

SHM SERIES

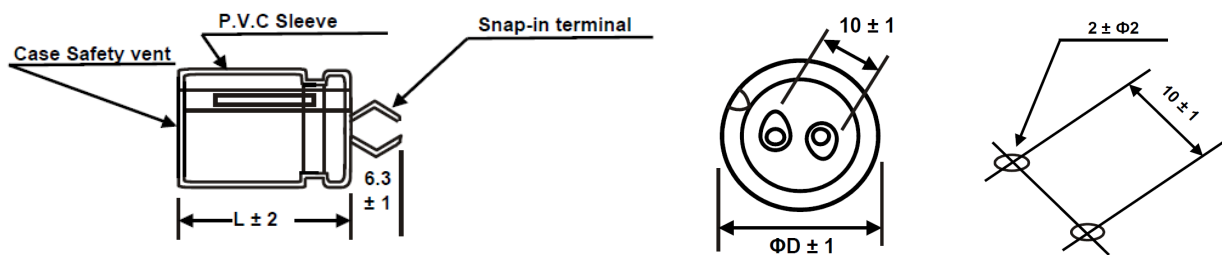
- Endurance with ripple current: 85°C 3000 hours
- Non solvent-proof type



◆ 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 ≤ 3 √ 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	420 & 450V
	tanδ (max)	0.15	0.20
Low Temp. Impedance Stability at 120Hz	Rated voltage (V.DC)	160 to 400V	420 & 450V
	Z-25°C/Z+20°C	4	8
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 tanδ ≅ 200% of the initial specified value Leakage Current ≅ the initial specified 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 tanδ ≅ 150% of the initial specified value Leakage Current ≅ the initial specified 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

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Standard Ratings

Cap.(μ F)	WV(Vdc) Φ 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 Φ DxL (mm) ← Lower: Rated Ripple Current(Arms)(85°C 120Hz)				

Cap.(μ F)	WV(Vdc) Φ 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 Φ DxL (mm) ← Lower: Rated Ripple Current(Arms)(85°C 120Hz)				

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Cap.(μ F)	WV(Vdc) Φ D	250					315				
		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 Φ DxL (mm) ← Lower: Rated Ripple Current(Arms)(85°C 120Hz)				

Cap.(μ F)	WV(Vdc) Φ D	350					400				
		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 Φ DxL (mm) ← Lower: Rated Ripple Current(Arms)(85°C 120Hz)				

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■ Standard Ratings

Cap.(μ F)	VV(Vdc)		420					450				
	Φ	D	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 Φ DxL (mm)

← Lower: Rated Ripple Current(Arms)(85°C 120Hz)