

WS Series

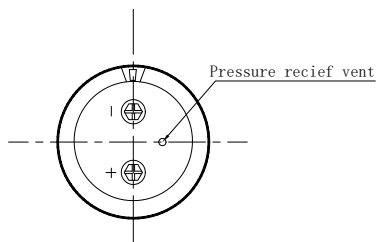
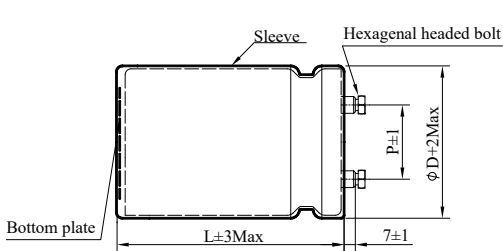
- High ripple, suitable to use in industrial power supplies for inverter circuitry, etc.

◆ SPECIFICATIONS

Item	Performance Characteristics			
Category Temperature Range	-25 ~ +85°C			
Working Voltage Range	200~600Vdc			
Capacitance Range	820~33,000μF			
Capacitance Tolerance	±20% (at 20°C and 120Hz)			
Dissipation Factor (tan δ) (at 20°C, 120Hz)	Rated Voltage (V)	200 ~ 250	350 ~ 450	500 ~600
	tan δ (Max)	0.20	0.15	0.20
The above values should be increased by 0.02 for every additional 1000μF				
Leakage Current	I=0.01CV or 5000μA, whichever is smaller I : Leakage current (μA) C : Rated capacitance (μF) V : Rated voltage (V) Apply rated voltage the rated voltage for 5 minutes.			
Low Temperature Characteristics Impedance Ratio(MAX) Endurance	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 2,000 hours at 85°C.			
	Capacitance change	≒ ±15% of the initial value		
	Dissipation factor(tan δ)	≒ 175% of the specified value		
Shelf Life	The following requirements shall be satisfied when the capacitor are restored to 20°C after the rated voltage applied for 500 hours at 85°C without voltage applied.			
	Capacitance change	≒ ±15% of the initial value		
	Dissipation factor(tan δ)	≒ 175% of the specified value		
Others	Leakage current			
	≒ specified value			
	Conforms to JIS-C-5101-4 (1998) and IEC 60384-4			

◆ DIMENSIONS(mm)

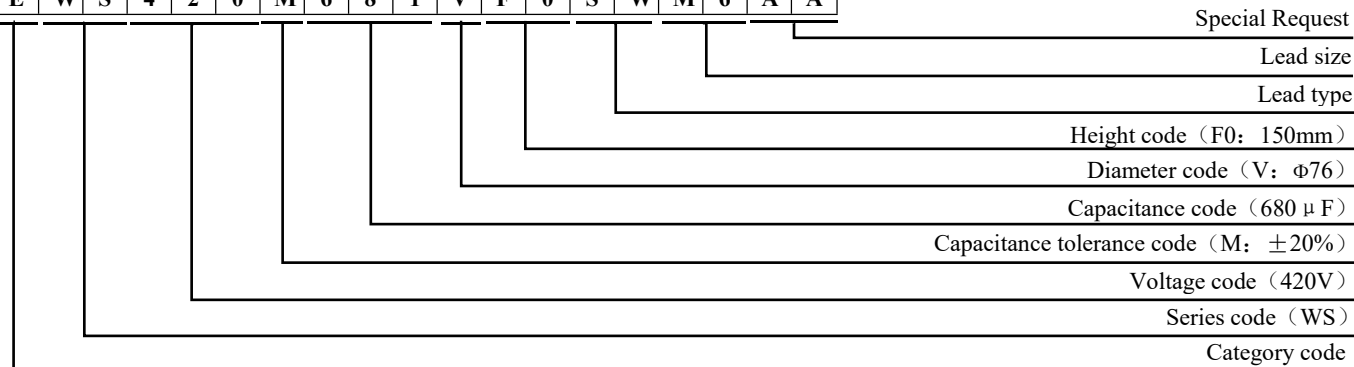
Terminal Code :SW



ΦD	51	64	76	89
P±1	22.0	28.3	31.4	31.4

◆ PART NUMBER SYSTEM(Example : 420V 680μF)

E	W	S	4	2	0	M	6	8	1	V	F	0	S	W	M	6	A	A
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WS Series

◆ Case size & Permissible rated ripple current: (A rms) at 85°C / 120Hz

uF	Vdc ΦD	200								250							
		Φ51		Φ64		Φ76		Φ89		Φ51		Φ64		Φ76		Φ90	
		ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC
2200										51×80	4.3						
2700										51×80	4.9						
3300		51×80	5.3							51×95	5.4						
3900		51×80	5.7							51×115	6.2						
4700		51×95	6.4									64×95	7.6				
5600		51×115	7.5									64×95	8.5				
6800		51×130	8.7									64×115	9.8				
8200				64×95	9.3							64×115	10.5				
10000				64×95	10.3							64×130	12.9				
12000						76×95	12.0							76×115	14.0		
15000						76×95	14.4							76×130	16.0		
18000						76×130	16.5							76×155	19.5		
22000						76×155	19.6									89×160	23.0
27000								89×130	21.5								
33000						76×170	24.0	89×160	25.5							89×170	29.2
36000								89×160	26.5								
47000								89×195	35.0							89×235	39.6
56000								89×220	39.0								

uF	Vdc ΦD	350								400							
		Φ51		Φ64		Φ76		Φ89		Φ51		Φ64		Φ76		Φ89	
		ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC
1000										51×80	4.5						
1200										51×80	4.9						
1500		51×95	5.4							51×95	6.0						
1800		51×95	6.0							51×95	6.5						
2200		51×115	7.0							51×115	7.5						
2700		51×130	8.4									64×95	9.8	76×95	10.5		
3300		51×130	8.8									64×110	10.0	76×95	10.7		
3900				64×115	10.4							64×130	12.0	76×95	11.5		
4700				64×130	12.5									76×115	13.8		
5600						76×115	13.5							76×130	15.8		
6800						76×130	15.8							76×150	17.5	89×130	16.3
8200						76×155	18.7									89×145	19.0
10000								89×157	21.5							89×157	22.0
12000								89×157	23.6							89×195	25.0

uF	Vdc ΦD	450								500							
		Φ51		Φ64		Φ76		Φ89		Φ51		Φ64		Φ76		Φ89	
		ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC
820		51×80	4.1														
1000		51×80	4.5							51×115	5.3						
1200		51×95	5.3							51×115	5.8						
1500		51×115	6.5							51×130	6.5						
1800		51×130	7.3									64×115	8.1				
2200				64×95	8.2							64×130	9.4				
2700				64×115	9.8									76×115	10.8		
3300				64×130	11.5									76×130	12.4		
3900						76×115	13.0							76×130	13.4		
4700						76×130	14.5							76×155	15.8		
5600						76×155	17.3									89×150	15.3
8200								89×157	21.5					76×220	21.5		

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◆ Case size & Permissible rated ripple current: (A rms) at 85°C / 120Hz.

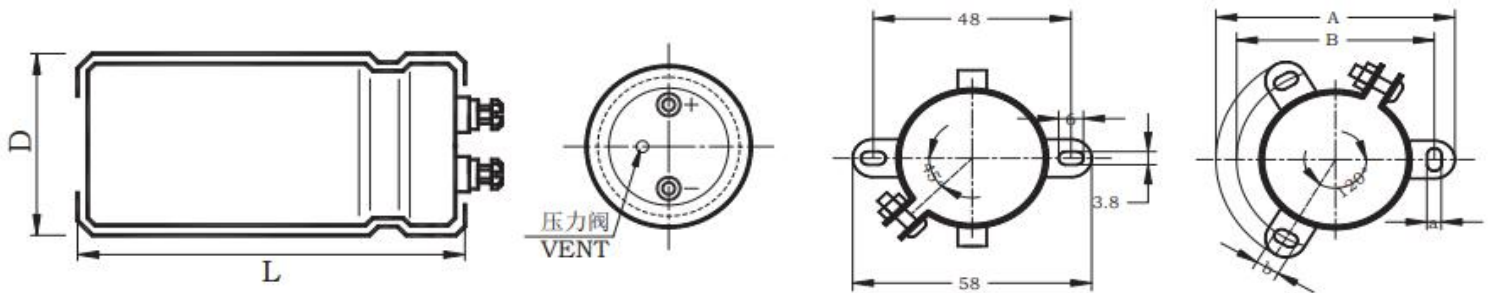
Vdc ΦD uF	550								600						
	Φ51		Φ64		Φ76		Φ89		Φ64		Φ76		Φ89		
	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	
1000	51×130	5.2								64×80	6.2				
1200	51×130	5.7								64×95	6.7				
1500			64×115	5.9						64×115	8.0				
1800			64×120	6.9								76×95	9.6		
2200					76×115	8.5						76×115	11.5		
2700					76×130	10.0						76×130	12.0		
3300							89×130	11.7				76×155	15.3		
3900												76×195	18.4		
4700							89×157	15.0						89×157	19.2
5600							89×170	17.0						89×195	22.0
6800							89×195	19.5						89×220	24.0

◆ RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Vdc	Frequency (Hz)				
	60	120	300	1K	10K
200 ~ 450	0.82	1.00	1.20	1.35	1.40
500 ~ 600	0.80	1.00	1.10	1.30	1.35

◆ DIMENSIONS (Screw-Mount) [mm]



◆ Dimensions of mounting bracket

D	A±2	B±1	a±0.5	b
51	73.0	63.5	4.5	7.0
64	85.1	76.2	4.5	7.0
76	98.4	88.9	4.5	7.0
89	111.1	101.6	4.5	7.0