

Kingtronics®**GKT-AL**

Aluminum Electrolytic Capacitor – Axial

FEATURES

- ◆ 85°C, 2000 hours assured.
- ◆ Voltage range of 6.3 ~ 450V
- ◆ Wide operating temperature range, from -40~+85°C

**SPECIFICATIONS**

OPERATING TEMPERATURE RANGE (°C)	-40°C~ +85°C															
CAPACITANCE TOLERANCE (20°C, 120Hz)	±10%(K), ±20%(M)															
RATED VOLTAGE	6.3 ~ 100VDC								160 ~ 450VDC							
(20°C)LEAKAGE CURRENT	I ≅ 0.02CV or 3 (u A) Whichever is greater (after 2 minutes applying the rated DC working Voltage at 20 °C)								I ≅ 0.03CV+15 (u A) for CV ≅ 1000, I ≅ 0.02CV+25 (u A) for CV>1000 (after 5 minutes applying the rated DC working Voltage at 20 °C)							
Where: I=Leakage Current (u A) , C=rated Capacitance (µ F) , V= working Voltage (V)																
(at 20°C, 120Hz) DISSIPATION FACTOR (tan δ)	W. V	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	
	tanδ	0.23	0.20	0.17	0.15	0.12	0.10	0.09	0.08	0.15	0.15	0.20	0.20	0.24	0.24	
Add 0.02 per 1000µ F for more than 1000µF.																
(20°C)SURGE VOLTAGE	W. V	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	
	S. V	8	13	20	32	44	63	79	125	200	250	300	400	450	500	
LOW TEMPERATURE STABILITY	Impedance ratio at 120Hz.															
	Rated Voltage (V)		6.3	10	16	25	35	50	63	100	160	200	250	350	400	450
	Z(-25°C)	§ D < 16	6	4	3	3	2	2	2	2	3	6	8	12	14	16
	/ +20°C	§ D ≥ 16	8	6	4	4	3	3	3	3	3	6	8	10	-	-
	Z(-40°C)	§ D < 16	10	8	6	6	4	3	3	3	4	8	10	-	-	-
	/ +20°C	§ D ≥ 16	18	16	12	10	8	8	6	6	6	8	10	-	-	-
LOAD LIFE TEST	After 2000 hours application of rated voltage at 85°C, capacitors meet the characteristics requirements listed at right				Capacitance Change				Within ±20% of initial value							
					Dissipation Factor				Less than 200% of specified value							
					Leakage Current				Within specified value							
SHELF LIFE TEST	After leaving capacitors under no load at 85°C for 1,000 hours and applying voltage they meet the specified value for load life characteristics listed above.															
FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT	Cap.(µ F)		Freq.(Hz)		60	120	500	1K	10K up							
			Under 100		0.70	1.00	1.30	1.40	1.50							
			100 to 1000		0.75	1.00	1.20	1.30	1.35							
			1000 up above		0.80	1.00	1.10	1.12	1.15							
ALLOWABLE RIPPLE CURRENT VS AMBIENT TEMPERATURE	Temperature(°C)				Under 50				70				85			
	Multiplier				1.78				1.40				1.00			

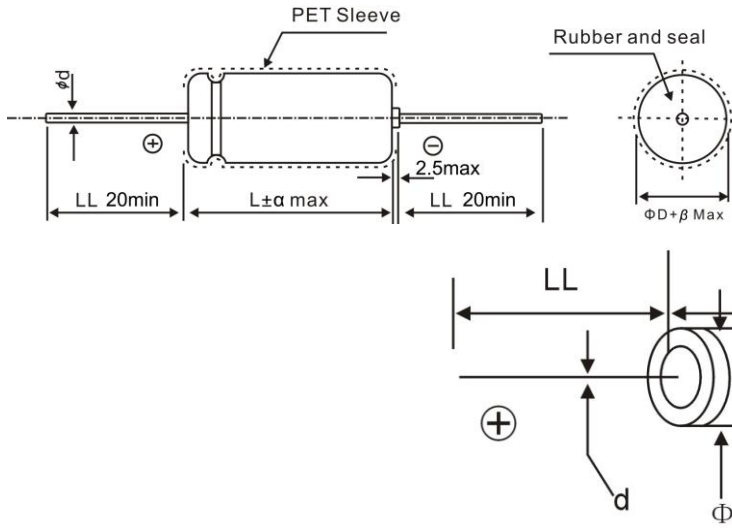
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DIMENSIONS (mm)



LEAD DIAMETER

∅D	5	6.3	8	10	13	16	18	22	25
∅d	0.6	0.6	0.6	0.6	0.6	0.8	0.8	0.8	0.8
α	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0
β	0.5	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0

DIMENSIONS: Diameter (∅D) x Length (L) mm

RIPPLE CURRENT. mA at 85°C, 120Hz

V.DC	6.3V		10V		16V		25V		35V	
	∅DxL	mA	∅DxL	mA	∅DxL	mA	∅DxL	mA	∅DxL	mA
10	--	--	--	--	--	--	5x12	40	5x12	55
22	--	--	--	--	5x12	71	6.3x13	76	6.3x13	70
33	--	--	--	--	5x12	85	6.3x13	80	6.3x13	115
47	5x12	87	5x12	94	6.3x13	88	6.3x13	100	6.3x13	138
100	6.3x13	121	6.3x13	145	6.3x13	160	8x13	215	8x16	232
220	6.3x13	215	8x13	231	8x13	298	8x16	319	10x17	401
330	8x16	305	8x16	327	8x16	365	10x17	454	10x21	514
470	8x16	364	8x16	390	8x16	460	10x21	524	10x21	613
1000	10x17	662	10x17	671	10x21	775	13x22	873	13x27	955
2200	13x22	929	13x22	1051	13x27	1125	16x28	1344	16x33	1421
3300	13x27	1150	13x27	1288	16x28	1454	16x33	1611	18x40	1640
4700	13x27	1354	16x28	1552	16x33	1650	18x40	1881	18x40	2280
6800	16x28	1762	16x33	1930	16x40	2040	18x40	2170	22x40	2470
10000	16x40	2062	18x40	2122	18x40	2503	22x40	2893	25x41	3180

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RIPPLE CURRENT. mA at 85°C, 120Hz

V.DC μF	50V		63V		100V		160V		200V	
	ØDxL	mA	ØDxL	mA	ØDxL	mA	ØDxL	mA	ØDxL	mA
1	5x12	10	5x12	15	5x12	15	6.3x13	7	6.3x13	9
2.2	5x12	20	5x12	30	5x12	30	6.3x13	15	8x13	16
3.3	5x12	30	5x12	36	5x12	40	8x16	21	8x16	26
4.7	5x12	42	5x12	44	6.3x13	41	8x16	31	10x17	33
10	5x12	50	6.3x13	55	6.3x13	72	10x17	60	10x21	66
22	6.3x13	85	6.3x13	109	8x16	133	10x21	121	13x22	121
33	6.3x13	126	8x13	154	10x17	190	13x22	154	13x27	167
47	8x13	174	8x16	214	10x21	237	13x27	198	16x33	214
100	10x17	296	10x17	326	13x22	377	16x33	345	16x33	368
220	10x21	459	13x22	527	16x28	625	18x40	586	22x40	609
330	13x22	613	13x22	675	16x33	793	22x40	632	--	--
470	13x22	731	13x27	780	16x36	942	--	--	--	--
1000	16x33	1111	16x40	1249	22x40	1452	--	--	--	--
2200	18x40	1699	22x40	1744	25x43	2430	--	--	--	--
3300	22x40	2027	25x43	2309	--	--	--	--	--	--
4700	25x41	2347	25x43	2710	--	--	--	--	--	--
6800	25x52	2650	--	--	--	--	--	--	--	--

V.DC μF	250V		350V		400V		450V	
	ØDxL	mA	ØDxL	mA	ØDxL	mA	ØDxL	mA
1	6.3x13	12	8x16	13	8x16	14	8x16	15
2.2	8x16	17	10x17	19	10x17	21	10x21	23
3.3	10x17	31	10x17	33	10x17	34	10x21	36
4.7	10x17	38	10x21	44	10x21	45	13x22	46
10	10x21	72	13x22	72	13x22	80	13x27	82
22	13x27	126	13x27	132	16x33	137	16x36	143
33	16x28	178	16x33	186	16x40	192	16x40	201
47	16x33	241	16x40	253	16x40	339	18x40	339
100	16x40	391	22x40	402	22x43	424	22x43	448
220	22x40	632	--	--	--	--	--	--

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HOW TO ORDER

<u>GKT</u>	<u>AL</u>	<u>0J</u>	<u>0R1</u>	<u>M</u>	<u>00500110</u>	<u>000</u>	<u>B</u>	<u>R</u>
Series	Sub Series	Rated Voltage	Capacitance	Capacitance Tolerance	Dimension	Lead Length	Packing	Pb
		1.	2.	3.	4.	5.	6.	7.

NOTE:

1. Rated Voltage

Code	0J	1A	1C	1D	1E	1V	1G	1H	1J
Voltage	6.3V	10V	16V	20V	25V	35V	40V	50V	63V
Code	2A	2C	2D	2E	2V	2G	2W		
Voltage	100V	160V	200V	250V	350V	400V	450V		

2. Capacitance

Code	0R1	R22	R33	R47	010	2R2	3R3	4R7	100	220	330	470	101
Capacitance (µF)	0.1	0.22	0.33	0.47	1	2.2	3.3	4.7	10	22	33	47	100
Code	221	271	331	391	471	561	681	102	222	332	472	103	223
Capacitance (µF)	220	270	330	390	470	560	680	1000	2200	3300	4700	10000	22000

3. Capacitance Tolerance

Code	K	M
Tolerance	±10%	±20%

4. Dimension

Code	00500110	00630120	01300200	01600300
Dimension (mm)	5x11	6.3x12	13x20	16x30

5. Lead Length

Code	000
Lead Length	Standard

6. Packing

Code	B	T
Packing	Bulk	Tape & Reel

7. Pb

Code	L	R
Pb	Leaded	RoHS

Note: Specifications are subject to change without notice.

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