

VS

Series

Standard



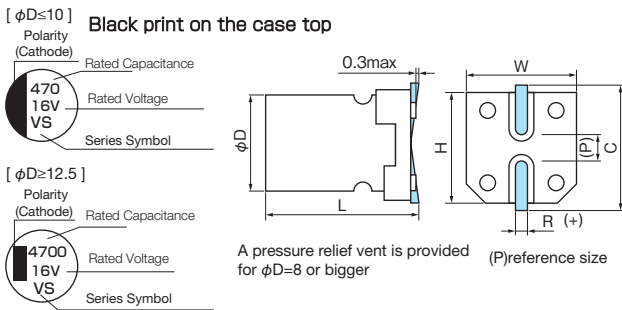
- Solvent proof (within 2 minutes)

VT
↑ 105°C
VS

Specifications

Items	Condition	Specifications									
Rated voltage (V)	—	4	6.3	10	16	25	35	50	63	100	
Surge voltage (V)	Room temperature	5.0	8.0	13	20	32	44	63	79	125	
Category temperature range (°C)	—	-40 to +105									
Capacitance tolerance (%)	120Hz/20°C	M: ±20									
Dissipation Factor (tan δ)	tan δ (max) 120Hz/20°C	φ4 to φ10	0.35	0.30	0.24	0.20	0.18	0.16	0.14	0.14	0.14
		φ12.5 to φ16	0.40	0.38	0.34	0.30	0.28	0.22	0.18	0.16	0.16
Leakage current (LC)	μA/after 2minutes (max)	Exceeding 1,000μF, +0.02 every 1,000μF The greater value of either 0.01CV or 3μA									
Impedance ratio at low temperature	Based on the value at 120Hz, +20°C	-25°C Z/Z _{20°C}	7	4	3	2	2	2	2	2	2
		-40°C Z/Z _{20°C}	15	8	6	4	4	3	3	3	3
Endurance	105°C, 1,000hours rated voltage applied (With the rated ripple current)	ΔC/C	Within ±20% of the initial value								
		tan δ	Less than 200% of the specified value								
		LC	Less than the specified value								

Marking, Dimensions



D ^{±0.5}	L	W ^{±0.2}	H ^{±0.2}	C ^{±0.2}	R	P ^{±0.2}
4	5.4 ^{±0.4}	4.3	4.3	5.1	0.5 to 0.8	1.0
5	5.4 ^{±0.4}	5.3	5.3	6.1	0.5 to 0.8	1.3
6.3	5.4 ^{±0.4}	6.6	6.6	7.3	0.5 to 0.8	2.2
6.3	7.7 ^{±0.4}	6.6	6.6	7.3	0.5 to 0.8	2.2
8	6.5 ^{±0.5}	8.3	8.3	9.2	0.7 to 1.2	3.1
8	10.5 ^{±0.5}	8.3	8.3	9.2	0.7 to 1.2	3.1
10	7.7 ^{±0.5}	10.3	10.3	11.2	0.7 to 1.2	4.4
10	10.5 ^{±0.5}	10.3	10.3	11.2	0.7 to 1.2	4.4
10	13.5 ^{±0.5}	10.3	10.3	11.2	0.7 to 1.2	4.4
12.5	13.5 ^{±0.5}	13.0	13.0	14.0	1.0 to 1.4	4.4
12.5	16.0 ^{±0.5}	13.0	13.0	14.0	1.0 to 1.4	4.4
16	16.5 ^{±0.5}	17.0	17.0	18.0	1.0 to 1.4	6.4

Ripple Current Frequency Coefficient

Frequency:F(Hz)		100≤F<1k	1k≤F<10k	10k≤F<100k	100k≤F
Capacitance:C(μF)	C≤4.7	1.00	1.30	1.50	1.80
	4.7<C≤33	1.00	1.20	1.30	1.45
	33<C	1.00	1.10	1.20	1.30

■ Size, Rated Ripple Current

μF \ V	4		6.3		10		16		25	
4.7									4x5.4	13
10							4x5.4	18	4x5.4	18
									5x5.4	20
22			4x5.4	22	4x5.4	20	4x5.4	20	5x5.4	25
					5x5.4	25	5x5.4	27	6.3x5.4	36
33	4x5.4	18	4x5.4	22	4x5.4	22	5x5.4	28	5x5.4	29
			5x5.4	27	5x5.4	30	6.3x5.4	40	6.3x5.4	44
47	4x5.4	24	4x5.4	23	4x5.4	25	5x5.4	30	6.3x5.4	48
			5x5.4	33	5x5.4	30	6.3x5.4	48	8x6.5	80
56	4x5.4	27	5x5.4	32	6.3x5.4	40	6.3x5.4	52	6.3x5.4	58
68	5x5.4	31	6.3x5.4	43	6.3x5.4	50	6.3x5.4	56	6.3x5.4	65
100	5x5.4	43	5x5.4	40	5x5.4	40	6.3x5.4	60	6.3x5.4	80
	6.3x5.4	50	6.3x5.4	50	6.3x5.4	53	8x6.5	100	6.3x7.7	91
150	6.3x5.4	52	6.3x5.4	55	6.3x5.4	62	6.3x7.7	105	6.3x7.7	100
							8x6.5	120	8x10.5	140
220	6.3x5.4	57	6.3x5.4	67	6.3x5.4	67	6.3x7.7	105	8x10.5	175
			6.3x7.7	105	6.3x7.7	105	8x6.5	105	10x7.7	160
					8x6.5	105	8x10.5	150		
330	6.3x7.7	100	6.3x7.7	105	6.3x7.7	135	8x10.5	195	8x10.5	220
					8x10.5	195	10x7.7	175	10x10.5	240
470	6.3x7.7	105	6.3x7.7	120	6.3x7.7	120	8x10.5	270	10x10.5	280
			8x10.5	230	8x10.5	230	10x10.5	300		
680	8x10.5	210	8x10.5	230	8x10.5	230	10x10.5	315	10x10.5	245
					10x10.5	270			10x13.5	400
1000	8x10.5	230	8x10.5	290	8x10.5	290	10x10.5	340		
			10x10.5	315	10x10.5	315	10x13.5	390	10x13.5	430
							12.5x13.5	500	12.5x13.5	580
1500	10x10.5	315	10x10.5	410	10x10.5	335	10x13.5	430	12.5x16.0	850
			10x13.5	450	10x13.5	460	12.5x13.5	550		
2200	10x10.5	340	10x13.5	500	12.5x13.5	680	12.5x16.0	750		
	10x13.5	440	12.5x13.5	620	12.5x16.0	700	16x16.5	950	16x16.5	1050
3300	10x13.5	490	12.5x13.5	660	16x16.5	1000	16x16.5	1000		
			12.5x16.0	700						
4700	12.5x13.5	600	16x16.5	1000						
	12.5x16.0	630								
6800	12.5x16.0	650								
	16x16.5	950								

Case size: ϕ DxL(mm)

Rated ripple current
mA_{rms}(120Hz, 105°C)

Size, Rated Ripple Current

μF \ V	35		50		63		100	
0.1			4x5.4	2	4x5.4	2		
0.22			4x5.4	4	4x5.4	4		
0.33			4x5.4	4	4x5.4	4		
0.47			4x5.4	5	4x5.4	5		
1.0			4x5.4	8	4x5.4	8	4x5.4	8
2.2			4x5.4	11	4x5.4	11	5x5.4	12
							6.3x5.4	14
3.3	4x5.4	13	4x5.4	14	5x5.4	14	6.3x7.7	32
					6.3x5.4	30	8x6.5	30
4.7	4x5.4	15	4x5.4	14	5x5.4	19	5x5.4	15
			5x5.4	19	6.3x5.4	25	6.3x5.4	21
10							6.3x7.7	35
	4x5.4	18	5x5.4	20	6.3x5.4	24	6.3x5.4	25
	5x5.4	25	6.3x5.4	31	6.3x7.7	39	6.3x7.7	35
22					8x6.5	25	8x10.5	77
	5x5.4	34	6.3x5.4	42	6.3x7.7	49	8x10.5	84
	6.3x5.4	42	6.3x7.7	51	8x6.5	55	10x10.5	126
33			8x6.5	70	8x10.5	98		
	6.3x5.4	50	6.3x7.7	60	8x10.5	112	10x10.5	133
47	8x6.5	85	8x6.5	70				
	6.3x5.4	58	6.3x7.7	63	8x10.5	119	10x10.5	140
68	6.3x7.7	78	8x6.5	85	10x10.5	160	10x13.5	160
	8x6.5	85	8x10.5	120			12.5x13.5	250
100	6.3x7.7	80	8x6.5	70	10x10.5	140	10x13.5	180
	8x6.5	90	8x10.5	120	10x13.5	160	12.5x13.5	300
150	6.3x7.7	92	8x10.5	160	10x10.5	196	12.5x13.5	380
	8x10.5	150	10x10.5	180	10x13.5	210	12.5x16.0	400
220					12.5x13.5	270	16x16.5	450
	8x10.5	185	10x10.5	200	10x13.5	225		
330	8x10.5	220	10x10.5	220	12.5x13.5	470	16x16.5	550
	10x10.5	250	10x13.5	280	12.5x16.0	500		
470	10x10.5	300	10x13.5	295	12.5x16.0	510		
	10x13.5	330	12.5x13.5	420	16x16.5	700		
680			12.5x16.0	450				
	10x10.5	310	12.5x13.5	470	16x16.5	750		
1000	10x13.5	375	12.5x16.0	520				
	12.5x13.5	520	16x16.5	700				
1500	12.5x13.5	530	16x16.5	750				
	12.5x16.0	550						
1000	12.5x16.0	600						
	16x16.5	750						
1500	16x16.5	750						

 Case size: ϕ DxL(mm)

 Rated ripple current
 mA rms(120Hz, 105°C)

VS

Series

Standard

High Voltage



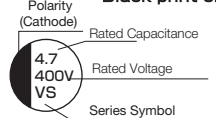
- 160 to 400V, 105°C 1,000 to 2,000hours
- Non solvent proof

■ Specifications

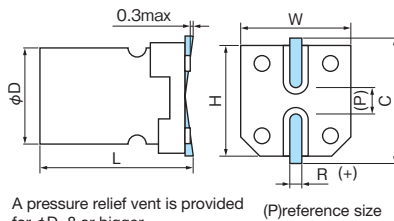
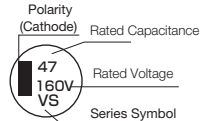
Items	Condition	Specifications				
Rated voltage (V)	—	160	200	250	400	
Surge voltage (V)	Room temperature	200	250	300	450	
Category temperature range (°C)	—	-40 to +105				
Capacitance tolerance (%)	120Hz/20°C	M : ±20				
Dissipation Factor (tan δ)	tanδ (max) 120Hz/20°C	0.20			0.25	
Leakage current (LC)	μA/after 2minutes (max)	CV ≤ 5.6	0.03CV + 15μA			
		CV > 5.6	0.02CV + 25μA			
Impedance ratio at low temperature	Based on the value at 120Hz, +20°C	-25°C Z/Z _{20°C}	3	3	3	6
		-40°C Z/Z _{20°C}	6	6	6	10
Endurance	105°C rated voltage applied (With the rated ripple current)	Test	φ6.3 : 1,000hours, φ8 to φ16 : 2,000hours			
		ΔC/C	Within ±20% of the initial value			
		tanδ	Less than 200% of the specified value			
		LC	Less than the specified value			

■ Marking, Dimensions

[φD ≤ 10] Black print on the case top



[φD ≥ 12.5]



(Unit : mm)

D ^{±0.5}	L ^{±0.5}	W ^{±0.2}	H ^{±0.2}	C ^{±0.2}	R	P ^{±0.2}
6.3	10.5	6.6	6.6	7.3	0.5 to 0.8	2.2
8	10.5	8.3	8.3	9.2	0.7 to 1.2	3.1
8	12.5	8.3	8.3	9.2	0.7 to 1.2	3.1
10	10.5	10.3	10.3	11.2	0.7 to 1.2	4.4
10	13.5	10.3	10.3	11.2	0.7 to 1.2	4.4
12.5	13.5	13.0	13.0	14.0	1.0 to 1.4	4.4
12.5	16.0	13.0	13.0	14.0	1.0 to 1.4	4.4
16	16.5	17.0	17.0	18.0	1.0 to 1.4	6.4

■ Ripple Current Frequency Coefficient

Frequency:F(Hz)	50Hz	120Hz	300Hz	1kHz	10kHz≤F
Capacitance:C(μF) All ITEM	0.70	1.00	1.17	1.30	1.50

Size, Rated Ripple Current

μF \ V	160		200		250		400	
1.0							6.3×10.5	10
1.5							6.3×10.5	15
2.2							6.3×10.5	20
							8×10.5	25
3.3					6.3×10.5	15	8×10.5	30
							8×10.5	25
4.7					8×10.5	22	8×12.5	30
							10×10.5	36
5.6					8×10.5	24	10×10.5	40
							10×13.5	45
6.8	6.3×10.5	24			8×10.5	27	10×10.5	40
							10×13.5	50
8.2	8×10.5	32	8×10.5	30	10×10.5	33	10×13.5	55
10	8×10.5	39	8×12.5	34			10×13.5	60
					10×10.5	41	12.5×13.5	65
12	8×10.5	42	8×12.5	37	10×10.5	45	12.5×13.5	65
15	10×10.5	50	10×10.5	48			12.5×16.0	70
					10×13.5	60	16×16.5	75
22	10×13.5	57	12.5×13.5	75			16×16.5	85
	12.5×13.5	65			12.5×16.0	70		
33	12.5×13.5	85	12.5×16.0	95	16×16.5	85		
	12.5×16.0	105						
47	12.5×16.0	95	16×16.5	115				
	16×16.5	135						

 Case size: ϕ D×L(mm)

 Rated ripple current
 mA_{rms}(120Hz, 105°C)