

# Kingtronics®

# CKT

## Chip Tantalum Capacitor - SMD

### SOLID ELECTROLYTE, HIGH VOLUMETRIC EFFICIENCY, STABLE ELECTRIC PERFORMANCES

#### FEATURES

- Molded case available in six case codes
- Compatible with all popular "High Volume" automatic pick and equipment
- Optical character recognition qualified

Capacitance ( $\mu$ F)	Capacitance Change (%)			DF Max. (%)				DCL Max. ( $\mu$ A)	
	-55°C	+85°C	+125°C	-55°C	+25°C	+85°C	+125°C	+85°C	+125°C
$\leq 1.0$				6	4	6	6		
1.5 ~ 68	$\pm 10$	$\pm 10$	$\pm 12$	10	6	10	10	+10 I <sub>o</sub>	+12 I <sub>o</sub>
100 ~ 470				14	12	14	14		



#### SPECIFICATIONS

OPERATING TEMPERATURE	-55°C to +125°C; (>85°C applying derated voltage)
RATED VOLTAGE	4 ~ 50VDC
CAPACITANCE TOLERANCE	K: ( $\pm 10\%$ ), M: ( $\pm 20\%$ ), J: ( $\pm 5\%$ , for special order) (20°C, 120HZ/100HZ)
LEAKAGE CURRENT	I <sub>o</sub> $\leq 0.01C_R V_R$ or 0.5 $\mu$ A (whichever is greater) Measured after 5 minutes application of rated voltage
LOAD LIFE	C <sub>R</sub> -( $\mu$ F) Nominal Capacitance; V <sub>R</sub> -(V) Rated Voltage 85°C, After applying rated voltage for 2000 hours at 85°C Capacitance change: within $\pm 10\%$ of the initial value Dissipation factor: Not more than 150% of the specified value Leakage current: Not more than the specified value
TEMPERATURE CHARACTERISTIC	

#### Case Size, Derated Voltage & Surge Voltage

V <sub>R</sub>	V <sub>c</sub> $\leq +85^\circ\text{C}$	4	6.3	10	16	20	25	35	50
Voltage Derating (V <sub>c</sub> ) $\leq +125^\circ\text{C}$		2.7	4	6.3	10	15	17	23	33
Surge Voltage +85°C (V <sub>s</sub> )		5.2	8	13	20	26	32	46	65
Surge Voltage +125°C (V <sub>s</sub> )		3.4	5	8	13	16	20	28	40

C <sub>R</sub> $\mu$ F	Case Size (standard / miniature / Super miniature)								
0.1						P		A	A
0.15						P		A	B/A
0.22						P		A	B
0.33						P		A	B
0.47					P	P	A	B/A	C
0.68				P	P	A/P	A	B/A	C
1.0			A/P	A/P	A/P	A	B/A	B/A	C
1.5	P		A/P	A/P	A/P	B/A	B	C/B	D/C
2.2	P		A/P	A/P	B/A	B/A	B	C/B	D
3.3	A/P		A/P	A/P	B/A	C/B/A	C/B	D/C/B	D
4.7	A/P		A/P	B/A/P	B/A	D/B/A	C/B	D/C	E/D
6.8	A/P		B/A/P	B/A	C/B/A	D/C/B	D/C	D/C	D
10	B/A		B/A	B/A	C/B/A	D/C/B	D/C	D/C	E
15	B/A		B/A	C/B	C/B	D/C	D/C	D/C	E
22	B/A		B/A	C/B	D/C	D/C	D	D	E
33	C/B		C/B	D/C	D/C	D	E/D	E	
47	C/B		C/B	D/C	D/C	E/D	E		
68	D/C/B		D/C	D	D	E/D			
100	D/C/B		D/C	D/C	D	E			
150	D/C		D	E	E				
220	D		E/D	E/D	E				
330	E		E/D	E					
470	E								

Marking code for case size p

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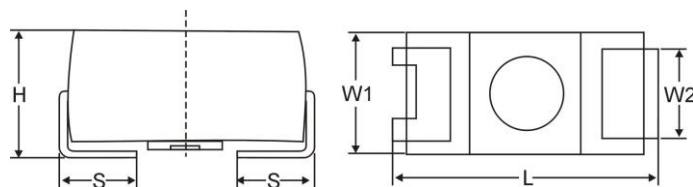
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### Diagram of Dimensions (unit: mm)

Case Size	L ±0.4	W1 ±0.4	H ±0.4	S ±0.3	W2	
P	2012	2.0	1.2	1.2	0.5	1.0±0.2
A	3216	3.2	1.6	1.6	0.8	1.2±0.2
B	3528	3.5	2.8	1.9	0.8	2.2±0.2
C	6032	6.0	3.2	2.5	1.3	2.2±0.2
D	7343	7.3	4.3	2.8	1.3	2.4±0.2
E	7343	7.3	4.3	4.3	1.3	2.4±0.5



### Load Voltage

Product model	Main materials of cathode	Load requirements after derating	Explain
CKT	MnO <sub>2</sub>	≤50%U <sub>R</sub>	General application
		≤30%U <sub>R</sub>	Power circuit or low impedance circuit

Note: UR is the rated voltage under the condition of temperature ≤ 85 °C, When the temperature is higher than 85 °C, temperature derating should be considered.

### Temperature Derating

Temperature range	Derating calculation formula	Explain	
85°C~125°C	$U_T = (U_R - U_C) * (T - 85) / 40$	U <sub>R</sub>	It is the rated voltage under the condition of temperature ≤ 85 °C
		U <sub>C</sub>	It is the rated voltage at 125 °C
		U <sub>T</sub>	It is the voltage to be reduced between 85 and 125 °C

### How To Order

<u>CKT</u>	<u>0R1</u>	<u>M</u>	<u>350</u>	<u>A</u>	<u>T</u>	<u>R</u>
Series	<u>1.</u>	<u>2.</u>	<u>3.</u>	<u>4.</u>	<u>5.</u>	<u>6.</u>

#### 1. Nominal Capacitance

Code	0R1	R22	010	2R2	220	221
Capacitance	0.1uF	0.22uF	1uF	2.2uF	22uF	220uF
Marking	104	224	105	225	226	227

#### 2. Capacitance Tolerance

Code	K	M	J
Tolerance	±10%	±20%	±5%

#### 3. Rated Voltage

Code	040	060	100	160	200	250	350	500
Voltage	4V	6.3V	10V	16V	20V	25V	35V	50V
Marking	G	J	A	C	D	E	V	T

#### 4. Case

Code	A	B	C	D
Case	A	B	C	D

#### 5. Packing

Code	T
Packing	Tape & Reel

#### 6. Pb

Code	L	R
Pb	Leaded	RoHS

Note: Specifications are subject to change without notice.

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