

Surface Mount Aluminum Electrolytic Capacitors



SHL Series
(Low Leakage, 105°C)

MERITEK

FEATURES

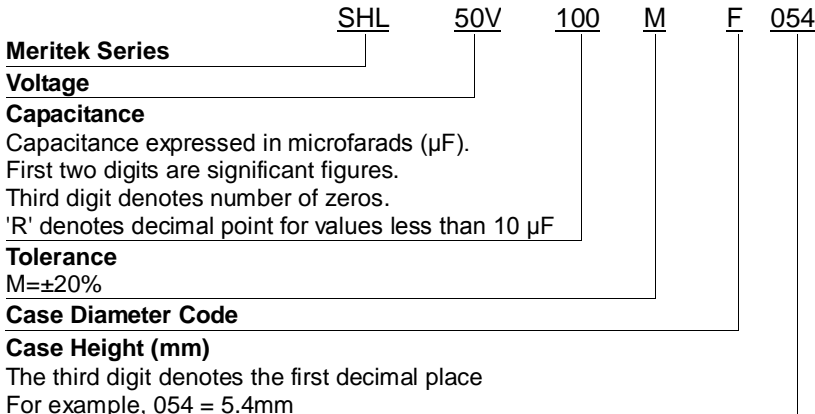
- Low Leakage Current (0.5µA to 2.0 µA MAX.)
- Load Life : 105°C 1000 hours
- Height : 5.4mm



SPECIFICATIONS

Item	Characteristic							
Operation Temperature Range	-40 ~ +105°C							
Rated Working Voltage	6.3 ~ 50VDC							
Capacitance Tolerance (120Hz 20°C)	±20%(M)							
Leakage Current (20°C)	I ≤ 0.002CV or 0.5 (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	0.24	0.20	0.16	0.14	0.12	0.10	
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 ≤ rated working voltage)							
	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 1000 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

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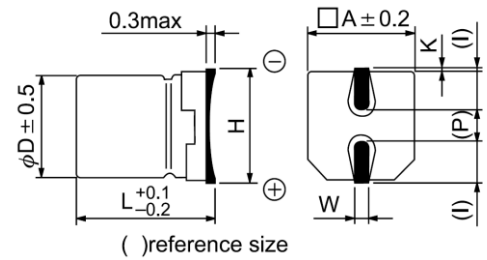


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DIMENSIONS (mm)

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(rms) 105°C 120Hz

Cap. (μF)	V Item	6.3		10		16		25		35		50	
		DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.
0.1	0R1											4x5.4	3
0.22	R22											4x5.4	4
0.33	R33											4x5.4	5
0.47	R47											4x5.4	5
1.0	010											4x5.4	8
2.2	2R2											4x5.4	12
3.3	3R3											4x5.4	14
4.7	4R7							4x5.4	14	4x5.4	15	5x5.4	19
10	100					4x5.4	20	5x5.4	24	5x5.4	26	6.3x5.4	32
22	220	4x5.4	24	5x5.4	30	5x5.4	33	6.3x5.4	41	6.3x5.4	44		
33	330	5x5.4	33	5x5.4	36	6.3x5.4	46	6.3x5.4	50				
47	470	5x5.4	39	6.3x5.4	50	6.3x5.4	55						
100	101	6.3x5.4	65	6.3x5.4	70								

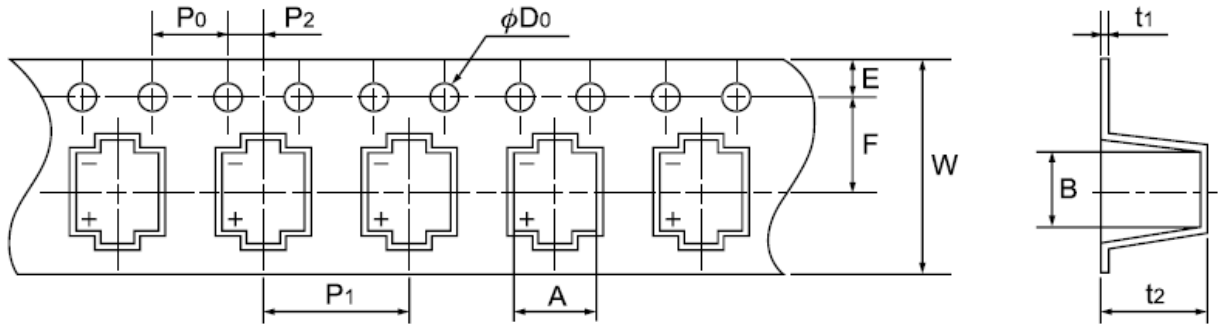
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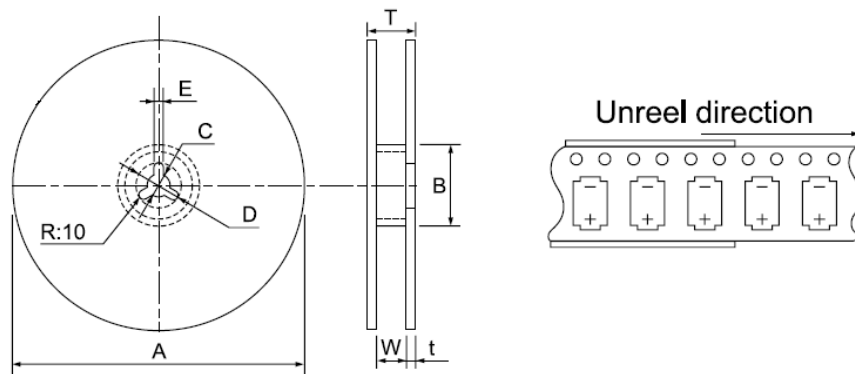
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TAPING



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

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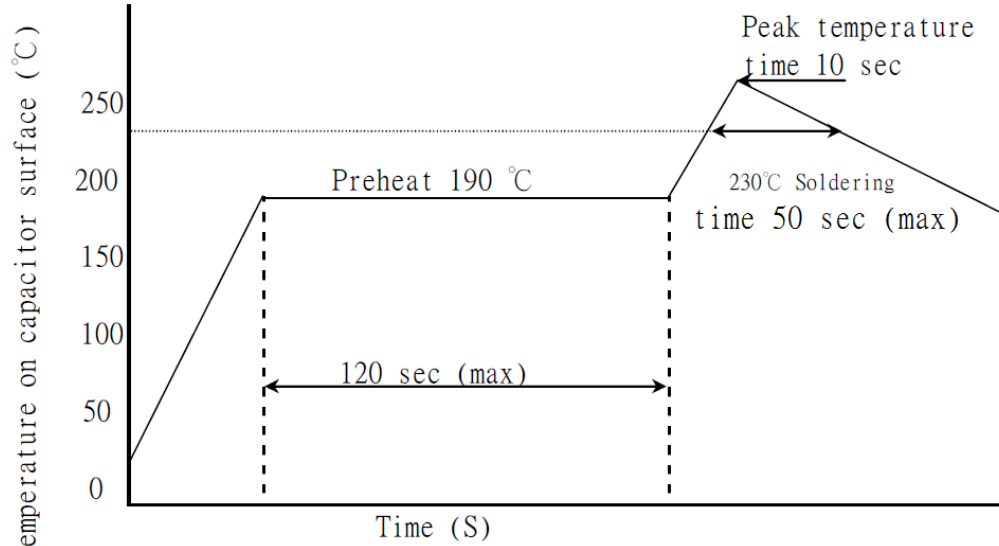


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PERMISSIBLE REFLOW CONDITION

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