

CK

Series

Wide Temperature

- Operating with wide temperature range -40 ~ +105°C
- Load life of 1000~2000 hours
- RoHS Compliance

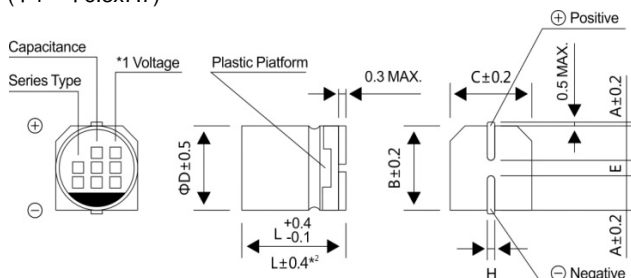


SPECIFICATIONS

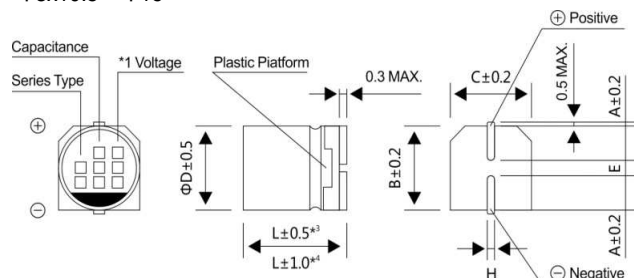
Item	Characteristics												
Operation Temperature Range	-40 ~ +105℃												
Voltage Range	4 ~ 450V												
Capacitance Range	0.1 ~ 6800μF												
Capacitance Tolerance	± 20 % (at 120Hz , 20℃)												
Leakage Current	WV(V)	6.3 ~ 100								160 ~ 450			
	Size	Φ4 ~ 10				Φ12.5 ~ 16				Φ6.3 ~ 16			
	Time	After 2 minutes (application of rated voltage)				After 1 minutes (application of rated voltage)				After 5 minutes (application of rated voltage)			
	L.C.	I≤0.01CV or 3μA , whichever is greater				I≤0.03CV or 4μA, whichever is greater				I≤0.04CV+100μA, whichever is greater			
Dissipation Factor (MAX) (tanδ) (at 120Hz+A53, 20℃)	WV(V)		4	6.3	10	16	25	35	50	63	100	160~250	350~450
	tanδ	4~10Φ	0.42	0.30	0.26	0.22	0.16	0.14	0.12	0.10	0.10	0.20	0.25
		12.5~16Φ	0.45	0.38	0.34	0.30	0.26	0.22	0.18	0.14	0.10	0.20	0.25
Low Temp.Impedance Stability at 120Hz	WV		4	6.3	10	16	25	35	50~63	100	160~250	350~450	
	Z(-25℃)/ Z(+20℃)	Φ4 ~ 10	7	4	3	2	2	2	2	3	2	3	
	Z(-40)℃/ Z(+20℃)		15	8	6	4	4	3	3	4	3	6	
	Z(-25℃)/ Z(+20℃)	Φ12.5 ~ 16	7	5	4	3	2	2	2	2	2	4	
	Z(-40)℃/ Z(+20℃)		17	12	10	8	5	4	3	3	6	10	
Load Life	After 2000Hrs. (1000hrs. For Φ4 ~ Φ6.3x5.4) application of the rated voltage at 105℃, they meet the characteristics listed below.												
	Capacitance change				Within ±20% of initial value for capacitors of 10V or more Within ±30% of initial value for capacitors of 4V or less								
	Dissipation Factor				200% or less of initial specified value								
	Leakage Current				initial specified value or less								
Shelf Life	After leaving capacitors under no load at 105℃ for 1000 hours, they meet the specified value for load life characteristics listed above.												
Resistance to Soldering Heat	After reflow soldering and restored at room temperature, they meet the characteristics listed below.												
	Capacitance change				Within ±10% of initial value								
	Dissipation Factor				initial specified value or less								
	Leakage Current				initial specified value or less								
Marking	Black print on the case top												

DRAWING (Unit: mm)

(Φ4 ~ Φ6.3x7.7)



Φ8x10.5 ~ Φ16



*1 Voltage mark for 6.3V is 【6V】

*2 Applicable to Φ6.3x7.7

*3 Applicable to Φ8x10.5 ~ Φ10

*4 Applicable to Φ12.5 ~ Φ16

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■ DIMENSIONS(Unit:mm)

ΦDxL	4x5.4	5x5.4	6.3x5.4	6.3x7.7	8x10.5	10x10.5	10x13.5	12.5x13.5	12.5x16	16x16.5
A	2.0	2.2	2.6	2.6	3.0	3.3	3.3	4.9	4.9	5.8
B	4.3	5.3	6.6	6.6	8.4	10.4	10.4	13.0	13.0	17.0
C	4.3	5.3	6.6	6.6	8.4	10.4	10.4	13.0	13.0	17.0
E±0.2	1.0	1.4	1.9	1.9	3.1	4.7	4.7	4.7	4.7	6.4
L	5.4	5.4	5.4	7.7	10.5	10.5	13.5	13.5	16.0	16.5
H	0.5~0.8	0.5~0.8	0.5~0.8	0.5~0.8	0.8~1.2	0.8~1.2	0.8~1.2	0.8~1.2	0.8~1.2	0.8~1.2

■ DIMENSIONS&MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV μF	Code	4		6.3		10		16		25	
		0G		0J		1A		1C		1E	
4.7	4R7									4x5.4	13
10	100							4x5.4	18	5x5.4	20
										(4x5.4)	(14)
22	220			4x5.4	22	5x5.4	25	5x5.4	27	6.3x5.4	36
						(4x5.4)	(20)	(4x5.4)	(20)	(5x5.4)	(25)
33	330	5x5.4	30	5x5.4	27	5x5.4	30	6.3x5.4	40	6.3x5.4	44
		(4x5.4)	18	(4x5.4)	(22)	(4x5.4)	(22)	(5x5.4)	(28)	(5x5.4)	(29)
47	470	5x5.4	36	5x5.4	33	5x5.4	30	6.3x5.4	48	6.3x5.4	48
		(4x5.4)	(24)	(4x5.4)	(25)			(5x5.4)	(31)		
100	101	6.3x5.4	60	6.3x5.4	50	6.3x5.4	53	6.3x5.4	60	6.3x7.7	91
		(5x5.4)	(43)	(5x5.4)	(39)	(5x5.4)	(45)				
150	151	6.3x5.4	52	6.3x5.4	55	6.3x5.4	62	6.3x7.7	95	8x10.5	140
										(6.3x7.7)	(100)
220	221	6.3x5.4	57	6.3x7.7	105	6.3x7.7	105	8x10.5	150	8x10.5	175
				(6.3x5.4)	(67)			(6.3x7.7)	(105)		
330	331	6.3x7.7	100	6.3x7.7	105	8x10.5	196	8x10.5	195	10x10.5	240
										(8x10.5)	(220)
470	471	6.3x7.7	105	8x10.5	210	10x10.5	260	10x10.5	295	10x10.5	280
				(6.3x7.7)	(120)	(8x10.5)	(210)	(8x10.5)	(230)		
680	681	8x10.5	210	8x10.5	210	10x10.5	270	10x10.5	315	10x13.5	400
1000	102	8x10.5	230	10x10.5	300	10x10.5	315	12.5x13.5	500	12x13.5	580
				(8x10.5)	(230)			(10x13.5)	(390)		
								(10x10.5)	(340)		
1500	152	10x10.5	315	10x13.5	450	10x13.5	460	12x13.5	550	12.5x16	850
				(10x10.5)	(315)						
2200	222	10x13.5	440	12.5x13.5	620	12.5x13.5	680	16x16.5	950	16x16.5	1050
		(10x10.5)	(340)	(10x13.5)	(500)			(12.5x16)	(750)		
3300	332	10x13.5	490	12.5x16	700	16x16.5	1000	16x16.5	1000		
				(12.5x13.5)	(660)						
4700	472	12x13.5	600	16x16.5	1000						
6800	682	16x16.5	950							Case size	Ripple current
		(12.5x16)	(650)								

WV μF	Code	35		50		63		100	
		0G		1H		1J		2A	
0.1	0R1			4x5.4	0.7	4x5.4	0.7		
0.22	R22			4x5.4	1.6	4x5.4	1.6		
0.33	R33			4x5.4	2.5	4x5.4	2.5		
0.47	R47			4x5.4	3.5	4x5.4	3.5		
1	010			4x5.4	7	4x5.4	7	4x5.4	7
2.2	2R2			4x5.4	11	4x5.4	11	6.3x5.4	14
3.3	3R3	4x5.4	13	4x5.4	13	5x5.4	13	6.3x7.7	32
								(6.3x5.4)	(20)
4.7	4R7	4x5.4	14	5x5.4	16	5x5.4	16	6.3x7.7	35
				(4x5.4)	(13)	5x5.4		(6.3x5.4)	(21)
10	100	5x5.4	21	6.3x5.4	24	6.3x7.7	39	8x10.5	77
		(4x5.4)	(14)			6.3x5.4	(24)	(6.3x7.7)	(35)
22	220	6.3x5.4	38	6.3x7.7	51	8x10.5	98	10x10.5	126
		(5x5.4)	(30)	(6.3x5.4)	(42)	(6.3x7.7)	(49)	(8x10.5)	(84)
33	330	6.3x5.4	42	6.3x7.7	60	8x10.5	112	10x10.5	133
47	470	6.3x7.7	70	8x10.5	120	(10x10.5)	160	12.5x13.5	250
		(6.3x5.4)	(50)	6.3x7.7	(63)	(8x10.5)	(119)	(10x13.5)	(160)
								(10x10.5)	(140)
68	680					Case size	Ripple current	12.5x13.5	300
								(10x13.5)	(180)

·Case size ΦDxL (mm), ripple current (mA rms) at 105℃, 120Hz

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■ DIMENSIONS&MAXIMUM PERMISSIBLE RIPPLE CURRENT

μF	WV Code	35		50		63		100		160	
		1V		1H		1J		2A		2C	
22	220									10x13.5	50
33	330									12.5x13.5	95
47	470									12.5x13.5	205
										16x16.5	(240)
100	101	8x10.5	120	10x10.5	170	12.5x13.5	270	16x16.5	450	16x16.5	250
		(6.3x7.7)	(84)	(8x10.5)	(140)	(10x13.5)	(210)				
								(10x10.5)	(196)		
150	151	8x10.5	155	10x10.5	170	10x13.5	225				
220	221	10x10.5	220	10x13.5	280	16x16.5	560	16x16.5	550		
		(8x10.5)	(190)	(10x10.5)	(220)	(12.5x13.5)	(470)				
330	331	10x10.5	245	16x16.5	600	16x16.5	700				
				(12.5x13.5)	(420)	(12.5x16)	(510)				
				(10x13.5)	(295)						
470	471	12.5x13.5	520	16x16.5	700	16x16.5	750				
		(10x13.5)	(375)	(12.5x16)	(520)						
680	681	12.5x13.5	530	16x16.5	750						
1000	102	16x16.5	750							Case size	Ripple current
		12.5x16	(600)								

μF	WV Code	200		250		350		400		450	
		2D		2E		2V		2G		2W	
3.3	3R3							10x13.5	40	10x13.5	40
4.7	4R7			10x13.5		10x13.5	85	10x13.5	45	10x13.5	42
								(12.5x13.5)	(48)	(12.5x13.5)	45
10	100	10x13.5	75	10x13.5	75	12.5x13.5	105	12.5x13.5	50	12.5x13.5	55
22	220	12.5x13.5	105	12.5x13.5	105	16x16.5	130	16x16.5	85	16x16.5	85
33	330	12.5x13.5	120	16x16.5	135						
47	470	16x16.5	220								
100	101									Case size	Ripple current

·Case size ΦDxL (mm), ripple current (mA rms) at 105℃, 120Hz

■ FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

Frequency			50Hz	120Hz	300Hz	1KHz	10KHz~
Coefficient	Φ4~Φ10	0.1~68μF	0.70	1.00	1.17	1.36	1.50
		100~3300μF	0.85	1.00	1.08	1.20	1.30
	Φ12.5~Φ16	~68μF	0.75	1.00	1.35	1.57	2.00
		100~680μF	0.80	1.00	1.23	1.34	1.50
		1000~6800μF	0.85	1.00	1.00	1.13	1.15