7	4.0	8.0	2.0	5.5	1.5	0.4	1.75	5.7
$\phi 5 \times 5.4$	12.0	5.7	5.7	4.0	12.0	2.0	5.5	1.5	0.4	1.75	5.7
$\phi 6.3 \times 5.4$	16.0	7.0	7.0	4.0	12.0	2.0	7.5	1.5	0.4	1.75	5.7
$\phi 4 \times 5.8$	12.0	4.7	4.7	4.0	8.0	2.0	5.5	1.5	0.4	1.75	6.3
$\phi 5 \times 5.8$	12.0	5.7	5.7	4.0	12.0	2.0	5.5	1.5	0.4	1.75	6.4
$\phi 6.3 \times 5.8$	16.0	7.0	7.0	4.0	12.0	2.0	7.5	1.5	0.4	1.75	6.4
$\phi 6.3 \times 7.7$	16.0	7.0	7.0	4.0	12.0	2.0	7.5	1.5	0.4	1.75	8.2
$\phi 8 \times 6.2$	16.0	8.7	8.7	4.0	12.0	2.0	7.5	1.5	0.4	1.75	6.8
$\phi 8 \times 10.2$	24.0	8.7	8.7	4.0	16.0	2.0	11.5	1.5	0.4	1.75	11.0
$\phi 10 \times 10.2$	24.0	10.7	10.7	4.0	16.0	2.0	11.5	1.5	0.4	1.75	11.0

PACKAGE



D x L	A ± 2.0	B MIN	C ± 0.5	D ± 0.8	E ± 0.5	W ± 1.0	T ± 1.0	t ± 0.5
$\phi 4 \phi 5$	380	50	13	21	2.0	14.0	20.0	3.0
$\phi 6.3$	380	50	13	21	2.0	18.0	24.0	3.0
$\phi 8 \times 6.2$	380	50	13	21	2.0	18.0	24.0	3.0
$\phi 8 \times 10.2$	380	50	13	21	2.0	26.0	32.0	3.0
$\phi 10 \times 10.2$	380	50	13	21	2.0	26.0	32.0	3.0

Surface Mount Aluminum Electrolytic Capacitors

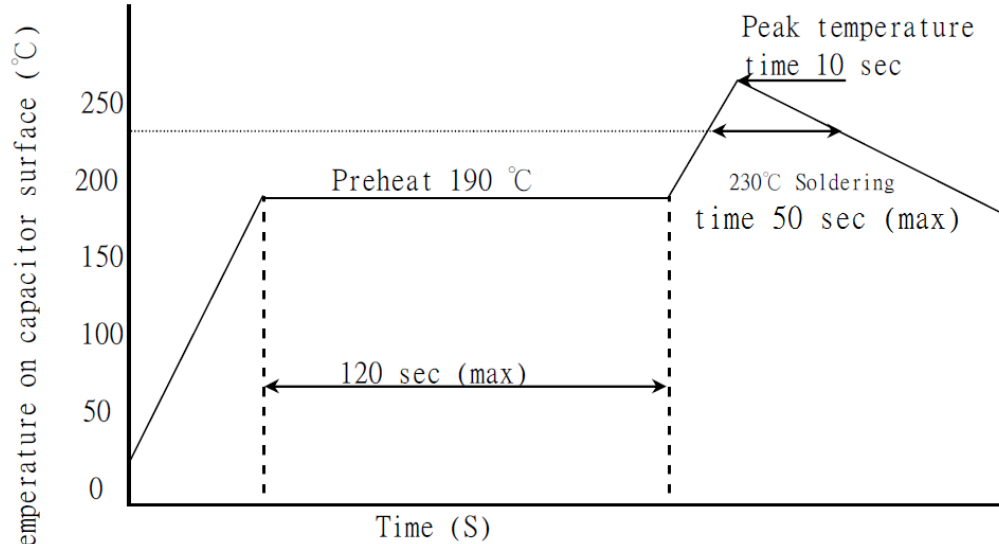


SHB Series
(Bi-Polar, 105°C)

MERITEK

PERMISSIBLE REFLOW CONDITION

AIR REFLOW AND IR REFLOW



Preheat: Within 120sec., 190°C or less.

Soldering Time: Within 50 sec., 230°C

Peak Temperature: Less than 250°C, within 10 sec.

Possible Reflow Cycle: 2 Cycles

The final test values should be as 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