



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Surface Mount Type

Series : **FK** Type : **V**
High temperature
Lead-Free reflow (suffix : A*)



Features

- Endurance : 105 °C 2000 h
- Low impedance (40 % to 60 % less than FC series)
 Miniaturized (30 % to 50 % less than FC series)
- Vibration-proof product is available upon request. ($\phi 8$ mm and larger)
- RoHS compliant

Specifications

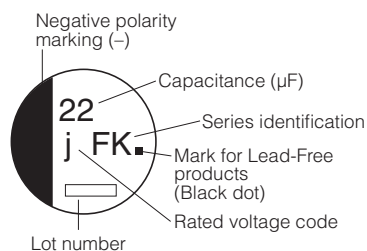
Category temperature range	-55 °C to +105 °C						
Rated voltage range	6.3 V.DC to 35 V.DC						
Capacitance range	4.7 μ F to 1500 μ F						
Capacitance tolerance	± 20 % (120 Hz/+20 °C)						
Leakage current	$I \leq 0.01 CV$ or 3 (μ A) After 2 minutes (Whichever is greater)						
Dissipation factor (tan δ)	Please see the attached characteristics list						
Characteristics at low temperature	V.DC	6.3	10	16	25	35	(Impedance ratio at 120 Hz)
	Z(-25 °C)/Z(+20 °C)	2	2	2	2	2	
	Z(-40 °C)/Z(+20 °C)	3	3	3	3	3	
	Z(-55 °C)/Z(+20 °C)	4	4	4	3	3	
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 ± 30 % of the initial value					
	tan δ	≤ 200 % of the initial limit					
Shelf life	After storage for 1000 hours at +105 °C ± 2 °C with no voltage applied and then being stabilized at +20 °C, capacitors shall meet the limits specified in Endurance. (With voltage treatment)						
	After reflow soldering and then being stabilized at +20 °C, capacitor shall meet the following limits.						
Resistance to soldering heat	Capacitance change	Within ± 10 % of the initial value					
	tan δ	Within the initial limit					
	DC leakage current	Within the initial limit					
AEC-Q200	AEC-Q200 compliant						

Frequency correction factor for ripple current

Capacitance (μ F)	Frequency (Hz)			
	120	1 k	10 k	100 k to
4.7 to 470	0.65	0.85	0.95	1.00
680 to 1500	0.70	0.90	0.95	1.00

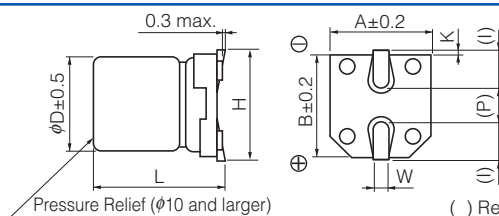
Marking

Example : 6.3 V.DC 22 μ F
 Marking color : BLACK



R. Voltage (V.DC)	6.3	10	16	25	35
Code	j	A	C	E	V

Dimensions



Size code	ϕD	L	A, B	H	I	W	P	K
B	4.0	5.8 ± 0.3	4.3	5.5 max.	1.8	0.65 ± 0.1	1.0	0.35 $^{+0.15}_{-0.20}$
C	5.0	5.8 ± 0.3	5.3	6.5 max.	2.2	0.65 ± 0.1	1.5	0.35 $^{+0.15}_{-0.20}$
D	6.3	5.8 ± 0.3	6.6	7.8 max.	2.6	0.65 ± 0.1	1.8	0.35 $^{+0.15}_{-0.20}$
D8	6.3	7.7 ± 0.3	6.6	7.8 max.	2.6	0.65 ± 0.1	1.8	0.35 $^{+0.15}_{-0.20}$
E	8.0	6.2 ± 0.3	8.3	9.5 max.	3.4	0.65 ± 0.1	2.2	0.35 $^{+0.15}_{-0.20}$
F	8.0	10.2 ± 0.3	8.3	10.0 max.	3.4	0.90 ± 0.2	3.1	0.70 ± 0.20
G	10.0	10.2 ± 0.3	10.3	12.0 max.	3.5	0.90 ± 0.2	4.6	0.70 ± 0.20

Characteristics list

Endurance : 105 °C 2000 h

Rated voltage (V.DC)	Cap. (±20 %) (μF)	Case size (mm)		Size* code	Specification			Part No.	Reflow	Min. Packaging Qty	
		φD	L		Ripple current (100 kHz) (+105 °C) (mA r.m.s.)	Impedance (100 kHz) (+20 °C) (Ω)	tan δ (120 Hz) (+20 °C)			Taping (pcs)	
6.3	22	4	5.8	B	90	1.35	0.26	EEEFK0J220AR	(5)	2000	
	47	4	5.8	(B)	90	1.35	0.26	EEEFKJ470UAR	(5)	2000	
		5	5.8	C	160	0.70	0.26	EEEFK0J470AR	(5)	1000	
	100	5	5.8	(C)	160	0.70	0.26	EEEFKJ101UAR	(5)	1000	
		6.3	5.8	D	240	0.36	0.26	EEEFK0J101AP	(5)	1000	
	220	6.3	5.8	D	240	0.36	0.26	EEEFK0J221AP	(5)	1000	
	330	6.3	7.7	D8	280	0.34	0.26	EEEFKJ331XAP	(5)	900	
		8	6.2	E	300	0.26	0.26	EEEFK0J331AP	(6)	1000	
	470	8	10.2	F	600	0.16	0.26	EEEFK0J471AP	(6)	500	
1000	8	10.2	F	600	0.16	0.26	EEEFK0J102AP	(6)	500		
1500	10	10.2	G	850	0.08	0.26	EEEFK0J152AP	(6)	500		
10	22	4	5.8	B	90	1.35	0.19	EEEFK1A220AR	(5)	2000	
	33	4	5.8	(B)	90	1.35	0.19	EEEFKA330UAR	(5)	2000	
		5	5.8	C	160	0.70	0.19	EEEFK1A330AR	(5)	1000	
	150	6.3	5.8	D	240	0.36	0.19	EEEFK1A151AP	(5)	1000	
	220	6.3	7.7	D8	280	0.34	0.19	EEEFKA221XAP	(5)	900	
		8	6.2	E	300	0.26	0.19	EEEFK1A221AP	(6)	1000	
	330	8	10.2	F	600	0.16	0.19	EEEFK1A331AP	(6)	500	
	470	8	10.2	F	600	0.16	0.19	EEEFK1A471AP	(6)	500	
	680	8	10.2	F	600	0.16	0.19	EEEFK1A681AP	(6)	500	
1000	10	10.2	G	850	0.08	0.19	EEEFK1A102AP	(6)	500		
16	10	4	5.8	B	90	1.35	0.16	EEEFK1C100AR	(5)	2000	
	22	4	5.8	(B)	90	1.35	0.16	EEEFKC220UAR	(5)	2000	
		5	5.8	C	160	0.70	0.16	EEEFK1C220AR	(5)	1000	
	47	5	5.8	(C)	160	0.70	0.16	EEEFKC470UAR	(5)	1000	
		6.3	5.8	D	240	0.36	0.16	EEEFK1C470AP	(5)	1000	
	68	6.3	5.8	D	240	0.36	0.16	EEEFK1C680AP	(5)	1000	
	100	6.3	5.8	D	240	0.36	0.16	EEEFK1C101AP	(5)	1000	
	150	6.3	7.7	D8	280	0.34	0.16	EEEFKC151XAP	(5)	900	
	220	6.3	7.7	D8	280	0.34	0.16	EEEFKC221XAP	(5)	900	
		8	6.2	E	300	0.26	0.16	EEEFK1C221AP	(6)	1000	
	330	8	10.2	F	600	0.16	0.16	EEEFK1C331AP	(6)	500	
470	8	10.2	F	600	0.16	0.16	EEEFK1C471AP	(6)	500		
680	10	10.2	G	850	0.08	0.16	EEEFK1C681AP	(6)	500		
25	10	4	5.8	B	90	1.35	0.14	EEEFK1E100AR	(5)	2000	
	22	5	5.8	C	160	0.70	0.14	EEEFK1E220AR	(5)	1000	
		5	5.8	(C)	160	0.70	0.14	EEEFKE330UAR	(5)	1000	
	33	6.3	5.8	D	240	0.36	0.14	EEEFK1E330AP	(5)	1000	
		47	6.3	5.8	D	240	0.36	0.14	EEEFK1E470AP	(5)	1000
	68	6.3	5.8	D	240	0.36	0.14	EEEFK1E680AP	(5)	1000	
	100	6.3	7.7	D8	280	0.34	0.14	EEEFKE101XAP	(5)	900	
		8	6.2	E	300	0.26	0.14	EEEFK1E101AP	(6)	1000	
	150	8	10.2	F	600	0.16	0.14	EEEFK1E151AP	(6)	500	
	220	8	10.2	F	600	0.16	0.14	EEEFK1E221AP	(6)	500	
	330	8	10.2	F	600	0.16	0.14	EEEFK1E331AP	(6)	500	
	470	10	10.2	G	850	0.08	0.14	EEEFK1E471AP	(6)	500	
	35	4.7	4	5.8	B	90	1.35	0.12	EEEFK1V4R7AR	(5)	2000
10		4	5.8	(B)	90	1.35	0.12	EEEFKV100UAR	(5)	2000	
		5	5.8	C	160	0.70	0.12	EEEFK1V100AR	(5)	1000	
22		5	5.8	C	160	0.70	0.12	EEEFK1V220AR	(5)	1000	
33		6.3	5.8	D	240	0.36	0.12	EEEFK1V330AP	(5)	1000	
47		6.3	5.8	D	240	0.36	0.12	EEEFK1V470AP	(5)	1000	
68		6.3	7.7	D8	280	0.34	0.12	EEEFKV680XAP	(5)	900	
100		6.3	7.7	D8	280	0.34	0.12	EEEFKV101XAP	(5)	900	
		8	10.2	F	600	0.16	0.12	EEEFK1V101AP	(6)	500	
150		8	10.2	F	600	0.16	0.12	EEEFK1V151AP	(6)	500	
220		8	10.2	F	600	0.16	0.12	EEEFK1V221AP	(6)	500	
330	10	10.2	G	850	0.08	0.12	EEEFK1V331AP	(6)	500		

* Size code() : Miniaturization product

If Part number exceeds 12 digits, voltage code is abbreviated as follows; 0J → J, 1A → A, 1C → C, 1E → E, 1V → V

· Please refer to the page of "Reflow Profile" and "The Taping Dimensions".

· When requesting vibration-proof product, please put the last "V" instead of "P"