

KLZ Series



• Endurance : 105°C 2000H

Features

- Low Impedance
- Designed for reflow soldering
- Designed for surface mounting on high-density PCB
- RoHS 2.0 compliant
- 219 SVHC & REACH compliant



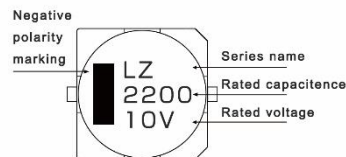
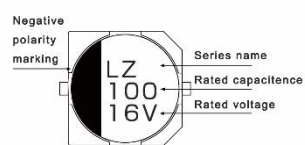
Marking color : Black

Specifications										
Category temp. range	-55°C to +105°C									
Capacitance tolerance	±20% (120 Hz / +20 °C)									
Leakage current	$I \leq 0.01 CV$ or 3 μA whichever is greater (after 2 minutes)									
Tan δ	Please see the attached characteristics list									
Characteristics at low temperature(Impedance ratio at 120 Hz)	Rated voltage (V)	6.3	10	16	25	35	50	63	80	100
	Z (-25 °C) / Z (+20 °C)	4	4	3	3	2	2	2	2	2
	Z (-55 °C) / Z (+20 °C)	10	7	5	5	4	4	3	4	4
Endurance	After applying rated working voltage for 2000 hours at +105 °C ± 2 °C, and then being stabilized at +20 °C , capacitors shall meet the following limits.									
	Capacitance change	Within ±25% of the initial value								
	Dissipation factor (tan δ)	Less than 250% of the initial value								
	Leakage current	Within the initial limit								
Shelf life	After storage for 1000 h at +105 °C ± 2 °C with no voltage applied and then being stabilized at +20 °C, capacitors shall meet the limits specified in endurance.									
Resistance to soldering heat	After reflow soldering and then being stabilized at +20 °C, capacitors shall meet the following limits.									
	Capacitance change	Within ±10% of the initial value								
	Dissipation factor (tan δ)	Within the initial limit								
	Leakage current	Within the initial limit								
Frequency correction factor for ripple current	Frequency	50Hz	120Hz	1kHz	10kHz \leq					
	Correction Factor	0.6	0.7	0.85	1.0					

Marking :

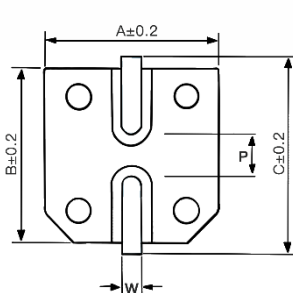
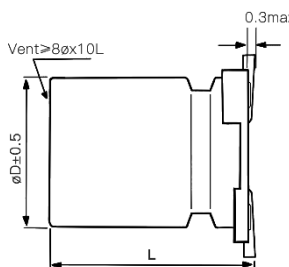
$\phi D \leq 10mm$

$\phi D \geq 12.5mm$



Dimensions							Unit : mm
ϕD	L	A	B	C	W	P ± 0.2	
4	5.7 ± 0.3	4.3	4.3	5.1	0.5~0.8	1.0	
5	5.7 ± 0.3	5.3	5.3	6.1	0.5~0.8	1.3	
6.3	5.7 ± 0.3	6.6	6.6	7.3	0.5~0.8	2.2	
6.3	7.7 ± 0.3	6.6	6.6	7.3	0.5~0.8	2.2	
8	6.5 ± 0.5	8.3	8.3	9.2	0.7~1.2	3.1	
8	10.5 ± 0.5	8.3	8.3	9.2	0.7~1.2	3.1	
10	7.7 ± 0.3	10.3	10.3	11.2	0.7~1.2	4.4	
10	10.5 ± 0.5	10.3	10.3	11.2	0.7~1.2	4.4	
10	13 ± 0.5	10.3	10.3	11.2	0.7~1.2	4.4	
12.5	13.5 ± 0.5	13.0	13.0	14.0	1.0~1.4	4.4	
12.5	16 ± 0.5	13.0	13.0	14.0	1.0~1.4	4.4	

Dimensions :



Part Number System :

KLZ series 16V 220 μF $\pm 20 \%$ 6.3 ϕ X7.7L

KLZ **1C** **221** **M** **0607**

Series name Rated voltage Capacitance Capacitance tolerance Case Size

Characteristics list

Rated voltage (V)	Capacitance ($\pm 20\%$) (μF)	Case size		Specification			Part Number④	Taping&Reel
		ϕD (mm)	L (mm)	Rated ripple current① (mA rms)	Imp.② (Ω)	tan δ ③		MPQ (pcs/reel)
6.3	22	4	5.7	60	3.00	0.26	KLZ0J220M0406	2000
	33	4	5.7	60	3.00	0.26	KLZ0J330M0406	2000
	47	5	5.7	95	1.80	0.26	KLZ0J470M0506	1000
	100	5	5.7	100	1.80	0.26	KLZ0J101M0506	1000
		6.3	5.7	140	1.00	0.26	KLZ0J101M0606	1000
	220	6.3	5.7	140	1.00	0.26	KLZ0J221M0606	1000
		6.3	7.7	230	0.60	0.26	KLZ0J221M0607	1000
	330	6.3	7.7	230	0.60	0.26	KLZ0J331M0607	1000
		8	10.5	450	0.45	0.26	KLZ0J331M0810	500
	470	6.3	7.7	230	0.60	0.26	KLZ0J471M0607	1000
		8	10.5	450	0.45	0.26	KLZ0J471M0810	500
	820	8	10.5	450	0.40	0.26	KLZ0J681M0810	500
		10	10.5	670	0.25	0.26	KLZ0J681M1010	500
	1000	10	10.5	670	0.25	0.28	KLZ0J102M1010	500
1500	10	10.5	670	0.25	0.28	KLZ0J152M1010	500	
2200	12.5	13.5	820	0.12	0.34	KLZ0J222M1313	200	
10	22	4	5.7	60	3.00	0.20	KLZ1A220M0406	2000
	33	4	5.7	60	3.00	0.20	KLZ1A330M0406	2000
	47	5	5.7	95	1.80	0.20	KLZ1A470M0506	1000
		6.3	5.7	140	1.00	0.20	KLZ1A470M0606	1000
	100	5	5.7	100	1.80	0.20	KLZ1A101M0506	1000
		6.3	5.7	140	1.00	0.20	KLZ1A101M0606	1000
	150	6.3	5.7	140	1.00	0.20	KLZ1A151M0606	1000
		6.3	7.7	230	0.60	0.20	KLZ1A221M0606	1000
	220	6.3	7.7	230	0.60	0.20	KLZ1A221M0607	1000
		8	10.5	450	0.45	0.20	KLZ1A221M0810	500
	330	8	10.5	450	0.45	0.20	KLZ1A331M0810	500
	470	8	10.5	450	0.45	0.20	KLZ1A471M0810	500
	1000	10	10.5	670	0.25	0.22	KLZ1A102M1010	500
	2200	12.5	13.5	820	0.12	0.28	KLZ1A222M1313	200
16	10	4	5.7	60	3.00	0.18	KLZ1C100M0406	2000
	22	4	5.7	60	3.00	0.18	KLZ1C220M0406	2000
		5	5.7	95	1.80	0.18	KLZ1C220M0506	1000
	33	5	5.7	95	1.80	0.18	KLZ1C330M0506	1000
		6.3	5.7	140	1.00	0.18	KLZ1C330M0606	1000
	47	5	5.7	95	1.80	0.18	KLZ1C470M0506	1000
		6.3	5.7	140	1.00	0.18	KLZ1C470M0606	1000
	68	8	6.5	230	0.60	0.18	KLZ1C680M0806	1000
	100	6.3	5.7	140	1.00	0.18	KLZ1C101M0606	1000
		6.3	7.7	230	0.60	0.18	KLZ1C101M0607	1000
		8	6.5	230	0.60	0.18	KLZ1C101M0806	1000
	150	6.3	7.7	230	0.60	0.18	KLZ1C151M0607	1000
		8	10.5	450	0.45	0.18	KLZ1C151M0810	500
	220	6.3	7.7	230	0.60	0.18	KLZ1C221M0607	1000
		8	6.5	230	0.60	0.18	KLZ1C221M0806	1000
		8	10.5	450	0.45	0.18	KLZ1C221M0810	500
	330	8	10.5	450	0.45	0.18	KLZ1C331M0810	500
		10	7.7	450	0.45	0.18	KLZ1C331M1007	500
	470	8	10.5	450	0.45	0.18	KLZ1C471M0810	500
		10	10.5	670	0.25	0.18	KLZ1C471M1010	500
	680	10	10.5	670	0.25	0.18	KLZ1C681M1010	500
	1000	10	10.5	670	0.25	0.20	KLZ1C102M1010	500
10		13	750	0.15	0.20	KLZ1C102M1013	400	
1500	12.5	13.5	820	0.12	0.22	KLZ1C152M1313	200	

Characteristics list

Rated voltage (V)	Capacitance (±20%) (μF)	Case size		Specification			Part Number④	Taping&Reel
		øD (mm)	L (mm)	Rated ripple current① (mA rms)	Imp.② (Ω)	tan δ③		MPQ (pcs/reel)
25	4.7	4	5.7	60	3.00	0.16	KLZ1E4R7M0406	2000
	10	4	5.7	60	3.00	0.16	KLZ1E100M0406	2000
		5	5.7	95	1.80	0.16	KLZ1E100M0506	1000
	22	5	5.7	95	1.80	0.16	KLZ1E220M0506	1000
		6.3	5.7	140	1.00	0.16	KLZ1E220M0606	1000
	33	5	5.7	95	1.80	0.16	KLZ1E330M0506	1000
		6.3	5.7	140	1.00	0.16	KLZ1E330M0606	1000
	47	6.3	5.7	140	1.00	0.16	KLZ1E470M0606	1000
	100	6.3	7.7	230	0.60	0.16	KLZ1E101M0607	1000
		8	10.5	450	0.45	0.16	KLZ1E101M0810	500
	150	8	10.5	450	0.45	0.16	KLZ1E151M0810	500
	220	8	10.5	450	0.45	0.16	KLZ1E221M0810	500
		10	7.7	450	0.45	0.16	KLZ1E221M1007	500
	330	10	10.5	670	0.25	0.16	KLZ1E221M1010	500
		8	10.5	450	0.40	0.16	KLZ1E331M0810	500
470	10	10.5	670	0.25	0.16	KLZ1E331M1010	500	
680	10	13	750	0.15	0.16	KLZ1E471M1010	500	
1000	10	13	750	0.15	0.16	KLZ1E681M1013	400	
1000	12.5	13.5	820	0.11	0.20	KLZ1E102M1313	200	
35	4.7	4	5.7	60	3.00	0.14	KLZ1V4R7M0406	2000
	10	4	5.7	60	3.00	0.14	KLZ1V100M0406	2000
		5	5.7	95	1.80	0.14	KLZ1V100M0506	1000
	22	5	5.7	95	1.80	0.14	KLZ1V220M0506	1000
		6.3	5.7	140	1.00	0.14	KLZ1V220M0606	1000
	33	6.3	5.7	140	1.00	0.14	KLZ1V330M0606	1000
		8	6.5	230	0.60	0.14	KLZ1V330M0806	1000
	47	6.3	5.7	140	1.00	0.14	KLZ1V470M0606	1000
		6.3	7.7	230	0.60	0.14	KLZ1V470M0607	1000
		8	6.5	230	0.60	0.14	KLZ1V470M0806	1000
	100	8	10.5	450	0.45	0.14	KLZ1V470M0810	500
		6.3	7.7	230	0.60	0.14	KLZ1V101M0607	1000
		8	6.5	230	0.60	0.14	KLZ1V101M0806	1000
	150	8	10.5	450	0.45	0.14	KLZ1V101M0810	500
		8	10.5	450	0.45	0.14	KLZ1V151M0810	500
10		7.7	450	0.45	0.14	KLZ1V151M1007	500	
220	8	10.5	450	0.40	0.14	KLZ1V221M0810	500	
	10	10.5	670	0.25	0.14	KLZ1V221M1010	500	
330	10	10.5	670	0.25	0.14	KLZ1V331M1010	500	
470	10	13	750	0.15	0.14	KLZ1V471M1013	400	
680	12.5	13.5	820	0.12	0.16	KLZ1V681M1313	200	
50	1	4	5.7	30	5.00	0.12	KLZ1H010M0406	2000
	2.2	4	5.7	30	5.00	0.12	KLZ1H2R2M0406	2000
	3.3	4	5.7	30	5.00	0.12	KLZ1H3R3M0406	2000
	4.7	4	5.7	30	5.00	0.12	KLZ1H4R7M0406	2000
		5	5.7	50	3.00	0.12	KLZ1H4R7M0506	1000
	10	5	5.7	50	3.00	0.12	KLZ1H100M0506	1000
		6.3	5.7	70	2.00	0.12	KLZ1H100M0606	1000
	22	6.3	5.7	70	2.00	0.12	KLZ1H220M0606	1000
		6.3	7.7	120	1.00	0.12	KLZ1H220M0607	1000
		8	6.5	120	1.00	0.12	KLZ1H220M0806	1000
	33	6.3	7.7	120	1.00	0.12	KLZ1H330M0607	1000
		8	10.5	280	0.80	0.12	KLZ1H330M0810	500
	47	6.3	7.7	120	1.00	0.12	KLZ1H470M0607	1000
		8	6.5	120	1.00	0.12	KLZ1H470M0806	1000
		8	10.5	300	0.80	0.12	KLZ1H470M0810	500
100	8	10.5	300	0.80	0.12	KLZ1H101M0810	500	
	10	7.7	300	0.80	0.12	KLZ1H101M1007	500	
	10	10.5	450	0.45	0.12	KLZ1H101M1010	500	
150	10	10.5	450	0.45	0.12	KLZ1H151M1010	500	
220	10	10.5	500	0.45	0.12	KLZ1H221M1010	500	
	10	13	550	0.35	0.12	KLZ1H221M1013	400	
330	12.5	13.5	650	0.25	0.14	KLZ1H331M1313	200	
63	4.7	5	5.7	50	5.00	0.12	KLZ1J4R7M0506	1000
	10	6.3	5.7	80	3.00	0.12	KLZ1J100M0606	1000
	22	6.3	7.7	100	2.50	0.12	KLZ1J220M0607	1000
	33	8	10.5	250	2.00	0.12	KLZ1J330M0810	500
		8	10.5	250	2.00	0.12	KLZ1J470M0810	500
		10	7.7	250	2.00	0.12	KLZ1J470M1007	500
	47	10	10.5	300	1.50	0.12	KLZ1J470M1010	500
		10	10.5	300	1.50	0.12	KLZ1J101M1010	500
		10	13	400	1.00	0.12	KLZ1J101M1013	400
100	12.5	13.5	500	0.85	0.14	KLZ1J101M1313	200	
	12.5	13.5	550	0.65	0.14	KLZ1J221M1313	200	
	12.5	13.5	550	0.65	0.14	KLZ1J221M1313	200	
80	10	6.3	7.7	60	3.00	0.12	KLZ1K100M0607	1000
	22	8	10.5	130	2.00	0.12	KLZ1K220M0810	500
	33	10	10.5	180	1.50	0.12	KLZ1K330M1010	500
	47	8	10.5	130	2.00	0.12	KLZ1K470M0810	500
		10	10.5	180	1.50	0.12	KLZ1K470M1010	500
		10	13	240	1.20	0.12	KLZ1K470M1013	400
	100	10	10.5	180	1.50	0.12	KLZ1K101M1010	500
		10	13	240	1.20	0.12	KLZ1K101M1013	400
12.5		13.5	500	0.85	0.14	KLZ1K101M1313	200	
150	12.5	13.5	500	0.85	0.14	KLZ1K151M1313	200	
100	4.7	5	5.7	25	5.00	0.12	KLZ2A4R7M0506	1000
		6.3	5.7	40	5.00	0.12	KLZ2A4R7M0606	1000
	10	6.3	7.7	60	3.00	0.12	KLZ2A100M0607	1000
		8	6.5	60	3.00	0.12	KLZ2A100M0806	1000
	22	8	10.5	130	2.00	0.12	KLZ2A220M0810	500
		10	10.5	180	1.50	0.12	KLZ2A220M1010	500
	33	10	10.5	180	1.50	0.12	KLZ2A330M1010	500
		10	13	210	1.20	0.12	KLZ2A330M1013	400
	47	10	10.5	180	1.50	0.12	KLZ2A470M1010	500
10		13	240	1.20	0.12	KLZ2A470M1013	400	
12.5		13.5	500	0.85	0.14	KLZ2A470M1313	200	
100	12.5	13.5	500	0.85	0.14	KLZ2A101M1313	200	

① Rated ripple current (100kHz / +105°C) ② Impedance (100kHz / +20°C) ③ tan δ (120Hz / +20°C)

④ For plastic reel packaging, the Part Number is appended with "PR" at the end.

※Please refer to the page of reflow conditions for reflow profile.