

# Kingtronics®

# GKT-VF

## Aluminum Electrolytic Capacitor – SMD

### FEATURES

- ◆ Endurance : 105°C 2000~5000 H
- ◆ Extra Low Impedance
- ◆ Designed for reflow soldering
- ◆ Designed for surface mounting on high-density PCB



Fig 1

Fig 2

Fig 3

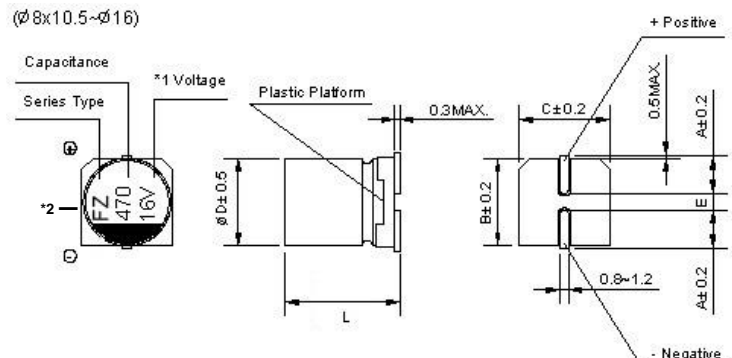
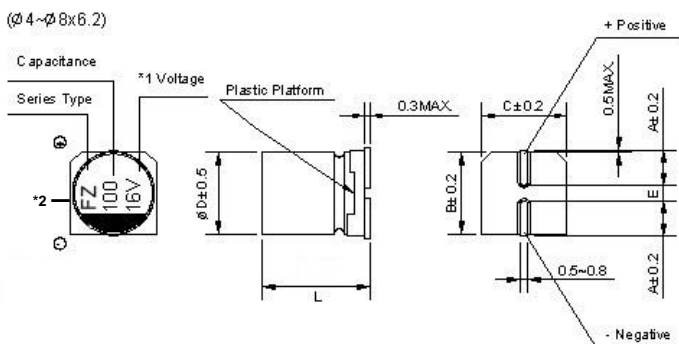
Note: Fig 1 & 2: Diameter 4 ~10mm

Fig 3 : Diameter: ≥12.5mm

### SPECIFICATIONS

Rated Voltage (V)	-	6.3	10	16	25	35	50	63	80	100	
Surge Voltage (V)	Room temperature	7.3	11.5	18.4	28.8	40.3	57.5	72.5	92	115	
Category Temperature Range (°C)	-	-55 to +105									
Capacitance Tolerance (%)	120Hz/20°C	M : ±20									
Dissipation Factor (Tan δ)	tanδ ( max ) 120Hz/20°C	Φ4 toΦ10	0.28	0.24	0.20	0.16	0.14	0.12	0.12	0.12	0.12
		Φ12.5toΦ16	0.34	0.29	0.22	0.20	0.16	0.12	0.14	0.14	0.14
Leakage Current ( LC )	µA/after 2minutes (max)	The greater value of either 0.01CV or 3µA									
Impedance Ratio at Low Temperature	Based on the value at 120Hz, +20°C	-25°C	Z/Z20°C	4	3	2	2	2	2	2	2
		-55°C	Z/Z20°C	8	5	4	3	3	3	3	3
Endurance	After applying rated working voltage for 2000/3000/5000H at +105°C±2°C, and then being stabilized at +20°C, capacitors shall meet the following limits	Test	ΦD x L ≅ 6.3x 5.7Lmm: 2000H, 6.3φx7.7L , 8φx 6.5L, 10φx7.7L: 3000H , ΦD ≅ 8mm: 5000H								
		ΔC/C	Within ±30% of the initial value								
		tanδ	Less than 300% of the specified value								
		LC	Within the initial limit								
Shelf Life	-	After storage for 1000h 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	ΔC/C	ΦD x L ≅ 6.3x 5.7Lmm: 2000H, 6.3φx7.7L , 8φx 6.5L, 10φx7.7L: 3000H , ΦD ≅ 8mm: 5000H								
		tanδ	Less than 300% of the specified value								
		LC	Within the initial limit								

### DRAWING (Unit: mm)



\*1 Voltage mark for 6.3V is [6V] or [6.3V]

\*2 Product Markings: KtF, KF, FZ

**Kingtronics® International Company**

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**DIMENSIONS(Unit: mm)**

ØDxL	4x5.8	5x5.8	6.3x5.8/7.7	8 x6.5/10.5	10*7.7	10x10.5/13.5	12.5 x13.5/16	16 x16.5
A	1.8	2.1	2.4	3.3	3.2	3.2	4.7	5.5
B	4.3	5.3	6.6	8.3	10.3	10.3	13	17
C	4.3	5.3	6.6	8.3	10.3	10.3	13	17
E	1.0	1.3	2.2	3.1	4.4	4.4	4.4	6.4
L	5.8±0.6	5.8±0.6	5.8/7.7±0.6	6.5/10.5±0.6	7.7±0.6	10.5/13.5±1.0	13.5/16±1.0	16.5±1.0

**DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT & IMPEDANCE**

WV/V Cap/µF		6.3			10			16		
		0J			1A			1C		
10	100	--	--	--	--	--	--	4x5.8	1.45	80
22	220	4x5.8	1.45	80	4x5.8	1.45	80	5x5.8	0.80	150
33	330	4x5.8 (5x5.8)	1.45 (0.80)	80 (150)	5x5.8	0.80	150	5x5.8 (6.3x5.8)	0.80 (0.44)	150 (230)
47	470	5x5.8	0.80	150	6.3x5.8	0.44	230	6.3x5.8	0.44	230
68	680	--	--	--	--	--	--	6.3x5.8	0.44	230
100	101	5x5.8 (6.3x5.8)	0.80 (0.44)	150 (230)	6.3x5.8	0.44	230	6.3x5.8 (8x6.5)	0.44 (0.36)	230 (280)
150	151	6.3x5.8	0.44	230	6.3x5.8	0.44	230	6.3x7.7 (8x6.5)	0.36 (0.36)	280 (280)
220	221	6.3x5.8 (6.3x7.7)	0.44 (0.36)	230 (280)	6.3x7.7 (8x6.5)	0.36 (0.36)	280 (280)	6.3x7.7	0.36	280
330	331	6.3x7.7 (8x6.5) (8x10.5)	0.36 (0.36) (0.17)	280 (280) (450)	8x10.5 (10x7.7)	0.17 (0.17)	450 (450)	8x10.5 (10x7.7)	0.17 (0.17)	450 (450)
470	471	6.3x7.7 (8x10.5) (10x7.7)	0.36 (0.17) (0.17)	280 (450) (450)	8x10.5 (10x7.7)	0.17 (0.17)	450 (450)	8x10.5 (10x10.5)	0.17 (0.09)	450 (670)
680	681	8x10.5 (10x7.7)	0.17 (0.17)	450 (450)	10x10.5	0.09	670	10x10.5	0.09	670
1000	102	8x10.5	0.17	450	10x10.5	0.09	670	10x13.5 (12.5x13.5)	0.08 (0.07)	720 (820)
1500	152	10x10.5 (10x13.5)	0.09 (0.08)	670 (720)	10x13.5 (12.5x13.5)	0.08 (0.07)	720 (820)	Case size:φDxL (mm)	Impedance (Ω) max at 100kHz, 20°C	Rated ripple current mArms(100k Hz, 105°C)
2200	222	12.5x13.5	0.07	820	12.5x13.5	0.07	820			

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**DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT & IMPEDANCE**

WV/V Cap/μF		25			35			50		
		1E			1V			1H		
1	1R0	--	--	--	--	--	--	4x5.8	2.90	60
2.2	2R2	--	--	--	--	--	--	4x5.8	2.90	60
3.3	323	--	--	--	--	--	--	4x5.8	2.90	60
4.7	4R7	--	--	--	4x5.8	1.45	80	4x5.8 (5x5.8)	2.90 (1.52)	60 (85)
10	100	4x5.8	1.45	80	4x5.8 (5x5.8)	1.45 (0.80)	80 (150)	6.3x5.8	0.88	165
22	220	5x5.8	0.80	150	5x5.8 (6.3x5.8)	0.80 (0.44)	150 (230)	6.3x5.8	0.88	165
33	330	5x5.8 (6.3x5.8)	0.80 (0.44)	150 (230)	6.3x5.8	0.44	230	6.3x7.7	0.68	185
47	470	6.3x5.8	0.44	230	6.3x5.8	0.44	230	6.3x7.7 (8x6.5) (8x10.5)	0.68 (0.68) (0.34)	185 (185) (360)
68	680	6.3x5.8	0.44	230	6.3x7.7 (8x6.5)	0.36 (0.36)	280 (280)	8x10.5	0.34	360
100	101	6.3x7.7 (8x6.5)	0.36 (0.36)	280 (280)	6.3x7.7 (8x10.5)	0.36 (0.17)	280 (450)	8x10.5 (10x10.5)	0.34 (0.18)	360 (560)
150	151	8x10.5	0.17	450	8x10.5 (10x7.7)	0.17 (0.17)	450 (450)	10x10.5	0.18	560
220	221	8x10.5 (10x7.7)	0.17 (0.17)	450 (450)	8x10.5 (10x10.5)	0.17 (0.09)	450 (670)	10x10.5 (12.5x13.5)	0.18 (0.12)	560 (650)
330	331	8x10.5	0.17	450	10x10.5 (12.5x13.5)	0.09 (0.07)	850 (820)	12.5x13.5	0.12	650
470	471	10x10.5	0.09	670	10x13.5 (12.5x13.5)	0.08 (0.07)	720 (820)	--	--	--
680	681	10x13.5 (12.5x13.5)	0.08 (0.07)	720 (820)	--	--	--	Case size:φDxL (mm)	Impedance (Ω) max at 100kHz, 20°C	Rated ripple current mArms(100k Hz, 105°C)
1000	102	12.5x13.5	0.07	820	--	--	--			

WV/V Cap/μF		63			80			100		
		1J			1K			2A		
3.3	3R3	--	--	--	5x5.8	5.00	25	--	--	--
4.7	4R7	5x5.8	2.90	60	6.3x5.8	3.00	40	--	--	--
10	100	6.3x5.8	1.50	80	6.3x7.7 (8x6.5)	2.40 (2.40)	60 (60)	--	--	--
22	220	6.3x7.7 (8x6.5)	1.20 (1.20)	120 (120)	8x10.5	1.30	130	8x10.5	1.30	130
33	330	8x10.5	0.65	250	8x10.5	1.30	130	10x10.5	0.70	200
47	470	8x10.5	0.65	250	10x10.5	0.70	200	10x10.5 (10x13.5) (12.5x13.5)	0.70 (0.40) (0.32)	200 (400) (500)
68	680	8x10.5	0.65	250	10x13.5 (12.5x13.5)	0.40 (0.32)	400 (500)	12.5x13.5	0.32	500
100	101	10x10.5 (12.5x13.5)	0.35 (0.16)	400 (800)	10x13.5 (12.5x13.5)	0.40 (0.32)	400 (500)	12.5x13.5	0.32	500
150	151	12.5x13.5	0.16	800	12.5x13.5	0.32	500	Case size:φDxL (mm)	Impedance (Ω) max at 100kHz, 20°C	Rated ripple current mArms(100k Hz, 105°C)
220	221	12.5x13.5	0.16	800	--	--	--			

**Frequency coefficient Factor of Rated Ripple current**

Capacitance (μF)	Frequency: F(Hz)			
	50Hz	120Hz	1kHz	10kHz ≤
Full Capacitance	0.60	0.70	0.85	1.00

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## Aluminum Electrolytic Capacitor – SMD

### HOW TO ORDER

<u>GKT</u>	<u>VF</u>	<u>0J</u>	<u>M</u>	<u>220</u>	<u>040054</u>	<u>T</u>	<u>R</u>
Series	Sub Series	Voltage	Capacitance Tolerance	Capacitance	Case Size	Packing	Pb
		1.	2.	3.	4.	5.	6.

### NOTE:

#### 1. Rated Voltage

Code	0G	0J	1A	1C	1E	1V	1H	1J	2A
Voltage	4	6.3	10	16	25	35	50	63	100

#### 2. Capacitance Tolerance

Code	K	M	Q	T
Tolerance	±10%	±20%	+30-10%	+50-10%

#### 3. Capacitance

Code	0R1	R47	010	4R7	100	470	101	471	102	472	103
Capacitance (µF)	0.1	0.47	1	4.7	10	47	100	470	1000	4700	10000

#### 4. Case Size

Code	040054	050054	063054	080105	100105	125135	160215
Case Size (mm)	4x5.4	5x5.4	6.3x5.4	8x10.5	10x10.5	12.5x13.5	16x21.5

#### 5. Packing

Code	T	P
Packing	Tape & Reel	Plastic reel

#### 6. Pb

Code	R
Pb	RoHS

Note: Specifications are subject to change without notice.

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