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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 : **FT** Type : **V**

High temperature Lead-Free reflow



Features

- Endurance : 105 °C 2000 h to 5000 h
- Miniaturized, Low ESR (1 size smaller than series FK)
- Vibration-proof product is available upon request. ($\phi 8$ mm and larger)
- RoHS compliant

Specifications

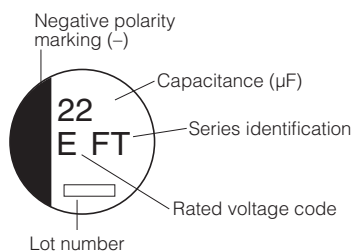
Category temperature range	-55 °C to +105 °C	
Rated voltage range	6.3 V.DC to 50 V.DC	
Capacitance range	10 μ F to 2200 μ F	
Capacitance tolerance	± 20 % (120 Hz/+20 °C)	
Leakage current	$I \leq 0.01$ CV (μ A) After 2 minutes	
Dissipation factor (tan δ)	Please see the attached characteristics list	
Endurance	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. (Suffix "G" in 6.3 V.DC : 3000 hours, 10 V.DC to 50 V.DC : 5000 hours)	
	Capacitance change	Within ± 30 % of the initial value (Suffix "G" is ± 35 %)
	tan δ	≤ 200 % of the initial limit (Suffix "G" is ≤ 300 %)
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
10 to 470	0.65	0.85	0.95	1.00
560 to 2200	0.70	0.90	0.95	1.00

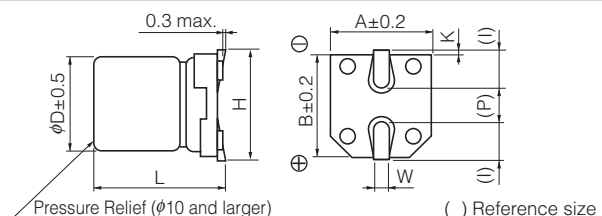
Marking

Example : 25 V.DC 22 μ F
Marking color : BLACK



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

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 $^{+0.15}_{-0.20}$
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 Q'ty
		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	100	4	5.8	B	160	0.85	0.26	EEEFT0J101AR	(5)	2000
	220	5	5.8	C	240	0.36	0.26	EEEFT0J221AR	(5)	1000
	330	6.3	5.8	D	300	0.26	0.26	EEEFT0J331AP	(5)	1000
	470	6.3	7.7	D8	600	0.16	0.26	EEEFTJ471XAP	(5)	900
	680	6.3	7.7	D8	600	0.16	0.26	EEEFTJ681XAP	(5)	900
	1500	8	10.2	F	850	0.08	0.26	EEEFT0J152AP	(6)	500
2200	10	10.2	G	1190	0.06	0.28	EEEFT0J222AP	(6)	500	
10	68	4	5.8	B	160	0.85	0.19	EEEFT1A680AR	(5)	2000
	150	5	5.8	C	240	0.36	0.19	EEEFT1A151AR	(5)	1000
	220	6.3	5.8	D	300	0.26	0.19	EEEFT1A221AP	(5)	1000
	330	6.3	7.7	D8	600	0.16	0.19	EEEFTA331XAP	(5)	900
	470	6.3	7.7	D8	600	0.16	0.19	EEEFTA471XAP	(5)	900
	1000	8	10.2	F	850	0.08	0.19	EEEFT1A102AP	(6)	500
1500	10	10.2	G	1190	0.06	0.19	EEEFT1A152AP	(6)	500	
16	47	4	5.8	B	160	0.85	0.16	EEEFT1C470AR	(5)	2000
	68	5	5.8	C	240	0.36	0.16	EEEFT1C680AR	(5)	1000
	100	5	5.8	C	240	0.36	0.16	EEEFT1C101AR	(5)	1000
	150	6.3	5.8	D	300	0.26	0.16	EEEFT1C151AP	(5)	1000
	220	6.3	5.8	D	300	0.26	0.16	EEEFT1C221AP	(5)	1000
	330	6.3	7.7	D8	600	0.16	0.16	EEEFTC331XAP	(5)	900
	680	8	10.2	F	850	0.08	0.16	EEEFT1C681AP	(6)	500
	820	8	10.2	F	850	0.08	0.16	EEEFT1C821UP	(6)	500
	1000	10	10.2	G	1190	0.06	0.16	EEEFT1C102AP	(6)	500
	1200	10	10.2	G	1190	0.06	0.16	EEEFT1C122UP	(6)	500
25	22	4	5.8	B	160	0.85	0.14	EEEFT1E220AR	(5)	2000
	33	4	5.8	B	160	0.85	0.14	EEEFT1E330AR	(5)	2000
	47	5	5.8	C	240	0.36	0.14	EEEFT1E470AR	(5)	1000
	68	5	5.8	C	240	0.36	0.14	EEEFT1E680AR	(5)	1000
	100	6.3	5.8	D	300	0.26	0.14	EEEFT1E101AP	(5)	1000
	150	6.3	7.7	D8	600	0.16	0.14	EEEFTE151XAP	(5)	900
	220	6.3	7.7	D8	600	0.16	0.14	EEEFTE221XAP	(5)	900
	470	8	10.2	F	850	0.08	0.14	EEEFT1E471AP	(6)	500
	560	8	10.2	F	850	0.08	0.14	EEEFT1E561UP	(6)	500
820	10	10.2	G	1190	0.06	0.14	EEEFT1E821AP	(6)	500	
1000	10	10.2	G	1190	0.06	0.14	EEEFT1E102UP	(6)	500	
35	22	4	5.8	B	160	0.85	0.12	EEEFT1V220AR	(5)	2000
	33	5	5.8	C	240	0.36	0.12	EEEFT1V330AR	(5)	1000
	47	5	5.8	C	240	0.36	0.12	EEEFT1V470AR	(5)	1000
	68	6.3	5.8	D	300	0.26	0.12	EEEFT1V680AP	(5)	1000
	100	6.3	5.8	D	300	0.26	0.12	EEEFT1V101AP	(5)	1000
	150	6.3	7.7	D8	600	0.16	0.12	EEEFTV151XAP	(5)	900
	330	8	10.2	F	850	0.08	0.12	EEEFT1V331AP	(6)	500
	390	8	10.2	F	850	0.08	0.12	EEEFT1V391UP	(6)	500
	560	10	10.2	G	1190	0.06	0.12	EEEFT1V561AP	(6)	500
680	10	10.2	G	1190	0.06	0.12	EEEFT1V681UP	(6)	500	
50	10	4	5.8	(B)	85	2.30	0.10	EEEFTH100UAR	(5)	2000
		5	5.8	C	165	0.88	0.10	EEEFT1H100AR	(5)	1000
	22	5	5.8	C	165	0.88	0.10	EEEFT1H220AR	(5)	1000
	47	6.3	5.8	D	195	0.68	0.10	EEEFT1H470AP	(5)	1000
	100	6.3	7.7	D8	350	0.34	0.10	EEEFTH101XAP	(5)	900
	220	8	10.2	F	670	0.18	0.10	EEEFT1H221AP	(6)	500
330	10	10.2	G	900	0.12	0.10	EEEFT1H331AP	(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, 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"

Characteristics list (Endurance 5000 h)

Endurance : 105 °C 5000 h (6.3 V.DC : 105 °C 3000 h)

Rated voltage (V.DC)	Cap. (±20 %) (μF)	Case size (mm)		Size code	Specification			Part No.	Reflow	Min. Packaging Q'ty
		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	1500	8	10.2	F	850	0.08	0.26	EEEFT0J152GP	(6)	500
	2200	10	10.2	G	1190	0.06	0.28	EEEFT0J222GP	(6)	500
10	1000	8	10.2	F	850	0.08	0.19	EEEFT1A102GP	(6)	500
	1500	10	10.2	G	1190	0.06	0.19	EEEFT1A152GP	(6)	500
16	680	8	10.2	F	850	0.08	0.16	EEEFT1C681GP	(6)	500
	1000	10	10.2	G	1190	0.06	0.16	EEEFT1C102GP	(6)	500
25	470	8	10.2	F	850	0.08	0.14	EEEFT1E471GP	(6)	500
	820	10	10.2	G	1190	0.06	0.14	EEEFT1E821GP	(6)	500
35	330	8	10.2	F	850	0.08	0.12	EEEFT1V331GP	(6)	500
	560	10	10.2	G	1190	0.06	0.12	EEEFT1V561GP	(6)	500
50	220	8	10.2	F	670	0.18	0.10	EEEFT1H221GP	(6)	500
	330	10	10.2	G	900	0.12	0.10	EEEFT1H331GP	(6)	500

- 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"