

# PASSIVE COMPONENTS

Inspired by innovation

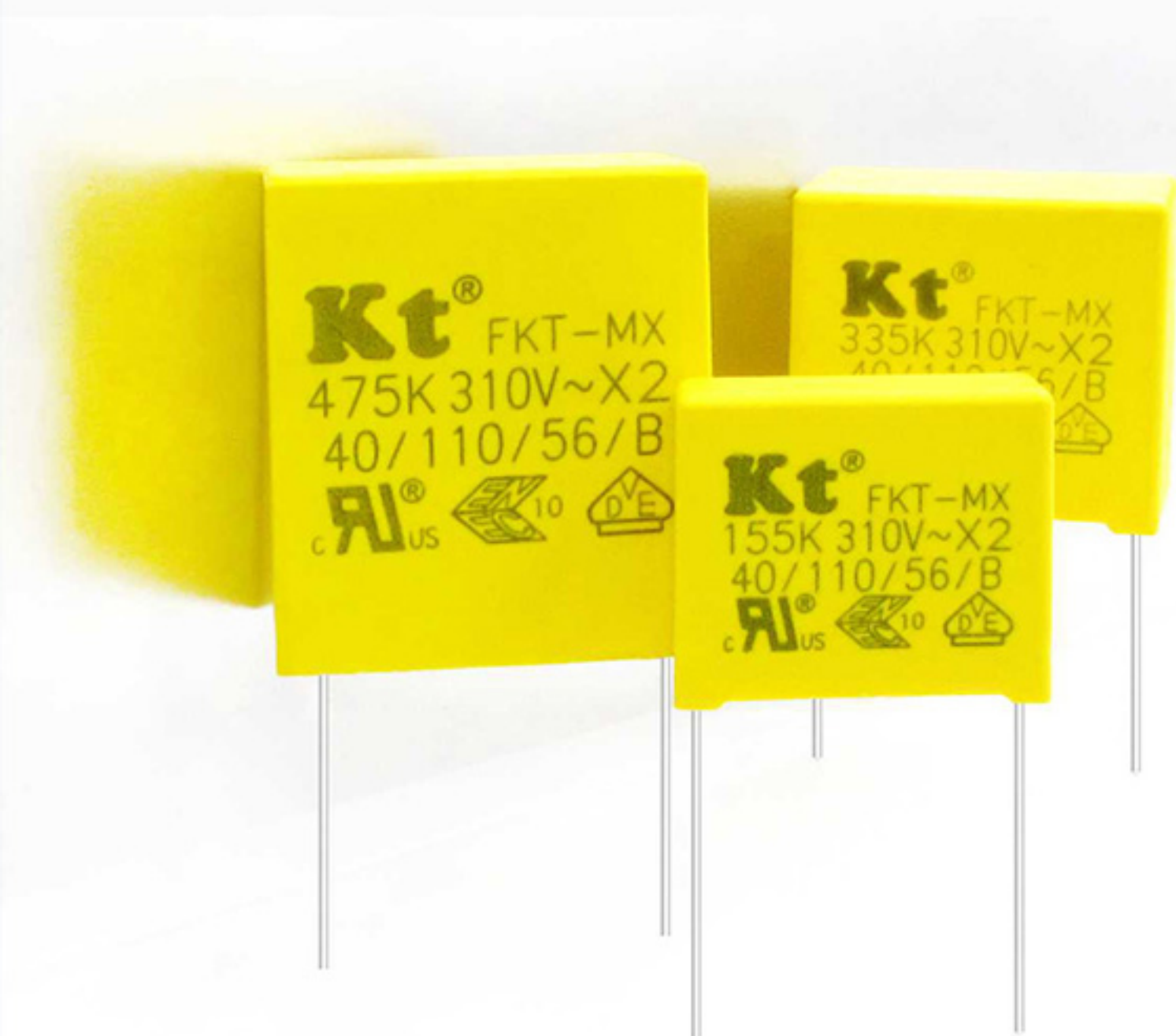


## METALLIZED POLYESTER FILM CAPACITORS

X2 METALLIZED POLYPROPYLENE FILM CAPACITORS (310VAC)

POWER FILM CAPACITOR, DC-LINK CAPACITORS

AC-LINK CAPACITORS



## X2 METALLIZED POLYPROPYLENE FILM CAPACITOR

FKT-MX	310VAC	-40°C~+110°C	0.0047μF-10μF
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## BOX TYPE METALLIZED POLYESTER FILM CAPACITOR

FKT-MB	63V, 100V, 160V, 250V, 400V, 630V DC	-40°C~+85°C	0.0010μF-2.2μF
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## BOX TYPE METALLIZED POLYPROPYLENE FILM CAPACITOR

FKT-MF	250, 400, 630V DC	-40°C~+85°C	0.0047μF-3.9μF
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## HIGH VOLTAGE BOX TYPE METALLIZED POLYPROPYLENE FILM CAPACITOR

FKT-MH	1000V, 1400/1600V, 2000V DC	-40°C~+105°C	0.00022μF-0.22μF
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## METALLIZED POLYESTER FILM CAPACITOR

FKT-MC	100V, 250V, 400V, 630V DC	-40°C~+85°C	0.01μF-6.8μF
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## MYLAR POLYESTER FILM CAPACITOR

FKT-MP	100V, 250V, 400V, 630V, 1000V, 1200V DC	-40°C~+85°C	0.001μF-0.22μF
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## METALLIZED POLYPROPYLENE FILM CAPACITOR

FKT-ME	100V, 250V, 400V, 630V DC	-40°C~+85°C	0.01μF-8.2μF
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## HIGH VOLTAGE METALLIZED POLYPROPYLENE FILM CAPACITOR

FKT-MG	1000V, 1250V, 1500V, 1600V, 2000V DC	-40°C~+85°C	0.001μF-0.15μF
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## MINI SIZE METALLIZED POLYESTER FILM CAPACITOR

FKT-MD	50/63V, 100V, 250V, 400V, 630V DC	-40°C~+85°C	0.001μF-3.3μF
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**Kingtronics®**  
International Company

ISO 9001:2015  
Manufacturer Since 1990



## Kt® Aluminum Electrolytic Capacitors



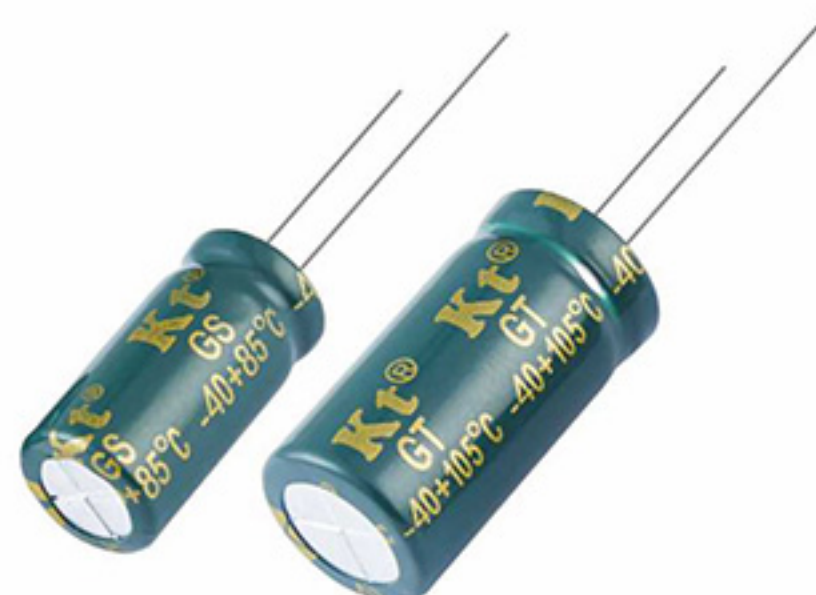
### Aluminum Electrolytic Capacitors - SMD Type

Kingtronics Series	Load Life	Temperatures	Characteristic
GKT-VA	2000H	85°C	Standard
GKT-VT	1000H~2000H	105°C	Standard
GKT-VC	2000H	105°C	Low Leakage Current
GKT-VE	2000H-3000H	105°C	Long Life
GKT-VK	2000H-3000H	105°C	Extra Lower Impedance
GKT-VL	3000H-5000H	105°C	Extra Long Life
GKT-VN	2000H	105°C	Bi-polar
GKT-VZ	1000H-2000H	105°C	Low Impedance
GKT-VU	3000H	105°C	Long Life
GKT-VD	5000H	105°C	Long Life
GKT-VW	10000H	105°C	Long Life
GKT-VH	1000H-2000H	125°C	Long Life
GKT-VF	2000H-5000H	105°C	Super Low Impedance
GKT-VR	2000H-3000H	105°C	Small Size
GKT-VX	2000H	105°C	Small Size
GKT-VY	2000H	105°C	Small Size
GKT-VJ	2000H	105°C	Small Size



### Polymer Aluminum Solid Electrolytic Capacitors

Kingtronics Series	Load Life	Temperatures	Characteristic
GKT-AS	2000H	105°C	Standard Low ESR
GKT-AR	2000H	105°C	Super Low ESR
GKT-AP	2000H	105°C	Low ESR
GKT-AU	2000H	125°C	High Ripple Current
GKT-AX	2000H	125°C	High Temperature



### Aluminum Electrolytic Capacitors - Radial Type

Kingtronics Series	Load Life	Temperatures	Characteristic
GKT-GS	2000H	85°C	Super Miniaturized
GKT-GT	2000H	105°C	High Temperature
GKT-GH	2000H	105°C	Low Impedance
GKT-GL	5000H	105°C	Long Life
GKT-GD	3000H~6000H	105°C	Miniaturized, long life
GKT-GE	5000H	130°C	Long life
GKT-GF	5000H	105°C	Miniaturized, high stability
GKT-GQ	4000H~10000H	105°C	Long life, Miniature
GKT-GR	3000H~6000H	105°C	Long life, High frequency
GKT-GU	3000H	105°C	Long life, Miniature
GKT-GZ	6000H-10000H	105°C	Extremely long life
GKT-GN	1000H	105°C	Non-Polarized
GKT-GW	2000H	105°C	Extra Lower Impedance



### Aluminum Electrolytic Capacitors - Axial Type

Kingtronics Series	Load Life	Temperatures	Characteristic
GKT-AL	2000H	85°C	Low Leakage Current
GKT-AV	2000H	85°C	Standard
GKT-AT	1000H	105°C	Standard
GKT-AA	1000H	105°C	Audio, DF at Max 4% BP
GKT-AM	1000H	105°C	Audio, DF at Max 5% BP
GKT-AN	1000H	105°C	Audio, DF at Max 10% BP
GKT-AQ	1000H	105°C	Audio, DF at Max 10% BP
GKT-AB	2000H	105°C	Non-Polarized
GKT-AC	2000H	105°C	Bi-Polarized
GKT-AD	1000H	105°C	Audio, Standard



### Aluminum Electrolytic Capacitors - Snap-in, Lug and Screw Type

Kingtronics Series	Load Life	Temperatures	Characteristic
GKT-SB	1000H	85°C	Snap-in, High Ripple Current
GKT-SS	2000H	85°C	Snap-in, High Ripple Current
GKT-ST	2000H	105°C	Snap-in, High Ripple Current
GKT-SC	5000H	85°C	Snap-in, High Ripple Current
GKT-SD	3000H	105°C	Snap-in, High Ripple Current
GKT-CA	2000H	85°C	Screw, High Ripple Current
GKT-CB	2000H	105°C	Screw, High Ripple Current
GKT-UA	1000H	85°C	Lug, Standard product



Kt® Super Capacitors ( Standard Coin-Type, Radial Type, Snap-in Type, Screw Type Terminals )

DKT-DA Series	
Kingtronics Series	DKT-DA
Rated Voltage V <sub>R</sub>	5.5V
Surge Voltage	5.8V
Capacity Range	0.1F~1.5F
Operating Temperature Range	-25°C~+70°C



Normal temperature cycle life : 25°C, 500,000 cycles between VR and 1/2VR , Capacity attenuation≤30% , ESR change≤4 times.

Product Life	High temperature endurance life : 70°C, maintain VR, 1000 hours. Capacity attenuation≤30% , ESR change≤4 times.
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DKT-DZ Series High power type		
Kingtronics Series	DKT-DZ 2R7	DKT-DZ 3R0
Rated Voltage V <sub>R</sub>	2.7V	3.0V
Surge Voltage	2.85V	3.15V
Capacity Range	0.1F~3000F	1F~500F
Operating Temperature	-40°C~+70°C	-40°C~+65°C

- Radial type, Snap-in type, Screw Type terminals
- High energy and high power
- Low ESR
- Pb-free and RoHS compliant



Normal temperature cycle life : 25°C, 1 million cycles between VR and 1/2VR , Capacity attenuation≤30%, ESR change≤4 times.

Product Life	High temperature endurance life : Maximum temperature retention VR , 1000 hours. Capacity attenuation≤30%, ESR change≤4 times.
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DKT-DM Series Low Internal Resistance Type			DKT-DY Series Combined Type	
Kingtronics Series	DKT-DM 5R5	DKT-DM 7R5	DKT-DY 5R0	DKT-DY 7R5
Rated Voltage V <sub>R</sub>	5.5V	7.5V	5.0V	7.5V
Surge Voltage	5.8V	7.9V	5.4V	7.9V
Capacity Range	0.1F~5F	0.1F~3.3F	0.1F~5F	0.1F~3.3F
Operating Temperature	-40~+70°C		-25~+70°C	

Normal temperature cycle life : 25°C, 1 million cycles between VR and 1/2VR , Capacity attenuation≤30%, ESR change≤4 times.

Product Life	High temperature endurance life : Maximum temperature retention VR , 1000 hours. Capacity attenuation≤30%, ESR change≤4 times.
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DKT-DX Radial Type Super Capacitor	
Operating Voltage Range	2.5V~3.8V
Surge Voltage	4.2V
Cut-off discharge voltage	2.5V
Cap. Tolerance	-20%~+20%
Operating Temp.	-20°C~65°C; -20°C~85°C (3.5V)
Self Discharge (3months)	3.0V

This product adopts the shape of a cylindrical capacitor. The interior is a wound structure, and the positive and negative electrodes are separated by a separator and impregnated with electrolyte components; the aluminum casing is sealed with a rubber stopper, the lead-out method is wire lead-out, and the lead-out pole is on the same side of the product

Cycle life Expectancy	Normal temperature cycle life: 250,000times.   $\Delta C/C$   ≤30%, ESR≤2 times the specified value
High temperature load	+65°C rated voltage, or +85°C 3.5V voltage, after 1000h,   $\Delta C/C$   ≤30%, ESR≤2 times the specified value
High temperature without load	+65°C, after 1000h,   $\Delta C/C$   ≤30%, ESR≤2 times the specified value
Temperature characteristics	+70°C   $\Delta C/C$   ≤30%, ESR≤ specified value; -20°C   $\Delta C/C$   ≤50%, ESR≤4 times the specified value
The steady state damp heat test	+40°C, 90--95%RH, 240h,   $\Delta C/C$   ≤30%, ESR≤2 times the specified value

Kt® SMD 3mm Chip Ceramic Trimmer Capacitors

Item	Part No	KKT303TR	KKT306TR	KKT310TR	KKT320TR	KKT330TR	Model
		3pF	6pF	10pF	20pF	30pF	
		Black	Blue	Ivory	Pink	Green	
Capacitance(pF Min)		1.5 MAX	2.0 MAX	3.0 MAX	5.5 MAX	8.0MAX	
Capacitance(pF Max)		3.0 <sup>+50</sup> -0%	6.0 <sup>+50</sup> -0%	10.0 <sup>+50</sup> -0%	20.0 <sup>+50</sup> -0%	28.5 <sup>+50</sup> -0%	
Capacitance Drift (Max)		±2%	±2%	±2%	±3%	±3%	
Temperature Coefficient (ppm/°C)		NPO±300	NPO±200	N600±400	N900±400	N1300±400	
Q Value (at 1 Mhz, C max)		300min	500 min	700 min	500 min	250 min	
DC Working Voltage		100 V DC					
DC Withstanding Voltage		220 V DC					
Insulation Resistance		10 <sup>4</sup> MΩMin					
Operating Temperature		-25°C to 85°C					
Rotation Torque		15 ~ 72 gf.cm					



Kt® MKT - Radial Multilayer Ceramic Capacitors

Size Code	Shape	Dimensions (mm)					Voltage	Capacitance(pF)		
		F	H	Lmax	Wmax	Tmax		NPO	X7R	Y5V
		(±0.5)	(±1)							
0805	a	2.54	5.0							
	b	2.54	10.0	4.2	3.8	3.8	25V	0R5~332	331~104	103~105
	C1	5.08	5.0/10.0				50V	0R5~222	331~104	
	C2	5.08	5.0	4.2	5.0	3.8	100V	0R5~102	331~104	103~684
1206	C3	5.08	5.0/10.0							
	a	2.54					25V	0R5~682	102~224	103~125
	b	3.50	10.0	5.0	4.5	3.8	50V	0R5~472	102~104	103~105
1210	C1	5.08					100V	0R5~392	102~105	
	b	3.50					25V	0R5~103	102~334	
	C1	5.08	10.0	7.6	5.5	3.8	50V	0R5~472	102~224	104~155
							100V	0R5~392	102~105	

TKT - Dipped Tantalum Capacitors

Capacitance Range	Cap. Change (%)			Dissipation Factor (%)				DC Leakage	
	-55°C	+85°C	+125°C	-55°C	+25°C	+85°C	+125°C	+85°C	+125°C
0.47~1.0				6	4	6	6		
1.5~6.8				8	6	8	8		
10~68				10	8	10	10		
100~330	±10	±10	±15	12	10	12	12	8 I <sub>0</sub> <sup>(1)</sup>	10 I <sub>0</sub>
470~680				14	12	14	14		
>680				16	14	16	16		

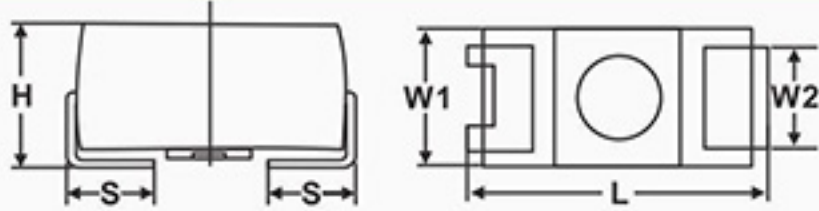


LKT - Chip Multilayer Ceramic Capacitors  
HKT - High Voltage Chip MLCC Capacitors

	LKT	HKT
Voltage	4, 6, 6.3, 10, 25, 50 V DC	100, 200, 250, 500, 630, 1000, 2000V DC
Capacitance	0.1pF ~ 100µF	0.2pF~4.7µF
Terminations	Tin / Nickel	Tin / Nickel
Tolerance	±0.1pF , +80 ~ -20%	A=±0.05pF, B=±0.1pF, C=±0.25pF, D=±0.5pF, J=±5% K=±10%, M=±20%
Packing	Tape and Reel (0201, 0402, 0603, 0805, 1206, 1210, 1812, 1808, 2220, 2225)	N=Bulk, T=Tape & Reel.
Dielectric & Values	NPO X7R X5R X7T X7S X6S Y5V consult product pages of catalog for cap ranges and voltage rating	NPO(COG), X7R, X5R, X7T, X7S, X6S, Y5V

CKT - Chip Tantalum Capacitors

Capacitance (µF)	Capacitance Change (%)			DF Max. (%)				DCL Max. (µA)	
	-55°C	+85°C	+125°C	-55°C	+25°C	+85°C	+125°C	+85°C	+125°C
≤1.0				6	4	6	6		
1.5 ~ 68	±10	±10	±12	10	6	10	10	+10 I <sub>0</sub>	+12 I <sub>0</sub>
100 ~ 470				14	12	14	14		



EKT - Low ESR Chip Tantalum Capacitors

Technical Data		All technical data relate to an ambient temperature of +25°C									
Capacitance Range		0.47µF ~ 1000µF									
Capacitance Tolerance		±10% : ±20%									
Rated Voltage (V <sub>R</sub> )	≤+85°C	4	6.3	10	16	20	25	35	50	63	
Category Voltage(V <sub>C</sub> )	≤+125°C	2.7	4	6.3	10	15	17	23	33	40	
Surge Voltage (V <sub>S</sub> )	≤+85°C	5.2	8	13	20	26	32	46	65	82	
Surge Voltage (V <sub>S</sub> )	≤+125°C	3.4	5	8	13	16	20	28	40	50	
Temperature Range		-55°C to +125°C									
Termination Finished		Sn Plating (standard), Gold and SnPb Plating upon request									