# **Panasonic**

# Surface Mount Type

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

High temperature Lead-Free reflow



- Features
- Endurance: 2000 h at 105 °C
- 1 size smaller than series FK
- Vibration-proof product is available upon request. ( $\phi$ 8 mm and larger)
- AEC-Q200 qualified\*
- RoHS directive compliant

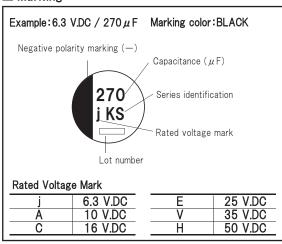
## ■ Specifications

Category Temp. Range	-55 ℃ to +105 ℃								
Rated W.V. Range	6.3 V.DC to 50 V.DC								
Nominal Cap. Range	39 μF to 1800 μF								
Capacitance Tolerance	±20 % (120 Hz/+20 ℃)								
DC Leakage Current	$I \le 0.01$ CV or 3 ( $\mu$ A) After 2 minutes (Whichever is greater)								
tan $\delta$	Please see the attached Standard Products list								
	W.V.(V)	6.3	10	16	25	35	50		
Characteristics at Low Temperature	Z(-25 °C)/Z(+20 °C)	2	2	2	2	2	2	(Impedance ratio at 120Hz)	
	Z(-40 °C)/Z(+20 °C)	3	3	3	3	3	3	(impedance ratio at 120Hz)	
	Z(-55 °C)/Z(+20 °C)	4	4	4	3	3	3		
Endurance	After applying rated working voltage for 2000 hours at $+105^{\circ}\text{C}\pm2^{\circ}\text{C}$ and then being stabilized at $+20^{\circ}\text{C}$ , capacitors shall meet the following limits.								
	Capacitance Change ±30 % of initial measured value								
	tan δ	≤ 200 % initial specified value							
	DC Leakage Current	≤ initial specified value							
Shelf Life	After storage for 1000 hours at +105 $^{\circ}$ C $\pm2$ $^{\circ}$ C with no voltage applied and then being stabilized at +20 $^{\circ}$ 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 ℃, capacitors shall meet the following limits.								
	Capacitance Change	e Change ±10 % of initial measured value							
	tan δ	≤ initial specified value							
	DC Leakage Current	≤ initial specified value							

### Frequency correction factor for ripple current

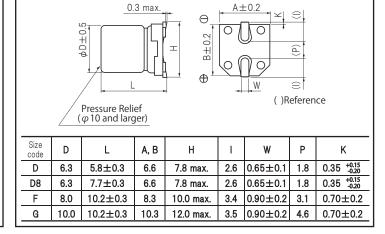
Canacitanae ( 4 E)	Frequency (Hz)							
Capacitance (μ F)	120	1k	10k	100k to				
39 to 1800	0.65	0.85	0.95	1.00				

#### ■ Marking



#### ■ Dimensions in mm (not to scale)

Unit:mm



st This product qualify for AEC-Q200, but it has some deviations.

# **Panasonic**

## **■** Standard Products

■ Standard Products Endurance : 105 °C 2000 h										
			Case size			pecificatio	1			Min. Packaging Q't
Rated voltage	Capacitance (±20 %)		Dia Length	Size code	Ripple current	ESR	tan δ Part No.			
		Dia				(100 kHz) (+20 ℃)	(120 Hz) (+20 ℃)	(RoHS: compliant)	Reflow	Taping
(V.DC)	(μF)	(mm)	(mm)		(mA r.m.s.)	(Ω)				(pcs)
6.3	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	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	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
	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
25	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
	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
35	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	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

<sup>·</sup>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"