

## Surface Mount Type

Series : **FKS** Type : **V**

**High temperature Lead-Free reflow**



### Features

- Endurance : 105 °C 2000 h
- 1 size smaller than series FK
- Vibration-proof product is available upon request. ( $\phi 8$  mm and larger)
- RoHS compliant

### Specifications

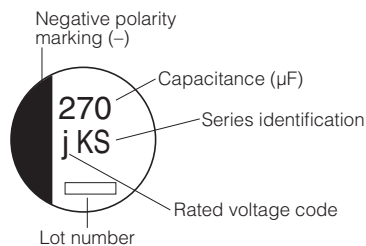
Category temperature range	-55 °C to +105 °C							
Rated voltage range	6.3 V.DC to 50 V.DC							
Capacitance range	10 $\mu$ F to 1800 $\mu$ F							
Capacitance tolerance	$\pm 20$ % (120 Hz/+20 °C)							
Leakage current	$I \leq 0.01$ CV or 3 ( $\mu$ A) After 2 minutes (Whichever is greater)							
Dissipation factor ( $\tan \delta$ )	Please see the attached characteristics list							
Characteristics at low temperature	V.DC	6.3	10	16	25	35	50	(Impedance ratio at 120 Hz)
	Z(-25 °C)/Z(+20 °C)	2	2	2	2	2	2	
	Z(-40 °C)/Z(+20 °C)	3	3	3	3	3	3	
	Z(-55 °C)/Z(+20 °C)	4	4	4	3	3	3	
Endurance	After applying rated working voltage for 2000 hours at +105 °C $\pm 2$ °C and then being stabilized at +20 °C, capacitors shall meet the following limits.							
	Capacitance change	Within $\pm 30$ % of the initial value (6.3 V.DC of B, C size : Within $\pm 40$ %)						
	$\tan \delta$	$\leq 200$ % of the initial limit						
	DC leakage current	Within the initial limit						
Shelf life	After storage for 1000 hours at +105 °C $\pm 2$ °C with no voltage applied and then being stabilized at +20 °C, capacitors shall meet the limits specified in Endurance. (With voltage treatment)							
Resistance to soldering heat	After reflow soldering and then being stabilized at +20 °C, capacitors shall meet the following limits.							
	Capacitance change	Within $\pm 10$ % of the initial value						
	$\tan \delta$	Within the initial limit						
	DC leakage current	Within the initial limit						
AEC-Q200	AEC-Q200 compliant							

### Frequency correction factor for ripple current

Frequency (Hz)	120	1 k	10 k	100 k to
Correction factor	0.65	0.85	0.95	1.00

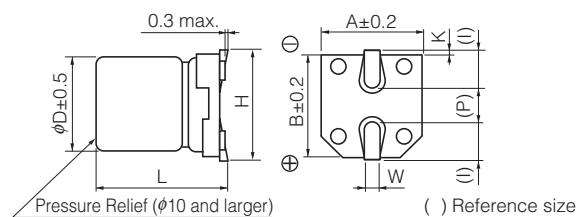
### Marking

Example : 6.3 V.DC 270  $\mu$ F  
Marking color : BLACK



R. Voltage (V.DC)	6.3	10	16	25	35	50
Code	j	A	C	E	V	H

### Dimensions



(Unit : mm)

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

**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.)	ESR (100 kHz) (+20 °C) (Ω)	tan δ (120 Hz) (+20 °C)			Taping (pcs)
6.3	68	4	5.8	B	90	1.35	0.26	EEEFK0J680SR	(5)	2000
	150	5	5.8	C	160	0.70	0.26	EEEFK0J151SR	(5)	1000
	270	6.3	5.8	D	240	0.36	0.26	EEEFK0J271SP	(5)	1000
	470	6.3	7.7	D8	280	0.34	0.26	EEEFKJ471XSP	(5)	900
	1800	10	10.2	G	850	0.08	0.26	EEEFK0J182SP	(6)	500
10	56	4	5.8	B	90	1.35	0.19	EEEFK1A560SR	(5)	2000
	120	5	5.8	C	160	0.70	0.19	EEEFK1A121SR	(5)	1000
	220	6.3	5.8	D	240	0.36	0.19	EEEFK1A221SP	(5)	1000
	330	6.3	7.7	D8	280	0.34	0.19	EEEFKA331XSP	(5)	900
	820	8	10.2	F	600	0.16	0.19	EEEFK1A821SP	(6)	500
	1200	10	10.2	G	850	0.08	0.19	EEEFK1A122SP	(6)	500
16	47	4	5.8	B	90	1.35	0.16	EEEFK1C470SR	(5)	2000
	100	5	5.8	C	160	0.70	0.16	EEEFK1C101SR	(5)	1000
	150	6.3	5.8	D	240	0.36	0.16	EEEFK1C151SP	(5)	1000
	270	6.3	7.7	D8	280	0.34	0.16	EEEFKC271XSP	(5)	900
	560	8	10.2	F	600	0.16	0.16	EEEFK1C561SP	(6)	500
	1000	10	10.2	G	850	0.08	0.16	EEEFK1C102SP	(6)	500
25	27	4	5.8	B	90	1.35	0.14	EEEFK1E270SR	(5)	2000
	56	5	5.8	C	160	0.70	0.14	EEEFK1E560SR	(5)	1000
	100	6.3	5.8	D	240	0.36	0.14	EEEFK1E101SP	(5)	1000
	150	6.3	7.7	D8	280	0.34	0.14	EEEFKE151XSP	(5)	900
	180	6.3	7.7	D8	280	0.34	0.14	EEEFKE181XSP	(5)	900
	390	8	10.2	F	600	0.16	0.14	EEEFK1E391SP	(6)	500
	680	10	10.2	G	850	0.08	0.14	EEEFK1E681SP	(6)	500
35	18	4	5.8	B	90	1.35	0.12	EEEFK1V180SR	(5)	2000
	39	5	5.8	C	160	0.70	0.12	EEEFK1V390SR	(5)	1000
	68	6.3	5.8	D	240	0.36	0.12	EEEFK1V680SP	(5)	1000
	82	6.3	5.8	D	240	0.36	0.12	EEEFK1V820SP	(5)	1000
	120	6.3	7.7	D8	280	0.34	0.12	EEEFKV121XSP	(5)	900
	270	8	10.2	F	600	0.16	0.12	EEEFK1V271SP	(6)	500
	470	10	10.2	G	850	0.08	0.12	EEEFK1V471SP	(6)	500
50	10	4	5.8	B	60	3.50	0.10	EEEFK1H100SR	(5)	2000
	22	5	5.8	C	85	1.52	0.10	EEEFK1H220SR	(5)	1000
	39	6.3	5.8	D	165	0.88	0.10	EEEFK1H390SP	(5)	1000
	82	6.3	7.7	D8	195	0.68	0.10	EEEFKH820XSP	(5)	900
	180	8	10.2	F	350	0.34	0.10	EEEFK1H181SP	(6)	500
	270	10	10.2	G	670	0.18	0.10	EEEFK1H271SP	(6)	500

If Part number exceeds 12 digits, voltage code is abbreviated as follows; 0J → J, 1A → A, 1C → C, 1E → E, 1V → V, 1H → H  
 · Please refer to the page of "Reflow Profile" and "The Taping Dimensions".  
 · When requesting vibration-proof product, please put the last "V" instead to "P"