

## SHM SERIES

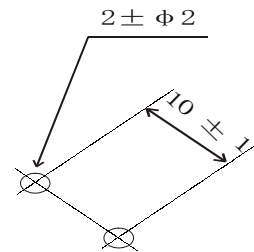
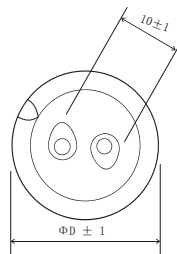
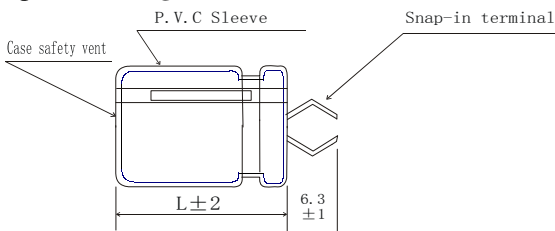
- Endurance with ripple current: 85°C 3000 hours
- Non solvent-proof type



### ◆ SPECIFICATIONS

Item	Characteristics	
Category Temperature Range	-25 ~ +85°C	
Voltage Range	160 ~ 450V.DC	
Nominal Cap. Range	47 ~ 3300µF	
Capacitance Tolerance	±20%(M)	20°C, 120Hz
Leakage Current	$I \leq 3 \sqrt{CV}$ I: Leakage Current (µA) C: Nominal Capacitance (µF) V: Rated Voltage (V) (at 20°C after 5 min.)	
Dissipation Factor(tanδ) (at 120Hz,20°C)	Rated voltage (V.DC)	160 to 400V
	tanδ (max)	0.15
Low Temp. Impedance Stability at 120Hz	Rated voltage (V.DC)	160 to 400V
	Z-25°C / Z+20°C	4
High Temp. Load Test	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied for 3000 hours at 85°C	
	Capacitance change	≅ ±20% of the initial measured value
High Temp. Non-Load Test	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1000 hours at 85°C without voltage applied.	
	Capacitance Change	≅ ±15% of the initial measured value

### ● DRAWING



### ● MULTIPLIER FOR RIPPLE CURRENT

#### (1) Frequency Coefficient

Cap(µA)	Freq.(Hz)					
	60(50)	120	300	1K	10K	50K
160~250VDC	0.81	1.00	1.17	1.32	1.45	1.50
315~450VDC	0.77	1.00	1.16	1.30	1.41	1.43

#### (2) Temperature Coefficient

Ambient Temperature (°C)	40	60	70	85
Coefficient	2.40	2.10	1.50	1.00

# SHELCON *LARGE CAPACITANCE ALUMINUM ELECTROLYTIC CAPACITORS*

## SHM SERIES

### ■ Standard Ratings

Cap.( $\mu$ F)	WV(Vdc) $\Phi$ D	160					180				
		20	22	25	30	35	20	22	25	30	35
220							22X20 1.18				
270		20X25 1.28	22X20 1.30				20X25 1.29				
330		20X25 1.55					20X30 1.77	22X25 1.77	25 X20 1.49		
390		20X30 1.63	22X25 1.63	25 X20 1.62			20X30 1.84	22X25 1.84			
470		20X30 1.90	22X30 1.86	25 X25 1.86			20X35 1.91	22X30 1.91	25 X25 2.08	30X20 1.88	
560		20X35 2.14	22X30 2.15	25 X25 2.15	30X20 2.05		20X40 2.15	22X35 2.25	25 X25 2.25		
680		20X40 2.35	22X35 2.35	25 X30 2.33	30X25 2.33	35X20 2.26	20X45 2.41	22X35 2.48	25 X30 2.50	30X25 2.46	35X20 2.26
820		20X45 2.64	22X40 2.68	25 X30 2.65	30X25 2.64	35X20 2.49	20X50 2.72	22X40 2.86	25 X35 2.75	30X25 2.69	
1000			22X45 3.02	25 X35 3.00	30X30 2.96	35X25 3.13		22X50 3.10	25 X40 3.06	30X30 3.10	35X25 2.98
1200			22X50 3.47	25 X40 3.43	30X30 3.41	35X25 3.4			25 X45 3.63	30X35 3.55	35X30 3.49
1500				25 X50 3.96	30X35 3.96	35X30 3.94				30X40 4.10	35X35 4.02
1800					30X40 4.31	35X35 4.28				30X45 4.55	35X35 4.54
2200					30X50 4.96	35X40 4.96					35X40 4.83
2700						35X45 5.57					35X50 5.30
3300						35X50 6.21					

← Upper: Case Size  $\Phi$ DxL (mm)  
 ← Lower: Rated Ripple Current(Arms)(85°C 120Hz)

Cap.( $\mu$ F)	WV(Vdc) $\Phi$ D	200					220				
		20	22	25	30	35	20	22	25	30	35
180							22X20 1.06				
220		20X25 1.19	22X20 1.18				20X25 1.25				
270		20X25 1.39	22X25 1.37	25 X20 1.35			20X30 1.46	22X25 1.47	25 X20 1.35		
330		20X30 1.56	22X25 1.51	25 X20 1.49			20X35 1.64	22X30 1.70	25 X25 1.69	30X20 1.58	
390		20X35 1.74	22X30 1.73	25 X25 1.71	30X20 1.71		20X35 1.84	22X30 1.89	25 X25 1.84	30X20 1.71	
470		20X35 2.03	22X30 1.97	25 X25 1.95	30X20 1.88		20X45 2.12	22X35 2.08	25 X30 2.08	30X25 2.12	35X20 1.88
560		20X40 2.18	22X35 2.18	25 X30 2.15	30X25 2.15	35X20 2.05	20X50 2.33	22X40 2.33	25 X35 2.38	30X25 2.31	35X20 2.14
680		20X50 2.48	22X40 2.48	25 X30 2.48	30X25 2.48	35X20 2.36		22X45 2.63	25 X35 2.68	30X30 2.62	35X25 2.58
820			22X45 2.81	25 X35 2.79	30X30 2.8	35X25 2.83			25 X45 3.01	30X35 2.99	35X30 2.79
1000			22X50 3.28	25 X40 3.28	30X35 3.15	35X30 3.26			25 X50 3.4	30X35 3.42	35X30 3.29
1200				25 X45 3.61	30X35 3.61	35X30 3.57				30X40 3.88	35X35 3.68
1500					30X45 4.13	35X35 4.06				30X50 4.44	35X40 4.10
1800					30X50 4.60	35X40 4.59					35X45 4.52
2200						35X45 5.25					

← Upper: Case Size  $\Phi$ DxL (mm)  
 ← Lower: Rated Ripple Current(Arms)(85°C 120Hz)

# SHELCON *LARGE CAPACITANCE ALUMINUM ELECTROLYTIC CAPACITORS*

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### ■ Standard Ratings

Cap.( $\mu$ F)	WV(Vdc)		250					315				
	$\Phi$	D	20	22	25	30	35	20	22	25	30	35
100									22X20 0.79			
120								20X25 0.89		25 X20 0.90		
150				22X20 0.97				20X30 1.05	22X25 1.06	25 X20 1.00		
180	20X25 1.20	22X20 1.06						20X35 1.18	22X30 1.29	25 X25 1.38	30X20 1.16	
220	20X25 1.26	22X25 1.24	25 X20 1.22					20X35 1.30	22X30 1.41	25 X25 1.47	30X20 1.28	
270	20X30 1.42	22X25 1.50						20X45 1.52	22X35 1.68	25 X30 1.70	30X25 1.55	35X20 1.43
330	20X35 1.68	22X30 1.66	25 X25 1.61	30X20 1.58				20X50 1.73	22X40 1.91	25 X35 1.94	30X25 1.98	
390	20X40 1.92	22X35 1.88	25 X30 1.88	30X25 1.86	35X20 1.71				22X45 2.07	25 X40 2.11	30X30 2.15	35X25 1.95
470	20X50 2.06	22X35 2.15	25 X35 2.15	30X25 2.05	35X20 1.88					25 X45 2.31	30X35 2.38	35X30 2.46
560		22X40 2.48	25 X35 2.35	30X25 2.35						25 X50 2.46	30X35 2.63	35X30 2.69
680		22X50 2.61	25 X40 2.67	30X30 2.71	35X25 2.58						30X45 2.82	35X35 3.05
820			25 X45 3.01	30X35 2.98	35X30 2.96						30X50 3.28	35X40 3.45
1000				30X40 3.56	35X35 3.48							35X45 3.59
1200				30X45 3.99	35X35 3.84							
1500					35X40 4.33							
1800					35X50 4.54							

← Upper: Case Size  $\Phi$ DxL (mm)  
 ← Lower: Rated Ripple Current(Arms)(85°C 120Hz)

Cap.( $\mu$ F)	WV(Vdc)		350					400				
	$\Phi$	D	20	22	25	30	35	20	22	25	30	35
68								20X25 0.75	22X20 0.65			
82				22X20 0.72				20X25 0.82	22X25 0.84	25 X20 0.74		
100	20X25 0.81							20X30 0.95	22X25 0.99	25 X20 0.82		
120	20X30 0.96	22X25 1.04	25 X20 0.90					20X35 1.07	22X30 1.09	25 X25 1.13	30X20 0.95	
150	20X30 1.10	22X30 1.20	25 X25 1.22	30X20 1.06				20X40 1.22	22X35 1.24	25 X30 1.27	30X25 1.20	
180	20X35 1.24	22X30 1.34	25 X25 1.37	30X20 1.16				20X45 1.28	22X40 1.41	25 X30 1.44	30X25 1.52	35X20 1.16
220	20X45 1.37	22X35 1.47	25 X30 1.53	30X25 1.54	35X20 1.29			20X50 1.41	22X45 1.58	25 X35 1.64	30X30 1.66	35X25 1.47
270	20X50 1.56	22X40 1.70	25 X35 1.73	30X25 1.80	35X20 1.49				22X50 1.65	25 X40 1.79	30X30 1.82	35X25 1.63
330		22X45 1.87	25 X35 1.97	30X30 2.03	35X25 1.80					25 X45 2.00	30X35 2.05	35X30 2.05
390			25 X40 2.14	30X35 2.23	35X30 2.30					25 X50 2.12	30X40 2.26	35X35 2.28
470			25 X50 2.55	30X35 2.53	35X30 2.55						30X45 2.51	35X35 2.54
560				30X40 2.73	35X35 2.75						30X50 2.85	35X40 2.85
680				30X50 3.15	35X40 3.15							35X50 3.10
820					35X45 3.47							
1000					35X50 3.60							

← Upper: Case Size  $\Phi$ DxL (mm)  
 ← Lower: Rated Ripple Current(Arms)(85°C 120Hz)

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### ■ Standard Ratings

Cap.( $\mu$ F)	WV(Vdc) $\phi$ D	420					450				
		20	22	25	30	35	20	22	25	30	35
47			22X20 0.54					22X20 0.54			
56	20X25 0.58	22X20 0.59				20X25 0.61	22X20 0.59				
68	20X25 0.70		25 X20 0.68			20X30 0.71	22X25 0.71	25 X20 0.68			
82	20X30 0.80	22X25 0.85	25 X20 0.74			20X35 0.80	22X25 0.86	25 X20 0.74	30X20 0.79		
100	20X35 0.90	22X30 0.97	25 X25 0.98	30X20 0.87		20X35 0.88	22X30 0.95	25 X25 0.97	30X20 0.87		
120	20X35 1.04	22X30 1.07	25 X25 1.08	30X20 0.95		20X40 0.99	22X35 1.07	25 X30 1.09	30X25 1.12	35X20 0.99	
150	20X40 1.17	22X35 1.21	25 X30 1.26	30X25 1.30	35X20 1.11	20X45 1.13	22X40 1.18	25 X30 1.25	30X25 1.29	35X20 1.06	
180	20X50 1.27	22X45 1.33	25 X35 1.42	30X25 1.48	35X20 1.16		22X45 1.32	25 X35 1.40	30X30 1.45	35X25 1.33	
220		22X45 1.55	25 X35 1.58	30X30 1.65	35X25 1.47		22X50 1.48	25 X40 1.59	30X30 1.64	35X25 1.66	
270			25 X40 1.74	30X35 1.90	35X30 1.94			25 X45 1.73	30X35 1.89	35X30 1.90	
330			25 X50 2.20	30X35 1.98	35X35 2.17			25 X50 2.12	30X40 2.12	35X35 2.15	
390				30X40 2.22	35X35 2.27				30X45 2.35	35X40 2.38	
470				30X45 2.50	35X40 2.61				30X50 2.65	35X45 2.68	
560					35X45 2.95					35X50 2.88	
680					35X50 3.15	← Upper: Case Size $\phi$ DxL (mm) ← Lower: Rated Ripple Current(Arms)(85°C 120Hz)					