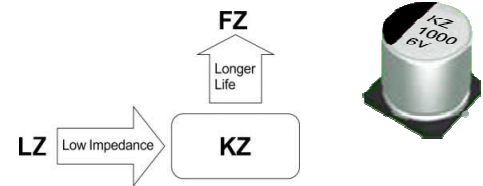


### KZ

#### Series

##### Extra Low Impedance

- Low Impedance with temperature range -55 ~ +105°C
- Load life of 1000~2000 hours
- RoHS Compliance

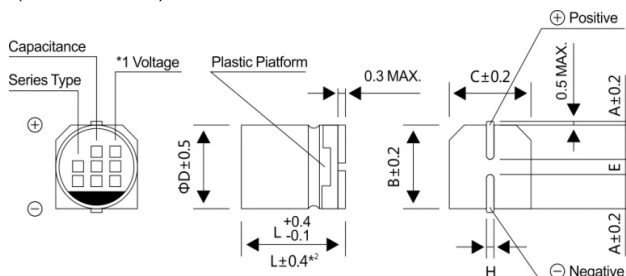


### SPECIFICATIONS

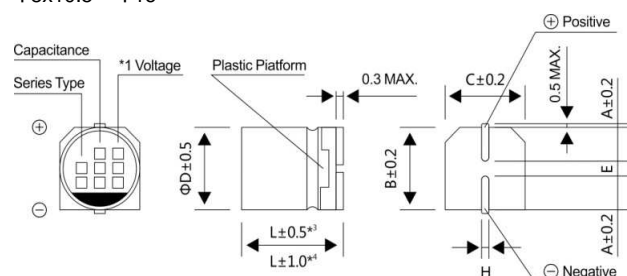
Item	Characteristics							
Operation Temperature Range	-55 ~ +105℃							
Voltage Range	6.3 ~ 50V							
Capacitance Range	1 ~ 4700μF							
Capacitance Tolerance	± 20 % (at 120Hz , 20℃)							
Leakage Current	WV	6.3 ~ 50						
	Size	Φ4 ~ 10				Φ12.5 ~ 16		
	Time	After 2 minutes (application of rated voltage)				After 1 minutes (application of rated voltage)		
	L.C.	I≤0.01CV or 3μA , whichever is greater				I≤0.03CV or 4μA , whichever is greater		
Dissipation Factor (MAX) (tanδ) (at 120Hz ,20℃)	WV	6.3	10	16	25	35	50	
	tanδ	Φ4 ~ 10	0.22	0.19	0.16	0.14	0.12	0.12
		Φ12.5 ~ 16	0.26	0.22	0.18	0.16	0.14	0.12
Low Temp.Impedance Stability at 120Hz	WV	6.3	10	16	25	35	50	
	Z(-25℃)/ Z(+20℃)	Φ4~10	2	2	2	2	2	2
	Z(-55)℃/ Z(+20℃)		5	4	4	3	3	3
	Z(-25℃)/ Z(+20℃)	Φ12.5~16	3	3	2	2	2	2
	Z(-55)℃/ Z(+20℃)		10	8	6	4	3	3
Load Life	After 3000hrs. (1000hrs. for Φ4~Φ6.3x5.8, 2000hrs. For Φ6.3x7.7& Φ8 ) application of the rate voltage at 105℃ , meet the characteristics listed below.							
	Capacitance change			Within ±25% of initial value				
	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

### KZ

Series

#### ■ DIMENSIONS(Unit:mm)

ΦDxL	4x5.8	5x5.8	6.3x5.8	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	5.8	5.8	5.8	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 & IMPEDANCE

WV		6.3			10			16		
μF	Code	0J			1A			1C		
10	100							4x5.8	1.8	80
15	150							4x5.8	1.8	80
22	220	4x5.8	1.8	80	4x5.8	1.8	80	5x5.8 (4x5.8)	0.76 (1.8)	150 (80)
33	330	5x5.8 (4x5.8)	0.76 (1.8)	150 (80)	5x5.8 (4x5.8)	0.76 (1.8)	150 (80)	6.3x5.8 (5x5.8)	0.44 (0.76)	230 (150)
47	470	5x5.8 (4x5.8)	0.76 (1.8)	150 (80)	6.3x5.8 (5x5.8)	0.44 (0.76)	230 (150)	6.3x5.8 (5x5.8)	0.44 (0.76)	230 (150)
56	560	5x5.8	0.76	150	6.3x5.8	0.44	230	6.3x5.8	0.44	230
68	680	6.3x5.8 (5x5.8)	0.44 (0.76)	230 (150)	6.3x5.8	0.44	230	6.3x7.7 (6.3x5.8)	0.34 (0.44)	280 (230)
100	101	6.3x5.8 (5x5.8)	0.44 (0.76)	230 (150)	6.3x7.7 (6.3x5.8)	0.34 (0.44)	280 (230)	6.3x7.7 (6.3x5.8)	0.34 (0.44)	280 (230)
150	151	6.3x5.8	0.44	230	6.3x7.7	0.34	280	6.3x7.7	0.34	280
220	221	6.3x7.7 (6.3x5.8)	0.34 (0.44)	280 (230)	6.3x7.7	0.34	280	8x10.5 (6.3x7.7)	0.17 (0.34)	450 (280)
330	331	6.3x7.7	0.34	280	8x10.5	0.17	450	10x10.5 (8x10.5)	0.09 (0.17)	670 (450)
470	471	8x10.5	0.17	450	8x10.5	0.17	450	10x10.5 (8x10.5)	0.09 (0.17)	670 (450)
680	681	10x10.5 (8x10.5)	0.09 (0.17)	670 (450)	10x10.5	0.09	670	10x13.5 (10x10.5)	0.075 (0.090)	800 (670)
1000	102	10x10.5 (8x10.5)	0.09 (0.17)	670 (450)	10x10.5	0.09	670	16x16.5 (12.5x16) (12.5x13.5)	0.055 (0.060) (0.065)	1350 (1050) (900)
1500	152	10x13.5 (10x10.5)	0.075 (0.090)	800 (670)	12.5x13.5	0.065	900	16x16.5	0.055	1350
2200	222	12.5x13.5	0.065	900	12.5x16	0.060	1050	16x16.5	0.055	1350
3300	332	12.5x16	0.060	1050	16x16.5	0.055	1350			
4700	472	16x16.5	0.055	1350				Case size ΦDxL (mm)	Impedanc e(Ω) at 20℃ 100KHz	Ripple current (mA rms) at 105℃, 100KHz

WV		25			35			50		
μF	Code	1E			1V			1H		
4.7	4R7				4x5.8	1.8	80	5x5.8 (4x5.8)	1.52 (3.0)	85 (60)
10.0	100.0	4x5.8	1.8	80	5x5.8 (4x5.8)	0.76 (1.8)	150 (80)	6.3x5.8 (5x5.8)	0.88 (1.52)	165 (85)
15	150	5x5.8	0.76	150	5x5.8	0.76	150	6.3x5.8	0.88	165
22	220	6.3x5.8 (5x5.8)	0.44 (0.76)	230 (150)	6.3x5.8 (5x5.8)	0.44 (0.76)	230 (150)	6.3x7.7 (6.3x5.8)	0.68 (0.88)	185 (165)
33	330	6.3x5.8 (5x5.8)	0.44 (0.76)	230 (150)	6.3x5.8	0.44	230	6.3x7.7 Case size ΦDxL (mm)	0.68 Impedanc e(Ω) at 20℃ 100KHz	185 Ripple current (mA rms) at 105℃, 100KHz

### KZ

Series

#### ■ DIMENSIONS&MAXIMUM PERMISSIBLE RIPPLE CURRENT&IMPEDANCE

<div> <div>WV</div> <div>μF</div> <div>Code</div> </div>		25			35			50		
		1E			1V			1H		
47	470	6.3x7.7	0.34	280	6.3x7.7	0.34	280	6.3x7.7	0.68	185
		(6.3x5.8)	(0.44)	(230)	(6.3x5.8)	(0.44)	(230)			
56	560	6.3x7.7	0.34	280	6.3x7.7	0.34	280	8x10.5	0.34	350
		(6.3x5.8)	(0.44)	(230)				(6.3x7.7)	(0.68)	(185)
68	680	6.3x7.7	0.34	280	6.3x7.7	0.34	280	8x10.5	0.34	350
100	101	6.3x7.7	0.34	280	8x10.5	0.17	450	10x10.5	0.18	670
								(8x10.5)	(0.34)	(350)
150	151	8x10.5	0.17	450	10x10.5	0.09	670	10x10.5	0.18	670
		(6.3x7.7)	(0.34)	(280)						
220	221	8x10.5	0.17	450	10x10.5	0.09	670	10x13.5	0.16	750
								(10x10.5)	(0.18)	(670)
330	331	10x10.5	0.09	670	10x10.5	0.09	670	12.5x13.5	0.14	800
		(8x10.5)	(0.17)	(450)						
470	471	10x13.5	0.075	800	12x13.5	0.065	900	16x16.5	0.10	1150
		(10x10.5)	(0.09)	(670)	(10x13.5)	(0.075)	(800)			
680	681	12x13.5	0.065	900	12.5x16	0.060	1050			
					(12x13.5)	(0.065)	(900)			
1000	102	16x16.5	0.055	1350	16x16.5	0.055	1350	Case size ΦDxL (mm)	Impedance (Ω) at 20℃ 100KHz	Ripple current (mA rms) at 105℃, 100KHz
		12.5x16	(0.060)	(1050)						
1500	152	16x16.5	0.055	1350						

<div> <div>WV</div> <div>μF</div> <div>Code</div> </div>		100		
		2A		
10	100	8x10.5	1.8	110
		Case size ΦDxL (mm)	Impedance (Ω) at 20℃ 100KHz	Ripple current (mA rms) at 105℃, 100KHz

#### ■ FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

		Frequency	50Hz	120Hz	300Hz	1KHz	10KHz~
Coefficient	Φ4~Φ10	4.7~68μF	0.35	0.50	0.64	0.83	1.00
		100~1500μF	0.40	0.55	0.70	0.85	1.00
	Φ12.5~Φ16	~680μF	0.45	0.65	0.80	0.90	1.00
		1000~4700μF	0.65	0.85	0.95	1.00	1.00