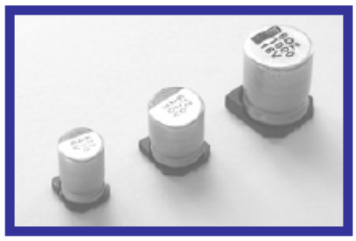
KZ Extra Lower Impedance 极低阻抗品



- Extra low impedance with temperature range -55℃ to +105℃ and load life of 1000~3000 hours.
- Impedance 40~60% less than LZ series.
- Lead-free reflow soldering is available subject to customers' request.

◆ Specifications 特性

Items 项目	Performance Characteristics 主要特性
Operating Temperature Range 使用温度范围	-55~+105℃
Voltage Range 额定工作电压范围	6.3~50V
Capacitance Range 静电容量范围	4.7~4700μF
Capacitance Tolerance 静电容量允许偏差	±20% at 120 Hz, 20℃
Leakage Current 漏电流	For Φ4~Φ10, after 2 minutes' application of rated voltage, leakage current is not more than 0.01CV or 3(μA), whichever is greater. For Φ12.5~Φ16, after 1 minute's application of rated voltage, leakage current is not more than 0.03CV or 4(μA), whichever is greater. Φ4~Φ10: 施加额定工作电压 2 分钟, LC≤0.01CV 或 3(μA), 取较大值; Φ12.5~Φ16: 施加额定工作电压 1 分钟, LC≤0.03CV 或 4(μA), 取较大值。
Tan δ 损耗角正切	Measurement frequency 测试频率: 120Hz, Temperature 温度: 20℃

Rated voltage (V. DC) 额定工作电压		6.3	10	16	25	35	50
Tan δ 损耗角正切 (max)	Φ4~Φ10	0.22	0.19	0.16	0.14	0.12	0.12
	Φ12.5~Φ16	0.26	0.22	0.18	0.16	0.14	0.12

Stability at Low Temperature 低温特性

Measurement frequency 测试频率: 120Hz

Rated voltage (V.DC) 额定工作电压			6.3	10	16	25	35	50
Impedance ratio 阻抗比 ZT/Z20 (max)	Φ4~Φ10	Z(-25℃)/Z(20℃)	3	2	2	2	2	2
		Z(-55℃)/Z(20℃)	5	4	4	3	3	3
	Φ12.5~Φ16	Z(-25℃)/Z(20℃)	3	2	2	2	2	2
		Z(-55℃)/Z(20℃)	10	8	6	4	3	3

Load Life 高温负荷特性

After 3000 hours' (1000 hours' for Φ4~Φ6.3x5.4, 2000 hours' for Φ6.3x7.7 and Φ8) application of rated voltage at 105℃, capacitors meet the characteristics requirements listed at right.
在 105℃环境中施加额定工作电压 3000 小时 (Φ4~Φ6.3x5.4 为 1000 小时, Φ6.3x7.7 和Φ8 为 2000 小时) 后, 电容器的特性符合右表的要求。

Capacitance Change 静电容量变化率	Within ±25% of the initial value 初始值的±25%以内
Tan δ 损耗角正切	200% or less of the initial specified value 不大于规范值的 200%
Leakage Current 漏电流	Initial specified value or less 不大于规范值

Shelf Life 高温储存特性

After leaving capacitors under no load at 105℃ for 1000 hours, they meet the specified value for load life characteristics listed above.
在 105℃环境中无负荷放置 1000 小时后, 电容器的特性符合高温负荷特性中所列的规定值。

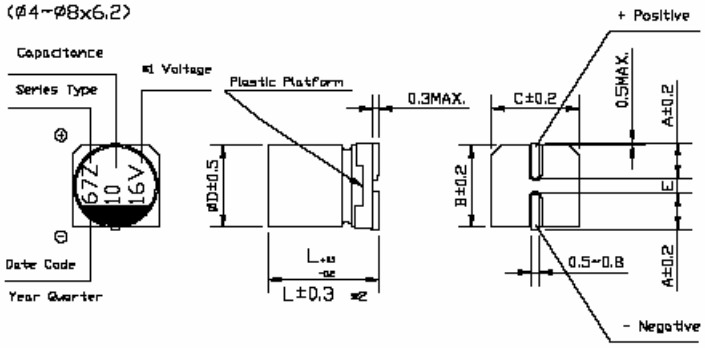
Resistance to Soldering Heat 耐焊接热特性

After reflow soldering and restored at room temperature, they meet the characteristics requirements listed at right.
经过回流焊并冷却至室温后, 电容器的特性符合右表的要求。

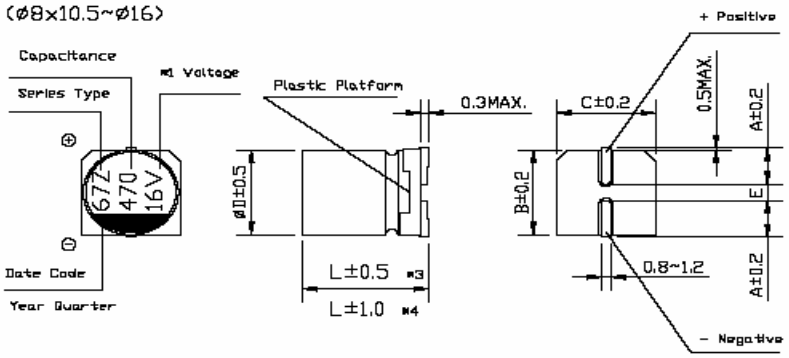
Capacitance Change 静电容量变化率	Within ±10% of the initial value 初始值的±10%以内
Tan δ 损耗角正切	Initial specified value or less 不大于规范值
Leakage Current 漏电流	Initial specified value or less 不大于规范值

Applicable Standards 适用标准: JIS C-5141 and JIS C-5102

◆ Dimensions & Marking 尺寸及印字



KZ Series



*1 Voltage mark [6V] represents 6.3V for Φ4～Φ10; *2 [L±0.3] is applicable to Φ6.3×7.7 and Φ8×6.2;

*3 [L±0.5] is applicable to Φ8×10.5～Φ10; *4 [L±1.0] is applicable to Φ12.5～Φ16.

Re: Date code and series type — 1st digit for Year; 2nd digit for Quarter, 4 quarter codes in one year are 1, 4, 7, O; 3rd character for Series; KZ Series = Z.

(mm)

D×L	Φ4×5.4	Φ5×5.4	Φ6.3×5.4	Φ6.3×7.7	Φ8×6.2	Φ8×10.5	Φ10×10.5	Φ10×13.5	Φ12.5×13.5	Φ12.5×16	Φ16×16.5
A	1.8	2.1	2.4	2.4	3.3	2.9	3.2	3.2	4.7	4.7	5.5
B	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	13.0	13.0	17.0
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	13.0	13.0	17.0
E ± 0.2	1.0	1.3	2.2	2.2	2.2	3.1	4.4	4.4	4.4	4.4	6.7
L	5.4	5.4	5.4	7.7	6.2	10.5	10.5	13.5	13.5	16.0	16.5

◆ Standard sizes & Maximum permissible ripple current & Impedance 规格壳号及最大允许纹波电流及阻抗值

容量 Cap. (μF) \ WV 电压		6.3			10			16		
		0J			1A			1C		
10	100							4×5.4	1.8	80
15	150							4×5.4	1.8	80
22	220	4×5.4	1.8	80	4×5.4	1.8	80	5×5.4 (4×5.4)	0.76 (1.8)	150 (80)
33	330	5×5.4 (4×5.4)	0.76 (1.8)	150 (80)	5×5.4 (4×5.4)	0.76 (1.8)	150 (80)	6.3×5.4 (5×5.4)	0.44 (0.76)	230 (150)
47	470	5×5.4 (4×5.4)	0.76 (1.8)	150 (80)	6.3×5.4 (5×5.4)	0.44 (0.76)	230 (150)	6.3×5.4 (5×5.4)	0.44 (0.76)	230 (150)
56	560	5×5.4	0.76	150	6.3×5.4	0.44	230	6.3×5.4	0.44	230
68	680	6.3×5.4 (5×5.4)	0.44 (0.76)	230 (150)	6.3×5.4	0.44	230	6.3×7.7 (6.3×5.4) (8×6.2)	0.34 (0.44) (0.34)	280 (230) (280)
100	101	6.3×5.4 (5×5.4)	0.44 (0.76)	230 (150)	6.3×7.7 (6.3×5.4) (8×6.2)	0.34 (0.44) (0.34)	280 (230) (280)	6.3×7.7 (6.3×5.4) (8×6.2)	0.34 (0.44) (0.34)	280 (230) (280)
150	151	6.3×5.4	0.44	230	6.3×7.7	0.34	280	6.3×7.7	0.34	280
220	221	6.3×7.7 (6.3×5.4) (8×6.2)	0.34 (0.44) (0.34)	280 (230) (280)	6.3×7.7 (8×6.2)	0.34 (0.34)	280 (280)	8×10.5 (6.3×7.7)	0.17 (0.34)	450 (280)
330	331	6.3×7.7 (8×6.2)	0.34	280	8×10.5	0.17	450	10×10.5 (8×10.5)	0.09 (0.17)	670 (450)
470	471	8×10.5	0.17	450	8×10.5	0.17	450	10×10.5 (8×10.5)	0.09 (0.17)	670 (450)
680	681	10×10.5 (8×10.5)	0.09 (0.17)	670 (450)	10×10.5	0.09	670	10×13.5 (10×10.5)	0.075 (0.09)	800 (670)
1000	102	10×10.5 (8×10.5)	0.09 (0.17)	670 (450)	10×10.5	0.09	670	16×16.5 (12.5×16) (12.5×13.5)	0.055 (0.06) (0.065)	1350 (1050) (900)
1500	152	10×13.5 (10×10.5)	0.075 (0.09)	800 (670)	12.5×13.5	0.065	900	16×16.5	0.055	1350
2200	222	12.5×13.5	0.065	900	12.5×16	0.060	1050	16×16.5	0.055	1350
3300	332	12.5×16	0.060	1050	16×16.5	0.055	1350	Case Size	Impedance	Ripple Current
4700	472	16×16.5	0.055	1350						

Maximum Impedance (Ω) at 20℃ 100kHz, Ripple Current (mA rms) at 105℃ 100kHz

KZ Series

◆ Standard sizes & Maximum permissible ripple current & Impedance 规格壳号及最大允许纹波电流及阻抗值

容量 Cap. (μF) \ WV 电压		25			35			50		
		1E			1V			1H		
4.7	4R7				4×5.4	1.8	80	5×5.4 (4×5.4)	1.52 (3.0)	85 (60)
10	100	4×5.4	1.8	80	5×5.4 (4×5.4)	0.76 (1.8)	150 (80)	6.3×5.4 (5×5.4)	0.88 (1.52)	165 (85)
15	150	5×5.4	0.76	150	5×5.4	0.76	150	6.3×5.4	0.88	165
22	220	6.3×5.4 (5×5.4)	0.44 (0.76)	230 (150)	6.3×5.4 (5×5.4)	0.44 (0.76)	230 (150)	6.3×7.7 (6.3×5.4) (8×6.2)	0.68 (0.88) (0.68)	185 (165) (185)
33	330	6.3×5.4 (5×5.4)	0.44 (0.76)	230 (150)	6.3×5.4 (8×6.2)	0.44 (0.34)	230 (280)	6.3×7.7 (8×6.2)	0.68	185
47	470	6.3×7.7 (6.3×5.4) (8×6.2)	0.34 (0.44) (0.34)	280 (230) (280)	6.3×7.7 (6.3×5.4) (8×6.2)	0.34 (0.44) (0.34)	280 (230) (280)	6.3×7.7 (8×6.2)	0.68	185
56	560	6.3×7.7 (6.3×5.4)	0.34 (0.44)	280 (230)	6.3×7.7	0.34	280	8×10.5 (6.3×7.7)	0.34 (0.68)	350 (185)
68	680	6.3×7.7	0.34	280	6.3×7.7	0.34	280	8×10.5	0.34	350
100	101	6.3×7.7 (8×6.2)	0.34	280	8×10.5	0.17	450	10×10.5 (8×10.5)	0.18 (0.34)	670 (350)
150	151	8×10.5 (6.3×7.7)	0.17 (0.34)	450 (280)	10×10.5	0.09	670	10×10.5	0.18	670
220	221	8×10.5	0.17	450	10×10.5	0.09	670	10×13.5 (10×10.5)	0.16 (0.18)	750 (670)
330	331	10×10.5 (8×10.5)	0.09 (0.17)	670 (450)	10×10.5	0.09	670	12.5×13.5	0.14	800
470	471	10×13.5 (10×10.5)	0.075 (0.09)	800 (670)	12.5×13.5 (10×13.5)	0.065 (0.075)	900 (800)	16×16.5 (12.5×16)	0.10 (0.12)	1150 (900)
680	681	12.5×13.5	0.065	900	12.5×16 (12.5×13.5)	0.060 (0.065)	1050 (900)			
1000	102	16×16.5 (12.5×16)	0.055 (0.060)	1350 (1050)	16×16.5	0.055	1350	Case Size	Impedance	Ripple Current
1500	152	16×16.5	0.055	1350						

Maximum Impedance (Ω) at 20℃ 100kHz, Ripple Current (mA rms) at 105℃ 100kHz

◆ Frequency Correction Factor of Rated Ripple Current 纹波电流频率补偿系数

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