

# Kingtronics®

# GKT-VA

## Aluminum Electrolytic Capacitor— SMD

### FEATURES

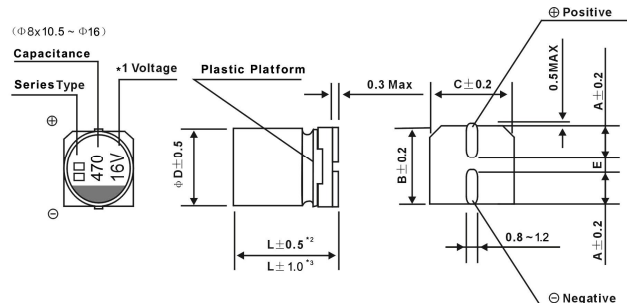
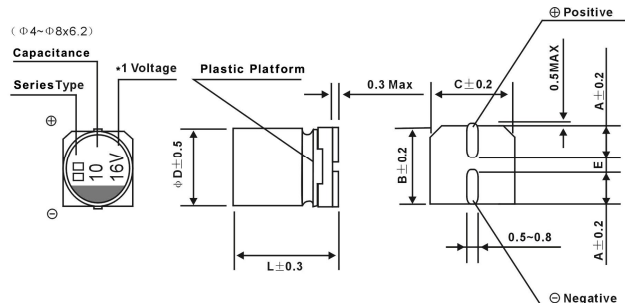
- ◆ Designed for surface mounting on high density circuit board.
- ◆ Emboss carrier tape packing system is available for automatic insertion.



### SPECIFICATIONS

<b>OPERATING TEMPERATURE</b>	-40°C ~ +85°C									
<b>Voltage Range</b>	4V ~ 100V.DC									
<b>Capacitance Range</b>	0.1 ~ 10000μF									
<b>Capacitance Tolerance</b>	± 20% at 120Hz, 20°C									
<b>Leakage Current</b>	Leakage current (Φ4~Φ10) ≤0.01CV or 3μA, whichever is greater (After 2 minutes application of rated voltage) Leakage current (Φ12.5~Φ16) ≤0.03CV or 4μA, whichever is greater (After 1 minutes application of rated voltage)									
<b>Dissipation Factor (Tan δ)</b>	Measurement Frequency: 120Hz, Temperature: 20°C									
	Rated Voltage (V)	4	6.3	10	16	25	35	50	63	100
	Tan δ	Φ4~Φ10	0.35	0.30	0.24	0.20	0.16	0.14	0.14	0.12
	(Max.)	Φ12.5~Φ16	0.42	0.38	0.34	0.30	0.26	0.22	0.18	0.10
<b>Stability At Low Temp.</b>	Measurement Frequency: 120Hz									
	Rated Voltage (V)	4	6.3	10	16	25	35	50	63	100
	Impedance Ratio ZT/Z20 (Max.)	Φ4~Φ10	Z(-25°C)/ Z(20°C)	7	4	3	2	2	2	2
			Z(-40°C)/ Z(20°C)	15	8	6	4	4	3	3
		Φ12.5~Φ16	Z(-25°C)/ Z(20°C)	7	5	4	3	2	2	2
			Z(-40°C)/ Z(20°C)	17	12	10	8	5	4	3
<b>Load Life</b>	After 2000 hours application of rated voltage at 85°C, capacitors meet the characteristics requirements listed below.									
	Capacitance Change	Within ± 20% of initial value (Within ± 30% of initial value for 4V)								
	Dissipation Factor	200% or less of initial specified value								
	Leakage Current	Initial specified value or less								
<b>Shelf Life</b>	After leaving capacitors under no load at 85°C for 1000 hours, they meet the specified value for load life characteristics listed above.									
<b>Resistance to Soldering Heat</b>	After reflow soldering and restored at room temperature, they meet the characteristics listed below.									
	Capacitance Change	Within ± 10% of initial value								
	Dissipation Factor	Initial specified value or less								
	Leakage Current	Initial specified value or less								

### DRAWING (Unit: mm)



\*1 Voltage mark for 6.3V is [6V]    \*2 Applicable to Φ8x10.5~Φ10    \*3 Applicable to Φ12.5~Φ16

ΦDxL	4x5.4	5x5.4	6.3x5.4	6.3x7.7	8x6.2	8x10.5	10x10.5	10x13.5	12.5x13.5	12.5x16	16x16.5	16x21.5
A	1.8	2.1	2.4	2.4	3.3	2.9	3.2	3.2	4.7	4.7	5.5	5.5
B	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	13.0	13.0	17.0	17.0
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	13.0	13.0	17.0	17.0
E±0.2	1.0	1.3	2.2	2.2	2.2	3.1	4.4	4.4	4.4	4.4	6.7	6.7
L	5.4	5.4	5.4	7.7	6.2	10.5	10.5	13.5	13.5	16.0	16.5	21.5

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### FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

		Frequency	50Hz	120Hz	300Hz	1KHz	10KHz~
Coefficient	Φ4~Φ10	0.1~68μF	0.70	1.00	1.17	1.36	1.50
		100~3300μF	0.85	1.00	1.08	1.20	1.30
	Φ12.5~Φ16	~68μF	0.75	1.00	1.35	1.57	2.00
		100~680μF	0.8	1.00	1.23	1.34	1.50
		1000~10000μF	0.85	1.00	1.10	1.13	1.15

### STANDARD RATINGS

WV		4		6.3		10		16		25	
Cap.(μF)		0G		0J		1A		1C		1E	
4.7	4R7	--	--	--	--	--	--	--	--	--	--
10	100	--	--	--	--	--	--	4x5.4	25	5x5.4 (4x5.4)	28 (20)
15	150	--	--	--	--	--	--	4x5.4	28	5x5.4	34
22	220	--	--	4x5.4	31	5x5.4 (4x5.4)	35 (28)	5x5.4 (4x5.4)	39 (28)	6.3x5.4 (5x5.4)	52 (35)
33	330	4x5.4	26	5x5.4 (4x5.4)	39 (31)	5x5.4 (4x5.4)	43 (32)	6.3x5.4 (5x5.4)	57 (40)	6.3x5.4 (5x5.4)	63 (42)
47	470	4x5.4	34	5x5.4 (4x5.4)	47 (36)	6.3x5.4 (5x5.4)	59 (43)	6.3x5.4 (5x5.4)	68 (44)	6.3x5.4	68
56	560	4x5.4	39	5x5.4	46	6.3x5.4	57	6.3x5.4	74	6.3x5.4	82
68	680	5x5.4	45	6.3x5.4 (5x5.4)	62 (52)	6.3x5.4	72	6.3x5.4	80	6.3x5.4	94
100	101	5x5.4	61	6.3x5.4 (5x5.4)	71 (55)	5x5.4 6.3x5.4	55 76	6.3x5.4 (8x6.2)	86 (200)	6.3x7.7 (8x6.2)	130 (91)
150	151	6.3x5.4	74	6.3x5.4	78	6.3x5.4	88	6.3x7.7	135	8x10.5 (6.3 x 7.7)	200 (130)
220	221	6.3x5.4	82	6.3x5.8	95	6.3x5.8 6.3x7.7 (8x6.2)	95 150 (250)	8x10.5 6.3x7.7 (8x6.2)	215 (150) (135)	8x10.5	250
330	331	6.3x7.7	150	6.3x7.7 (8x6.2)	150 (300)	8x10.5	280	8x10.5	280	10x10.5 (8x10.5)	340 (310)
470	471	6.3x7.7	150	8x10.5 (6.3x7.7)	300 (150)	10x10.5 (8x10.5)	320 (300)	10x10.5 (8x10.5)	420 (330)	10x10.5	400
680	681	8x10.5	300	8x10.5	300	10x10.5	380	10x10.5	450	10x13.5	550
1000	102	8x10.5	330	10x10.5 (8x10.5)	430 (330)	10x10.5	450	12.5x13.5 (10x13.5) (10x10.5)	710 (550) (490)	12.5x13.5	820
1500	152	10x10.5	450	10x13.5 (10x10.5)	650 (450)	10x13.5	650	12.5x13.5	750	12.5x16	1000
2200	222	10x13.5 (10x10.5)	620 (480)	12.5x13.5 (10x13.5)	890 (720)	12.5x13.5	960	16x16.5 (12.5x16)	1150 (1000)	16x16.5 16x21.5	1250 1450
3300	332	10x13.5	700	12.5x16 (12.5x13.5)	1000 (900)	16x16.5 (12.5x16)	1300 (1050)	16x16.5 16x21.5	1350 1450	16x21.5	1650
4700	472	12.5x13.5	850	16x16.5 16x21.5	1400 1650	16x16.5 16x21.5	1450 1550	16x21.5	1650		
6800	682	16x16.5 (12.5x16)	1350 (900)	16x21.5	1750	16x21.5	1850				
10000	103	16x21.5	1750	16x21.5	1800					Case Size	Ripple Current

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**STANDARD RATINGS**

WV Cap.(µF)		35		50		63		100	
		1V		1H		1J		2A	
0.1	0R1	--	--	4x5.4	1.0	4x5.4	1.0	--	--
0.22	R22	--	--	4x5.4	2.3	4x5.4	2.3	--	--
0.33	R33	--	--	4x5.4	3.5	4x5.4	3.5	--	--
0.47	R47	--	--	4x5.4	5.0	4x5.4	5.0	--	--
1	010	--	--	4x5.4	10	4x5.4	10	4x5.4	10
1.5	1R5	--	--	4x5.4	12	4x5.4	12	6.3x5.4	15
2.2	2R2	--	--	4x5.4	15	4x5.4	15	6.3x5.4	20
3.3	3R3	--	--	4x5.4	18	5x5.4	20	6.3x7.7 (6.3x5.4) (8x6.2)	45 (28) (50)
4.7	4R7	--	--	5x5.4 (4x5.4)	23 (19)	6.3x5.4 (5x5.4)	30 (23)	6.3x7.7 (6.3x5.4) (8x 6.2)	50 (30) (50)
10	100	5x5.4 (4x5.4)	30 (20)	6.3x5.4 (5x5.4)	34 (27)	6.3x7.7 (6.3x5.4)	55 (34)	8x10.5 (6.3x7.7) (8x 6.2)	110 (50) (50)
22	220	6.3x5.4	54	6.3x5.4 (8x6.2)	60 (120)	8x10.5 (6.3x7.7) (8x6.2)	140 (70) (35)	10x10.5 (8x10.5)	180 (120)
33	330	6.3x5.4 (8x6.2)	60 (130)	6.3x7.7 (8x6.2)	85 (65)	8x10.5 (6.3x7.7)	160 (85)	10x10.5	190
47	470	6.3x5.4 (8x6.2)	70 (165)	10x10.5 (8x10.5) (6.3x7.7)	130 (110) (90)	10x10.5 (8x10.5)	230 (170)	--	--
56	560	6.3x7.7	80	6.3x7.7	110	10x10.5	250	--	--
68	680	6.3x7.7	110	8x10.5	170	10x10.5	260	--	--
100	101	8x10.5 (6.3x7.7)	175 (120)	10x10.5 (8x10.5)	240 (200)	12.5x13.5 (10x13.5) (10x10.5)	380 (290) (280)	12.5x13.5	440
150	151	8x10.5	220	10x10.5	240	10 x 13.5	310	--	--
220	221	10x10.5 (8x10.5)	310 (270)	10x13.5 (10x10.5)	400 (320)	12.5x13.5 (10x13.5)	580 (330)	16x16.5 16x21.5	700 850
330	331	10x10.5	350	12.5x13.5 (10x13.5)	600 (420)	16x16.5 (12.5x16)	820 (720)	16x21.5	900
470	471	12.5x13.5 (10x13.5) (10x10.5)	600 (530) (400)	16x16.5 (12.5x16)	850 (740)	16x16.5	950		
680	681	12.5x13.5 (10x13.5)	750 (560)	16x16.5	950	16x21.5	1000		
1000	102	16x16.5 (12.5x16)	1100 (800)	16x21.5	1300			Case size	Allowable ripple
2200	222	16x21.5	1550						

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### HOW TO ORDER

<u>GKT</u>	<u>VA</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
Packing	Tape & Reel

#### 6. Pb

Code	R
Pb	RoHS

Note: Specifications are subject to change without notice.

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