

FZ Series

Features

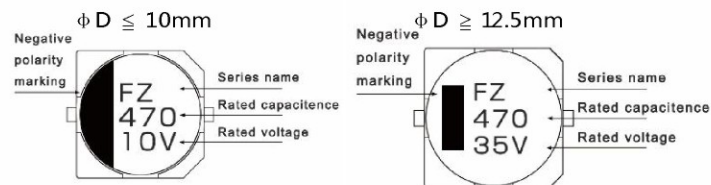
- 105°C Extra Low Impedance, Load life 2000~5000 hours
- Designed for reflow soldering
- Designed for surface mounting on high density PC board
- Compliant to the RoHS directive
- 105°C 极低阻抗品，寿命2000~5000小时
- 适合回流焊
- 专为高密度PC板表面安装而设计
- RoHS指令对策品



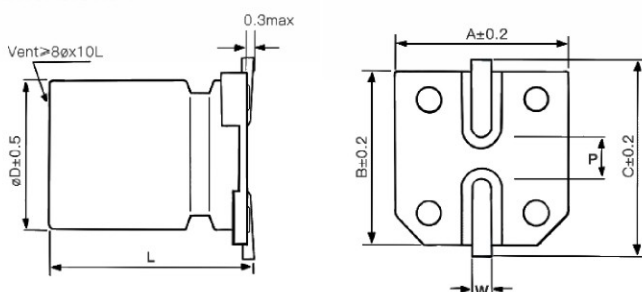
Marking color : Black

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	3	2	2	2	2	2	2	2
	Z (-55 °C) / Z (+20 °C)	8	5	4	3	3	3	3	3	3
Endurance	After applying rated working voltage for 2000/3000/5000 hours at +105 °C ± 2 °C, and then being stabilized at +20 °C, capacitors shall meet the following limits.									
	Test Time	$\phi D \times L \leq 6.3 \times 5.7 \text{Lmm}$: 2000H, 6.3 $\phi \times 7.7 \text{L}$, 8 $\phi \times 6.5 \text{L}$, 10 $\phi \times 7.7 \text{L}$: 3000H, $\phi D \geq 8 \text{mm}$: 5000H								
	Capacitance change	Within ±30% of the initial value								
	Dissipation factor (tan δ)	Less than 300% 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								
Frequency correction factor for ripple current	Frequency	50Hz	120Hz	1kHz	10kHz \leq					
	Correction Factor	0.6	0.7	0.85	1.0					

Marking :



Dimensions :



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 ± 0.3	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

Characteristics list

Rated voltage (V)	Capacitance (±20%) (μF)	Case size		Specification			Taping&Reel
		øD (mm)	L (mm)	Rated ripple current① (mA rms)	Imp.② (Ω)	tan δ③	MPQ (pcs/reel)
6.3	22	4	5.7	80	1.45	0.26	2000
	33	4	5.7	80	1.45	0.26	2000
		5	5.7	150	0.80	0.26	1000
	47	5	5.7	150	0.80	0.26	1000
	100	5	5.7	150	0.80	0.26	1000
		6.3	5.7	230	0.44	0.26	1000
	150	6.3	5.7	230	0.44	0.26	1000
	220	6.3	5.7	230	0.44	0.26	1000
		6.3	7.7	280	0.36	0.26	1000
	330	6.3	7.7	280	0.36	0.26	1000
		8	6.5	280	0.36	0.26	1000
		8	10.5	450	0.17	0.26	500
	470	6.3	7.7	280	0.36	0.26	1000
		8	10.5	450	0.17	0.26	500
		10	7.7	450	0.17	0.26	500
680	8	10.5	450	0.17	0.26	500	
	10	7.7	450	0.17	0.26	500	
1000	8	10.5	450	0.17	0.28	500	
1500	10	10.5	670	0.09	0.28	500	
	10	13	720	0.08	0.28	400	
2200	12.5	13.5	820	0.07	0.34	200	
10	22	4	5.7	80	1.45	0.22	2000
	33	5	5.7	150	0.80	0.22	1000
	47	6.3	5.7	230	0.44	0.22	1000
	100	6.3	5.7	230	0.44	0.22	1000
	150	6.3	5.7	230	0.44	0.22	1000
	220	6.3	7.7	280	0.36	0.22	1000
		8	6.5	280	0.36	0.22	1000
	330	8	10.5	450	0.17	0.22	500
		10	7.7	450	0.17	0.22	500
	470	8	10.5	450	0.17	0.22	500
		10	7.7	450	0.17	0.22	500
	680	10	10.5	670	0.09	0.22	500
	1000	10	10.5	670	0.09	0.24	500
	1500	10	13	720	0.08	0.24	400
		12.5	13.5	820	0.07	0.27	200
2200	12.5	13.5	820	0.07	0.29	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.

Characteristics list

Rated voltage (V)	Capacitance (±20%) (μF)	Case size		Specification			Taping&Reel
		øD (mm)	L (mm)	Rated ripple current① (mA rms)	Imp.② (Ω)	tan δ③	MPQ (pcs/reel)
16	10	4	5.7	80	1.45	0.18	2000
	22	5	5.7	150	0.80	0.18	1000
	33	5	5.7	150	0.80	0.18	1000
		6.3	5.7	230	0.44	0.18	1000
	47	6.3	5.7	230	0.44	0.18	1000
	68	6.3	5.7	230	0.44	0.18	1000
	100	6.3	5.7	230	0.44	0.18	1000
		8	6.5	280	0.36	0.18	1000
	150	6.3	7.7	280	0.36	0.18	1000
		8	6.5	280	0.36	0.18	1000
	220	6.3	7.7	280	0.36	0.18	1000
	330	8	10.5	450	0.17	0.18	500
		10	7.7	450	0.17	0.18	500
	470	8	10.5	450	0.17	0.18	500
		10	10.5	670	0.09	0.18	500
	680	10	10.5	670	0.09	0.18	500
1000	10	13	720	0.08	0.20	500	
	12.5	13.5	820	0.07	0.22	200	
25	10	4	5.7	80	1.45	0.16	2000
	22	5	5.7	150	0.80	0.16	1000
	33	5	5.7	150	0.80	0.16	1000
		6.3	5.7	230	0.44	0.16	1000
	47	6.3	5.7	230	0.44	0.16	1000
	68	6.3	5.7	230	0.44	0.16	1000
	100	6.3	7.7	280	0.36	0.16	1000
		8	6.5	280	0.36	0.16	1000
	150	8	10.5	450	0.17	0.16	500
	220	8	10.5	450	0.17	0.16	500
		10	7.7	450	0.17	0.16	500
	330	8	10.5	450	0.17	0.16	500
	470	10	10.5	670	0.09	0.16	500
	680	10	13	720	0.08	0.16	400
		12.5	13.5	820	0.07	0.18	200
	1000	12.5	13.5	820	0.07	0.20	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.

Characteristics list

Rated voltage (V)	Capacitance (±20%) (μF)	Case size		Specification			Taping&Reel
		øD (mm)	L (mm)	Rated ripple current t① (mA rms)	Imp.② (Ω)	tan δ③	MPQ (pcs/reel)
35	4.7	4	5.7	80	1.45	0.14	2000
	10	4	5.7	80	1.45	0.14	2000
		5	5.7	150	0.80	0.14	1000
	22	5	5.7	150	0.80	0.14	1000
		6.3	5.7	230	0.44	0.14	1000
	33	6.3	5.7	230	0.44	0.14	1000
	47	6.3	5.7	230	0.44	0.14	1000
	68	6.3	7.7	280	0.36	0.14	1000
		8	6.5	280	0.36	0.14	1000
	100	6.3	7.7	280	0.36	0.14	1000
		8	10.5	450	0.17	0.14	500
	150	8	10.5	450	0.17	0.14	500
		10	7.7	450	0.17	0.14	500
	220	8	10.5	600	0.17	0.14	500
		10	10.5	670	0.09	0.14	500
	330	10	10.5	850	0.09	0.14	500
12.5		13.5	820	0.07	0.16	200	
470	10	13	720	0.08	0.14	400	
	12.5	13.5	820	0.07	0.16	200	
50	1	4	5.7	60	2.9	0.12	2000
	2.2	4	5.7	60	2.9	0.12	2000
	3.3	4	5.7	60	2.9	0.12	2000
	4.7	4	5.7	60	2.9	0.12	2000
		5	5.7	85	1.52	0.12	1000
	10	6.3	5.7	165	0.88	0.12	1000
	22	6.3	5.7	165	0.88	0.12	1000
	33	6.3	7.7	185	0.68	0.12	1000
	47	6.3	7.7	185	0.68	0.12	1000
		8	6.5	185	0.68	0.12	1000
	68	8	10.5	360	0.34	0.12	500
		8	10.5	360	0.34	0.12	500
	100	8	10.5	360	0.34	0.12	500
		10	10.5	560	0.18	0.12	500
	150	10	10.5	560	0.18	0.12	500
	220	10	10.5	560	0.18	0.12	500
12.5		13.5	650	0.12	0.12	200	
330	12.5	13.5	650	0.12	0.12	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.

Characteristics list

Rated voltage (V)	Capacitance (±20%) (μF)	Case size		Specification			Taping & Reel
		∅D (mm)	L (mm)	Rated ripple current ^① (mA rms)	Imp. ^② (Ω)	tan δ ^③	MPQ (pcs/reel)
63	4.7	5	5.7	60	2.9	0.12	1000
	10	6.3	5.7	80	1.5	0.12	1000
	22	6.3	7.7	120	1.2	0.12	1000
		8	6.5	120	1.2	0.12	1000
	33	8	10.5	250	0.65	0.12	500
	47	8	10.5	250	0.65	0.12	500
	68	8	10.5	250	0.65	0.12	500
	100	10	10.5	400	0.35	0.12	500
		12.5	13.5	800	0.16	0.14	200
	150	12.5	13.5	800	0.16	0.14	200
220	12.5	13.5	800	0.16	0.14	200	
80	3.3	5	5.7	25	5.0	0.12	1000
	4.7	6.3	5.7	40	3.0	0.12	1000
	10	6.3	7.7	60	2.4	0.12	1000
		8	6.5	60	2.4	0.12	1000
	22	8	10.5	130	1.3	0.12	500
	33	8	10.5	130	1.3	0.12	500
	47	10	10.5	200	0.70	0.12	500
	68	10	13	400	0.40	0.12	400
		12.5	13.5	500	0.32	0.14	200
	100	10	13	400	0.40	0.12	400
12.5		13.5	500	0.32	0.14	200	
150	12.5	13.5	500	0.32	0.14	200	
100	22	8	10.5	130	1.3	0.12	500
	33	10	10.5	200	0.70	0.12	500
	47	10	10.5	200	0.70	0.12	500
		10	13	400	0.40	0.12	400
		12.5	13.5	500	0.32	0.14	200
	68	12.5	13.5	500	0.32	0.14	200
	100	12.5	13.5	500	0.32	0.14	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.

Note: All design and specification are for reference only and is subject to change without prior notice. If any doubt about safety for your application, please contact KNSCHA immediately for technical assistance before purchase.

备注：以上所提供的设计及特性参数仅供参考，任何修改不作预先通知。如果在使用上有疑问，请再购买前与科尼盛联系，以便我们提供技术上的服务和协助。