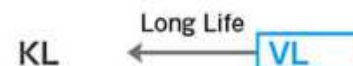


# VL Series

Long Life



- 105°C 3,000hours
- Solvent proof (within 2 minutes)



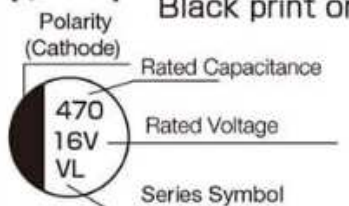
## Specifications

Items		Condition	Specifications								
Rated voltage (V)		—	6.3	10	16	25	35	50	63	100	
Surge voltage (V)		Room temperature	8.0	13	20	32	44	63	79	125	
Category temperature range (°C)		—	-55 to +105								
Capacitance tolerance (%)		120Hz/20°C	M : ±20								
Dissipation Factor (tan δ)	tan δ (max) 120Hz/20°C	φ4 to φ10	0.30	0.24	0.20	0.18	0.16	0.14	0.14	0.14	
		φ12.5 to φ16	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								
Leakage current (LC)			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 <sub>20°C</sub>	7	4	3	2	2	2	2	2	
		-55°C Z/Z <sub>20°C</sub>	15	8	6	4	4	3	3	3	
Endurance	105°C, 3,000hours rated voltage applied (With the rated ripple current)	ΔC/C	Within ±25% of the initial value(≤10V:±30%)								
		tan δ	Less than 250% of the specified value(≤10V:≤300%)								
		LC	Less than the specified value								

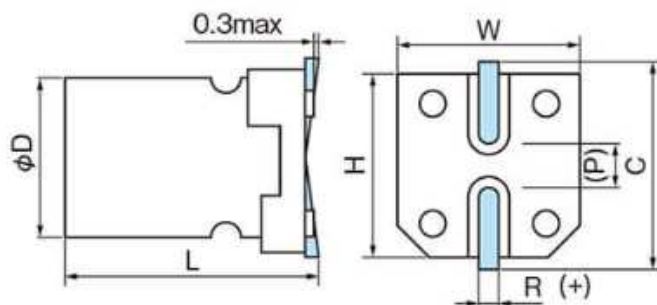
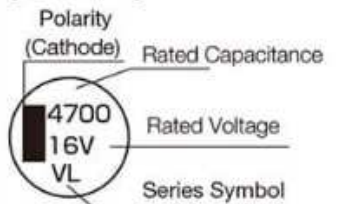
## ■ Marking, Dimensions

(Unit : mm)

[ $\phi D \leq 10$ ] Black print on the case top



[ $\phi D \geq 12.5$ ]



A pressure relief vent is provided for  $\phi D=8$  or bigger (P)reference size

D $\pm 0.5$	L	W $\pm 0.2$	H $\pm 0.2$	C $\pm 0.2$	R	P $\pm 0.2$
4	5.8 $\pm 0.4$	4.3	4.3	5.1	0.5 to 0.8	1.0
5	5.8 $\pm 0.4$	5.3	5.3	6.1	0.5 to 0.8	1.3
6.3	5.8 $\pm 0.4$	6.6	6.6	7.3	0.5 to 0.8	2.2
6.3	7.7 $\pm 0.4$	6.6	6.6	7.3	0.5 to 0.8	2.2
8	6.5 $\pm 0.5$	8.3	8.3	9.2	0.7 to 1.2	3.1
8	10.5 $\pm 0.5$	8.3	8.3	9.2	0.7 to 1.2	3.1
10	7.7 $\pm 0.5$	10.3	10.3	11.2	0.7 to 1.2	4.4
10	10.5 $\pm 0.5$	10.3	10.3	11.2	0.7 to 1.2	4.4
10	13.5 $\pm 0.5$	10.3	10.3	11.2	0.7 to 1.2	4.4
12.5	13.5 $\pm 0.5$	13.0	13.0	14.0	1.0 to 1.4	4.4
12.5	16.0 $\pm 0.5$	13.0	13.0	14.0	1.0 to 1.4	4.4
16	16.5 $\pm 0.5$	17.0	17.0	18.0	1.0 to 1.4	6.4

## ■ Ripple Current Frequency Coefficient

Frequency:F(Hz)		100 $\leq F < 1k$	1k $\leq F < 10k$	10k $\leq F < 100k$	100k $\leq F$
Capacitance:C( $\mu F$ )	$C \leq 4.7$	1.00	1.30	1.50	1.80
	$4.7 < C \leq 33$	1.00	1.20	1.30	1.45
	$33 < C$	1.00	1.10	1.20	1.30

# Aluminum Electrolytic Type / Surface Mount Type

RoHS compliance

## ■ Size, Rated Ripple Current

$\mu\text{F}$ \ v	6.3		10		16		25		35	
4.7							4x5.8	13	4x5.8	14
10					4x5.8	18	5x5.8	20	5x5.8	21
22	4x5.8	22	5x5.8	25	5x5.8	27	6.3x5.8	36	6.3x5.8	38
33	5x5.8	27	5x5.8	30	6.3x5.8	40	6.3x5.8	60	6.3x7.7	84
47	5x5.8	33	6.3x5.8	41	6.3x5.8	48	6.3x7.7	90	8x10.5	98
100	6.3x5.8	50	6.3x5.8	53	6.3x5.8	60	8x6.5	120	8x10.5	130
150	6.3x5.8	55	6.3x7.7	105	6.3x7.7	95	8x10.5	140	10x10.5	315
220	6.3x7.7	100	8x10.5	210	8x10.5	210	10x7.7	180	10x10.5	315
330	8x6.5	150	8x10.5	210	8x10.5	210	10x10.5	315	10x10.5	315
					10x7.7	195				
470	8x10.5	210	10x7.7	210	8x10.5	230	10x10.5	315	10x13.5	360
			10x10.5	315	10x10.5	315	10x13.5	350	12.5x13.5	450
680	8x10.5	210	10x10.5	315	10x10.5	315	10x13.5	380	12.5x13.5	500
	10x7.7	210								
1000	10x10.5	315	10x10.5	315	10x10.5	315	12.5x13.5	550	12.5x16.0	550
			10x13.5	350	10x13.5	350	12.5x16.0	600	16x16.5	700
					12.5x13.5	450	16x16.5	650		
1500	10x10.5	315	12.5x13.5	500	12.5x13.5	500	12.5x16.0	700		
	10x13.5	450			12.5x16.0	650	16x16.5	800		
2200	12.5x13.5	620	12.5x13.5	600	16x16.5	840	16x16.5	1000		
			12.5x16.0	650						
3300	12.5x16.0	750	16x16.5	950						



$\mu\text{F}$ \diagdown V	50		63		80		100	
0.47	4x5.8	5.0						
1.0	4x5.8	10						
2.2	4x5.8	16						
3.3	4x5.8	16						
4.7	5x5.8	23	5x5.8	30				
10	6.3x5.8	35	6.3x5.8	50	6.3x7.7	60	10x7.7	130
22	6.3x7.7	70	6.3x7.7	84	8x10.5	130	8x10.5	130
33	8x10.5	85	8x10.5	130	8x10.5	130	10x10.5	200
47	8x10.5	90	8x10.5	130	10x7.7	130	12.5x13.5	240
68	8x10.5	95			10x10.5	190	12.5x13.5	245
	10x7.7	100						
100	10x10.5	100	10x10.5	190	10x10.5	190	12.5x16.0	300
					12.5x13.5	220	16x16.5	340
150	10x10.5	100	12.5x13.5	240	12.5x13.5	220	12.5x16.0	300
	10x13.5	130			12.5x16.0	290	16x16.5	340
220	10x13.5	250	12.5x16.0	320			16x16.5	340
	12.5x13.5	300	16x16.5	400	16x16.5	410		
330	12.5x13.5	400	16x16.5	500	16x16.5	510		
470	12.5x16.0	500						
	16x16.5	650						

Case size:  $\phi$  DxL(mm)

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