

# Kingtronics®

# PKT

## Solid Polymer Tantalum Capacitors

### ULTRA-LOW ESR, CONDUCTIVE POLYMER CHIP TANTALUM CAPACITORS, SOILD POLYMER TANTALUM CAPACITORS

#### FEATURES

- Epoxy molded encapsulation, Chip, Easy for integration, Polarized
- Extremely low ESR , Volumetrically efficient , Stable in electrical & storage performances, Long life-span, High reliability
- Typical applications include DC/DC converters , notebook PCs , portable electronics , telecommunications (mobile phone and base station ) , displays ,SSD,HDD and USB
- Operative Standard: QJ/PWV517-2013

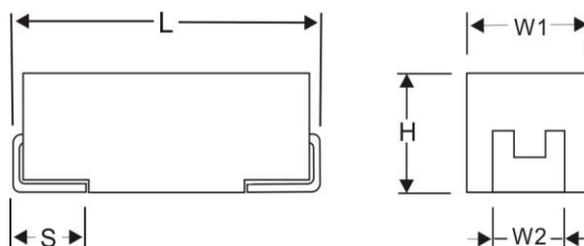


#### Technical Specifications

<b>Technical Data</b>	All technical data relate to an ambient temperature of +25°C
<b>Operating Temperature Range</b>	-55°C to +125°C
<b>Capacitance Range</b>	0.47µF ~ 1000µF at 100 Hz
<b>Capacitance Tolerance</b>	M tolerance (±20%)
<b>Leakage Current DCL</b>	0.1CV (µA)at rated voltage after 5 minutes
<b>Equivalent Series Resistance ESR</b>	Refer to Part Number Electrical Specifications Table
<b>Termination Finished</b>	Sn Plating (standard), Gold and SnPb Plating upon request
<b>Resistance to soldering heat</b>	3x260°C peak for max. 10s reflow

#### Diagram of Dimensions (unit: mm)

Case	L	W1	H	S	W2
A	3.3±0.2	1.7±0.2	1.8±0.2	0.7±0.2	1.2±0.2
B	3.6±0.2	2.9±0.2	2.1±0.2	0.7±0.2	2.2±0.2
C	6.2±0.2	3.3±0.2	2.6±0.2	1.3±0.2	2.2±0.2
H	7.4±0.2	4.4±0.2	2.0±0.2	1.3±0.2	2.4±0.2
D	7.4±0.2	4.4±0.2	3.0±0.2	1.3±0.2	2.4±0.2
E	7.4±0.4	4.4±0.4	4.3±0.4	1.3±0.2	2.4±0.2
V	7.5±0.4	6.2±0.4	3.8±0.4	1.4±0.2	3.0±0.2



#### Capacitance And Rated Voltage Range (Letter Denotes Case Size)

Rated Voltage(V)	2.5	4	6.3	10	16
Capacitance(µF)	Case Size & ESR				
1	A(250,400,650), B(120)				
1.5	B(120)				
2.2	B(150)				
3.3	A(150), B(150,200)				
4.7	A(100), B(150,250), C(80)				
6.8	A(150), B(150,180,200), C(100)				
10	A(120,200), A(250), B(150,200,300), C(90)				
15	A(100,150), B(150), A(180), B(150), A(120,180), B(150), C(100), B(150,180,200), C(80)				
22	A(200), B(180), C(100), A(150,250), B(150), C(80), A(150,300,650), B(120,180), C(100), B(150,250,300), C(80,100), D(40,60), E(60)				
33	A(150,200), B(180), C(100), A(120,180,250), B(90,130,200), C(60,100), B(150,200,250), C(80,100), B(100,200), C(80,100), H(25,40), D(40,60), E(50)				

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**Capacitance And Rated Voltage Range (Letter Denotes Case Size)**

Rated Voltage(V)	2.5	4	6.3	10	16
Capacitance(μF)	Case Size & ESR				
<b>47</b>	A(200)	A(150,250), B(180), C(100)	A(150,250), B(100,200), C(80)	B(80,100,130), C(80,100)	C(100), H(25,50), D(50,70,100), E(40,60)
<b>68</b>	A(150,250)	A(200), B(100,150,200), C(80)	A(200), B(100,150,250), C(80,100), D(60)	C(80,100), H(25,35,50), D(40,60,100)	H(25,50), D(60,80), E(40,60)
<b>100</b>	A(250), B(100,150,200)	A(120,180,250), B(50,100,180), C(80)	A(200), B(70,150,350), C(80,100,120), H(35), D(60)	B(70,150,300), C(50,80,100), H(25,50,80), D(25,45,90)	C(80,100), H(40), D(80,100), E(40,60)
<b>150</b>	B(180)	B(40,100,150), C(60,100,120), H(35,70), D(60)	B(100,180,250), C(80,100), H(35,70), D(30,60,100)	C(100), H(25,50), D(40,60,80), E(50)	H(80), D(50,80), E(40,60), V(40)
<b>220</b>	B(100,150,200), C(50,100), H(35,70), D(60)	B(120,250,300), C(60,100), H(35,70), D(60,100)	B(100,180,250), C(40,100), H(25,40,70), D(60,100), E(50)	C(30,60,100), H(25,50,70), D(70,100), E(50)	D(60,100), E(40,70,100), V(30,50)
<b>330</b>	B(150,200), C(50,100), H(35,70), D(60,100,200)	C(80,150), H(35,70), D(70,100), E(50)	H(30,50,80), D(25,30,60), E(50)	H(30,50,80), D(20,70), E(40,60), V(40)	E(40,50,60), V(30,50)
<b>470</b>	D(25,30,40,80)				
<b>680</b>	C(70,100), H(26,30,50), D(50,70,100)	H(25,30,80), D(80,120), E(50)	H(40,80), D(80,100), E(50,100), V(40)		
<b>1000</b>	D(50,100), E(50)	D(100), E(50,100), V(40)	E(50)		

Rated Voltage(V)	20	25	35	50	63
Capacitance(μF)	Case Size & ESR				
<b>0.68</b>		B(200)	B(200)	B(200,250)	
<b>1</b>	B(150)	B(150)	B(200)	B(200,250)	B(200), C(100,120), D(100)
<b>1.5</b>	B(150)	B(150), C(80)	A(300), B(200,250), C(100)	B(200,250), C(70,100)	C(100,120), D(100)
<b>2.2</b>	A(150), B(150,250)	A(250,350,650), B(150,250), C(80,100)	B(150,200), C(100)	B(200), C(70,100)	C(100), D(100)
<b>3.3</b>	A(150), B(150,250), C(100)	B(150,200), C(80,100)	B(150,200), C(100)	C(80), D(60)	C(100), D(100)
<b>4.7</b>	B(180,250), C(80,100)	B(120,160,200), C(80,100)	B(150,200), C(100)	C(100), D(60,200)	C(100), D(60,80,100), E(50)
<b>6.8</b>	B(180,250), C(80,100)	B(150,200,250), C(80,100)	C(80), D(80)	C(80), D(30,80,100), H(25,50)	D(100), E(30,60)
<b>10</b>	B(100,150,200), C(80,100)	B(150,180,200), C(80,100), D(80)	B(150), C(80), D(80), E(50), H(25,50)	D(60,80), E(30,60)	D(100), E(30,40,50)
<b>15</b>	B(200), C(80,100), D(80,120)	B(180,250), C(70), D(80), E(50), H(35)	C(70), D(60,80), E(50), H(25,50)	E(30,60), V(40)	E(30,40,50), V(40)
<b>22</b>	B(150,250,300), C(80,100), D(70,100), E(30,50), H(25,35,50)	B(220), C(70,100), D(80,100,120), E(50), H(25,50)	C(80,150), D(30,70,150), E(50)	E(30,60), V(40)	
<b>33</b>	C(70), D(60,100), E(30,50), H(35)	D(60,100,150), E(50), H(25,50)	D(60,80), E(30,50,60), V(40)	E(50), V(40)	
<b>47</b>	C(100), D(60,100), E(30,50), H(25,35,50)	D(60,80,100), E(30,60), H(30,80,150)	D(80,150), E(30,60,100), V(40)		
<b>68</b>	D(50,80), E(30,50)	H(50,70), D(80,120), E(30,60), V(40)	E(80,100), V(70)		
<b>100</b>	H(80,150), D(100), E(30,60), V(40)	D(100), E(60,80,100), V(40)	E(80,100), V(70)		
<b>150</b>	E(50), V(40)	V(40)			
<b>220</b>	E(50), V(40)				

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Rated Voltage (V)	Rated CAP (µF)	Case Code	Category Temp (°C)	MSL	Max DCL(µA) @25°C	Max DF(%) @25°C 100Hz	Max ESR (mΩ) @25°C 100KHz	100kHz RMS Current (mA)		
								45°C	85°C	125°C
2.5	47	A	125	3	12	8	200	592	532	237
2.5	68	A	125	3	17	6	150	683	615	273
2.5	68	A	125	3	17	8	250	529	476	212
2.5	100	A	125	3	25	6	250	529	476	212
2.5	100	B	125	3	25	8	100	894	805	358
2.5	100	B	125	3	25	8	150	730	657	292
2.5	100	B	125	3	25	8	200	632	569	253
2.5	150	B	125	3	38	6	180	667	600	267
2.5	220	B	125	3	55	8	100	894	805	358
2.5	220	B	125	3	55	8	150	730	657	292
2.5	220	B	125	3	55	8	200	632	569	253
2.5	220	C	125	3	55	8	50	1342	1207	537
2.5	220	C	125	3	55	8	100	949	854	379
2.5	220	D	125	3	55	10	60	1384	1246	554
2.5	220	H	125	3	55	10	35	1732	1559	693
2.5	220	H	125	3	55	10	70	1225	1102	490
2.5	330	B	125	3	83	8	150	730	657	292
2.5	330	B	125	3	83	8	200	632	569	253
2.5	330	C	125	3	83	8	50	1342	1207	537
2.5	330	C	125	3	83	8	100	949	854	379
2.5	330	D	125	3	83	8	60	1384	1246	554
2.5	330	D	125	3	83	8	100	1072	965	429
2.5	330	D	125	3	83	8	200	758	682	303
2.5	330	H	125	3	83	10	35	1732	1559	693
2.5	330	H	125	3	83	10	70	1225	1102	490
2.5	360	D	125	3	90	6	25	2145	1930	858
2.5	360	D	125	3	90	6	30	1958	1762	783
2.5	360	D	125	3	90	6	40	1696	1526	678
2.5	360	D	125	3	90	6	80	1199	1079	480
2.5	470	C	125	3	118	8	70	1134	1021	454
2.5	470	C	125	3	118	8	100	949	854	379
2.5	470	D	125	3	118	6	50	1517	1365	607
2.5	470	D	125	3	118	10	70	1282	1154	513
2.5	470	D	125	3	118	10	100	1072	965	429
2.5	470	H	125	3	60	10	26	2010	1809	804
2.5	470	H	125	3	118	10	30	1871	1684	748
2.5	470	H	125	3	118	10	50	1449	1304	580
2.5	680	D	125	3	170	10	50	1517	1365	607
2.5	680	D	125	3	170	10	100	1072	965	429
2.5	680	E	125	3	170	10	50	1581	1423	632
2.5	1000	D	125	3	250	10	100	1072	965	429
2.5	1000	E	125	3	250	10	50	1581	1423	632
2.5	1000	V	125	3	250	10	40	1936	1743	775
4	15	A	125	3	6.0	6	100	837	753	335
4	15	A	125	3	6.0	10	150	683	615	273
4	15	B	125	3	6.0	10	150	730	657	292
4	22	A	125	3	8.8	6	200	592	532	237
4	22	B	125	3	8.8	10	180	667	600	267
4	22	C	125	3	8.8	10	100	949	854	379
4	33	A	125	3	13	6	150	683	615	273
4	33	A	125	3	13	8	200	592	532	237
4	33	B	125	3	13	10	180	667	600	267
4	33	C	125	3	13	10	100	949	854	379
4	47	A	125	3	19	6	150	683	615	273
4	47	A	125	3	19	8	250	529	476	212

1. Please do not use multimeter through the measuring procedures.
2. Capacitance and DF measured at :100Hz  $U_{-}=2.2^{0.1}V$ ,  $U_{+}=1.0^{0.5}V$ , Frequency=100Hz. Test only applied in series equivalent circuit.
3. Voltage derating is applied at +85°C The DCL parameter should be read after 5 minutes when it connected to the circuit
4. Special size and demand could consult with us.

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Rated Voltage (V)	Rated CAP (µF)	Case Code	Category Temp (°C)	MSL	Max DCL (µA) @25°C	Max DF(%) @25°C 100Hz	Max ESR (mΩ) @25°C 100KHz	100kHz RMS Current (mA)		
								45°C	85°C	125°C
4	47	B	125	3	19	10	180	667	600	267
4	47	C	125	3	19	10	100	949	854	379
4	68	A	125	3	27	6	200	592	532	237
4	68	B	125	3	27	8	100	894	805	358
4	68	B	125	3	27	8	150	730	657	292
4	68	B	125	3	27	8	200	632	569	253
4	68	C	125	3	27	10	80	1061	955	424
4	100	A	125	3	40	8	120	764	687	306
4	100	A	125	3	40	8	180	624	561	249
4	100	A	125	3	40	10	250	529	476	212
4	100	B	125	3	40	8	50	1265	1138	506
4	100	B	125	3	40	8	100	894	805	358
4	100	B	125	3	40	8	180	667	600	267
4	100	C	125	3	40	10	80	1061	955	424
4	150	B	125	3	60	8	40	1414	1273	566
4	150	B	125	3	60	8	100	894	805	358
4	150	B	125	3	60	8	150	730	657	292
4	150	C	125	3	60	8	60	1225	1102	490
4	150	C	125	3	60	8	100	949	854	379
4	150	C	125	3	60	8	120	866	779	346
4	150	D	125	3	60	10	60	1384	1246	554
4	150	H	125	3	60	6	35	1732	1559	693
4	150	H	125	3	60	10	70	1225	1102	490
4	220	B	125	3	100	10	120	816	735	327
4	220	B	125	3	100	10	250	566	509	226
4	220	B	125	3	100	10	300	516	465	207
4	220	C	125	3	88	8	60	1225	1102	490
4	220	C	125	3	88	8	100	949	854	379
4	220	D	125	3	88	10	60	1384	1246	554
4	220	D	125	3	88	10	100	1072	965	429
4	220	H	125	3	88	10	35	1732	1559	693
4	220	H	125	3	88	10	70	1225	1102	490
4	330	C	125	3	132	8	80	1061	955	424
4	330	C	125	3	132	8	150	775	697	310
4	330	D	125	3	132	10	70	1282	1154	513
4	330	D	125	3	132	10	100	1072	965	429
4	330	E	125	3	132	10	50	1581	1423	632
4	330	H	125	3	132	6	35	1732	1559	693
4	330	H	125	3	132	10	70	1225	1102	490
4	470	D	125	3	188	10	80	1199	1079	480
4	470	D	125	3	188	10	120	979	881	392
4	470	E	125	3	188	10	50	1581	1423	632
4	470	H	125	3	188	10	25	2049	1844	820
4	470	H	125	3	188	10	30	1871	1684	748
4	470	H	125	3	188	10	80	1146	1031	458
4	680	D	125	3	272	10	100	1072	965	429
4	680	E	125	3	272	10	50	1581	1423	632
4	680	E	125	3	272	10	100	1118	1006	447
4	680	V	125	3	272	10	40	1936	1743	775
6.3	10	A	125	3	6.3	6	100	837	753	335
6.3	10	A	125	3	6.3	10	150	683	615	273
6.3	10	A	125	3	6.3	10	200	592	532	237
6.3	15	A	125	3	9.5	6	180	624	561	249
6.3	15	B	125	3	9.5	10	150	730	657	292
6.3	22	A	125	3	14	6	150	683	615	273

1. Please do not use multimeter through the measuring procedures.
2. Capacitance and DF measured at :100Hz  $U_{\text{max}}=2.2U_{\text{N}}$ ,  $U_{\text{min}}=1.0U_{\text{N}}$ , Frequency=100Hz. Test only applied in series equivalent circuit.
3. Voltage derating is applied at +85°C The DCL parameter should be read after 5 minutes when it connected to the circuit
4. Special size and demand could consult with us.

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Rated Voltage (V)	Rated CAP (µF)	Case Code	Category Temp (°C)	MSL	Max DCL (µA) @25°C	Max DF(%) @25°C 100Hz	Max ESR (mΩ) @25°C 100KHz	100kHz RMS Current (mA)		
								45°C	85°C	125°C
6.3	22	A	125	3	14	8	250	529	476	212
6.3	22	B	125	3	14	10	150	730	657	292
6.3	22	C	125	3	14	10	80	1061	955	424
6.3	33	A	125	3	21	6	120	764	687	306
6.3	33	A	125	3	21	8	180	624	561	249
6.3	33	A	125	3	21	8	250	529	476	212
6.3	33	B	125	3	21	6	90	943	849	377
6.3	33	B	125	3	21	8	130	784	706	314
6.3	33	B	125	3	21	10	200	632	569	253
6.3	33	C	125	3	21	8	60	1225	1102	490
6.3	33	C	125	3	21	10	100	949	854	379
6.3	47	A	125	3	30	6	150	683	615	273
6.3	47	A	125	3	30	8	250	529	476	212
6.3	47	B	125	3	30	8	100	894	805	358
6.3	47	B	125	3	30	10	200	632	569	253
6.3	47	C	125	3	30	10	80	1061	955	424
6.3	68	A	125	3	43	8	200	592	532	237
6.3	68	B	125	3	43	8	100	894	805	358
6.3	68	B	125	3	43	8	150	730	657	292
6.3	68	B	125	3	43	8	250	566	509	226
6.3	68	C	125	3	43	8	80	1061	955	424
6.3	68	C	125	3	43	10	100	949	854	379
6.3	68	D	125	3	43	10	60	1384	1246	554
6.3	100	A	125	3	63	8	200	592	532	237
6.3	100	B	125	3	100	10	70	1069	962	428
6.3	100	B	125	3	100	10	150	730	657	292
6.3	100	B	125	3	100	10	350	478	430	191
6.3	100	C	125	3	63	8	80	1061	955	424
6.3	100	C	125	3	63	8	100	949	854	379
6.3	100	C	125	3	63	10	120	866	779	346
6.3	100	D	125	3	63	10	60	1384	1246	554
6.3	100	H	125	3	63	10	35	1732	1559	693
6.3	150	B	125	3	95	8	100	894	805	358
6.3	150	B	125	3	95	8	180	667	600	267
6.3	150	B	125	3	95	8	250	566	509	226
6.3	150	C	125	3	95	8	80	1061	955	424
6.3	150	C	125	3	95	8	100	949	854	379
6.3	150	D	125	3	95	10	30	1958	1762	783
6.3	150	D	125	3	95	10	60	1384	1246	554
6.3	150	D	125	3	95	10	100	1072	965	429
6.3	150	H	125	3	95	10	35	1732	1559	693
6.3	150	H	125	3	95	10	70	1225	1102	490
6.3	220	B	125	3	139	8	100	894	805	358
6.3	220	B	125	3	139	8	180	667	600	267
6.3	220	B	125	3	139	10	250	566	509	226
6.3	220	C	125	3	139	8	40	1500	1350	600
6.3	220	C	125	3	139	8	100	949	854	379
6.3	220	D	125	3	139	10	60	1384	1246	554
6.3	220	D	125	3	139	10	100	1072	965	429
6.3	220	E	125	3	139	10	50	1581	1423	632
6.3	220	H	125	3	139	6	25	2049	1844	820
6.3	220	H	125	3	139	10	40	1620	1458	648
6.3	220	H	125	3	139	10	70	1225	1102	490
6.3	330	C	125	3	208	10	50	1342	1207	537
6.3	330	C	125	3	208	10	100	949	854	379

1. Please do not use multimeter through the measuring procedures.
2. Capacitance and DF measured at :100Hz  $U_{\sim}=2.2^{0.1}V$ ,  $U_{\sim}=1.0^{0.5}V$ , Frequency=100Hz. Test only applied in series equivalent circuit.
3. Voltage derating is applied at +85°C The DCL parameter should be read after 5 minutes when it connected to the circuit
4. Special size and demand could consult with us.

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Solid Polymer Tantalum Capacitors

Rated Voltage (V)	Rated CAP (µF)	Case Code	Category Temp (°C)	MSL	Max DCL(µA) @25°C	Max DF(%) @25°C 100Hz	Max ESR (mΩ) @25°C 100KHz	100kHz RMS Current (mA)		
								45°C	85°C	125°C
6.3	330	D	125	3	208	10	25	2145	1930	858
6.3	330	D	125	3	208	10	30	1958	1762	783
6.3	330	D	125	3	208	10	60	1384	1246	554
6.3	330	E	125	3	208	10	50	1581	1423	632
6.3	330	H	125	3	208	10	30	1871	1684	748
6.3	330	H	125	3	208	10	50	1449	1304	580
6.3	330	H	125	3	208	10	80	1146	1031	458
6.3	470	D	125	3	296	10	80	1199	1079	480
6.3	470	D	125	3	296	10	100	1072	965	429
6.3	470	E	125	3	296	10	50	1581	1423	632
6.3	470	E	125	3	296	10	100	1118	1006	447
6.3	470	H	125	3	296	10	40	1620	1458	648
6.3	470	H	125	3	296	10	80	1146	1031	458
6.3	470	V	125	3	296	10	40	1936	1743	775
6.3	680	E	125	3	428	10	50	1581	1423	632
10	4.7	A	125	3	4.7	10	100	837	753	335
10	6.8	A	125	3	6.8	10	120	764	687	306
10	6.8	A	125	3	6.8	10	200	592	532	237
10	10	A	125	3	10	8	70	1000	900	400
10	10	A	125	3	10	8	150	683	615	273
10	10	A	125	3	10	10	300	483	435	193
10	10	B	125	3	10	10	120	816	735	327
10	10	B	125	3	10	10	200	632	569	253
10	10	B	125	3	10	10	350	478	430	191
10	15	A	125	3	15	6	120	764	687	306
10	15	A	125	3	15	8	180	624	561	249
10	15	B	125	3	15	10	150	730	657	292
10	15	C	125	3	15	10	100	949	854	379
10	22	A	125	3	22	8	150	683	615	273
10	22	A	125	3	22	8	300	483	435	193
10	22	A	125	3	22	8	650	328	295	131
10	22	B	125	3	22	6	120	816	735	327
10	22	B	125	3	22	10	180	667	600	267
10	22	C	125	3	22	10	100	949	854	379
10	33	B	125	3	33	6	150	730	657	292
10	33	B	125	3	33	8	200	632	569	253
10	33	B	125	3	33	10	250	566	509	226
10	33	C	125	3	33	6	80	1061	955	424
10	33	C	125	3	33	10	100	949	854	379
10	47	B	125	3	47	8	80	1000	900	400
10	47	B	125	3	47	8	100	894	805	358
10	47	B	125	3	47	10	130	784	706	314
10	47	C	125	3	47	8	80	1061	955	424
10	47	C	125	3	47	10	100	949	854	379
10	68	C	125	3	68	6	80	1061	955	424
10	68	C	125	3	68	8	100	949	854	379
10	68	D	125	3	68	10	40	1696	1526	678
10	68	D	125	3	68	10	60	1384	1246	554
10	68	D	125	3	68	10	100	1072	965	429
10	68	H	125	3	68	10	25	2049	1844	820
10	68	H	125	3	68	10	35	1732	1559	693
10	68	H	125	3	68	10	50	1449	1304	580
10	100	B	125	3	100	10	70	1069	962	428
10	100	B	125	3	100	10	150	730	657	292
10	100	B	125	3	100	10	300	516	465	207

1. Please do not use multimeter through the measuring procedures.
2. Capacitance and DF measured at :100Hz  $U_{-} = 2.2^{0.1} V$ ,  $U_{+} = 1.0^{0.05} V$ , Frequency=100Hz. Test only applied in series equivalent circuit.
3. Voltage derating is applied at +85°C. The DCL parameter should be read after 5 minutes when it connected to the circuit
4. Special size and demand could consult with us.

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# PKT

## Solid Polymer Tantalum Capacitors

Rated Voltage (V)	Rated CAP (µF)	Case Code	Category Temp (°C)	MSL	Max DCL (µA) @25°C	Max DF(%) @25°C 100Hz	Max ESR (mΩ) @25°C 100KHz	100kHz RMS Current (mA)		
								45°C	85°C	125°C
10	100	C	125	3	100	8	50	1342	1207	537
10	100	C	125	3	100	8	80	1061	955	424
10	100	C	125	3	100	10	100	949	854	379
10	100	D	125	3	100	6	25	2145	1930	858
10	100	D	125	3	100	10	45	1599	1439	639
10	100	D	125	3	100	10	90	1130	1017	452
10	100	H	125	3	100	10	25	2049	1844	820
10	100	H	125	3	100	10	50	1449	1304	580
10	100	H	125	3	100	10	80	1146	1031	458
10	150	C	125	3	150	8	100	949	854	379
10	150	D	125	3	150	10	40	1696	1526	678
10	150	D	125	3	150	10	60	1384	1246	554
10	150	D	125	3	150	10	80	1199	1079	480
10	150	E	125	3	150	10	50	1581	1423	632
10	150	H	125	3	150	6	25	2049	1844	820
10	150	H	125	3	150	10	50	1449	1304	580
10	220	C	125	3	220	10	30	1732	1559	693
10	220	C	125	3	220	10	60	1225	1102	490
10	220	C	125	3	220	10	100	949	854	379
10	220	D	125	3	220	10	70	1282	1154	513
10	220	D	125	3	220	10	100	1072	965	429
10	220	E	125	3	220	10	50	1581	1423	632
10	220	H	125	3	220	6	25	2049	1844	820
10	220	H	125	3	220	10	50	1449	1304	580
10	220	H	125	3	220	10	70	1225	1102	490
10	330	H	125	3	330	10	30	1871	1684	748
10	330	H	125	3	330	10	50	1449	1304	580
10	330	H	125	3	330	10	80	1146	1031	458
10	330	D	125	3	330	8	20	2398	2158	959
10	330	D	125	3	330	8	70	1282	1154	513
10	330	E	125	3	330	10	40	1768	1591	707
10	330	E	125	3	330	10	60	1443	1299	577
10	330	V	125	3	330	10	40	1936	1743	775
16	1	A	125	3	5.0	10	250	529	476	212
16	1	A	125	3	5.0	10	400	418	376	167
16	1	A	125	3	5.0	10	650	328	295	131
16	1	B	125	3	5.0	10	120	816	735	327
16	1.5	B	125	3	5.0	10	150	730	657	292
16	2.2	B	125	3	5.0	10	150	730	657	292
16	3.3	A	125	3	5.3	10	150	683	615	273
16	3.3	B	125	3	5.3	10	150	730	657	292
16	3.3	B	125	3	5.3	10	200	632	569	253
16	4.7	A	125	3	7.5	10	150	683	615	273
16	4.7	A	125	3	7.5	10	250	529	476	212
16	4.7	B	125	3	7.5	10	150	730	657	292
16	4.7	B	125	3	7.5	10	180	667	600	267
16	4.7	B	125	3	7.5	10	200	632	569	253
16	4.7	C	125	3	7.5	10	80	1061	955	424
16	6.8	A	125	3	10.9	6	150	683	615	273
16	6.8	B	125	3	10.9	10	150	730	657	292
16	6.8	B	125	3	10.9	10	180	667	600	267
16	6.8	B	125	3	10.9	10	200	632	569	253
16	6.8	C	125	3	10.9	10	100	949	854	379
16	10	A	125	3	16	6	250	529	476	212
16	10	B	125	3	16	6	150	730	657	292

1. Please do not use multimeter through the measuring procedures.
2. Capacitance and DF measured at :100Hz  $U_{\text{max}}=2.2^{0.1}V$ ,  $U_{\text{min}}=1.0^{0.05}V$ , Frequency=100Hz. Test only applied in series equivalent circuit.
3. Voltage derating is applied at +85°C The DCL parameter should be read after 5 minutes when it connected to the circuit
4. Special size and demand could consult with us.

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Solid Polymer Tantalum Capacitors

Rated Voltage (V)	Rated CAP (µF)	Case Code	Category Temp (°C)	MSL	Max DCL(µA) @25°C	Max DF(%) @25°C 100Hz	Max ESR (mΩ) @25°C 100KHz	100kHz RMS Current (mA)		
								45°C	85°C	125°C
16	10	B	125	3	16	10	200	632	569	253
16	10	B	125	3	16	10	300	516	465	207
16	10	C	125	3	16	10	90	1000	900	400
16	15	B	125	3	24	6	150	730	657	292
16	15	B	125	3	24	10	180	667	600	267
16	15	B	125	3	24	10	200	632	569	253
16	15	C	125	3	24	10	80	1061	955	424
16	15	C	125	3	24	10	100	949	854	379
16	15	D	125	3	24	10	60	1384	1246	554
16	22	B	125	3	35	6	150	730	657	292
16	22	B	125	3	35	6	250	566	509	226
16	22	B	125	3	35	6	300	516	465	207
16	22	C	125	3	35	10	80	1061	955	424
16	22	C	125	3	35	10	100	949	854	379
16	22	D	125	3	35	10	40	1696	1526	678
16	22	D	125	3	35	10	60	1384	1246	554
16	22	E	125	3	35	10	50	1581	1423	632
16	33	B	125	3	53	8	100	894	805	358
16	33	B	125	3	53	10	200	632	569	253
16	33	C	125	3	53	10	80	1061	955	424
16	33	C	125	3	53	10	100	949	854	379
16	33	D	125	3	53	10	40	1696	1526	678
16	33	D	125	3	53	10	60	1384	1246	554
16	33	E	125	3	53	10	50	1581	1423	632
16	33	H	125	3	53	10	25	2049	1844	820
16	33	H	125	3	53	10	40	1620	1458	648
16	47	C	125	3	75	10	100	949	854	379
16	47	D	125	3	75	10	50	1517	1365	607
16	47	D	125	3	75	10	70	1282	1154	513
16	47	D	125	3	75	10	100	1072	965	429
16	47	E	125	3	75	10	40	1768	1591	707
16	47	E	125	3	75	10	60	1443	1299	577
16	47	H	125	3	75	10	25	2049	1844	820
16	47	H	125	3	75	10	50	1449	1304	580
16	68	D	125	3	109	10	60	1384	1246	554
16	68	D	125	3	109	10	80	1199	1079	480
16	68	E	125	3	109	10	40	1768	1591	707
16	68	E	125	3	109	10	60	1443	1299	577
16	68	H	125	3	109	10	25	2049	1844	820
16	68	H	125	3	109	10	50	1449	1304	580
16	100	C	125	3	160	10	80	1061	955	424
16	100	C	125	3	160	10	100	949	854	379
16	100	D	125	3	160	10	80	1199	1079	480
16	100	D	125	3	160	10	100	1072	965	429
16	100	E	125	3	160	10	40	1768	1591	707
16	100	E	125	3	160	10	60	1443	1299	577
16	100	H	125	3	160	10	40	1620	1458	648
16	150	H	125	3	240	10	80	1146	1031	458
16	150	D	125	3	240	10	50	1517	1365	607
16	150	D	125	3	240	10	80	1199	1079	480
16	150	E	125	3	240	10	40	1768	1591	707
16	150	E	125	3	240	10	60	1443	1299	577
16	150	V	125	3	240	10	40	1936	1743	775
16	220	D	125	3	352	10	60	1384	1246	554
16	220	D	125	3	352	10	100	1072	965	429

1. Please do not use multimeter through the measuring procedures.
2. Capacitance and DF measured at :100Hz  $U_{-} = 2.2^{0}_{-1} V$ ,  $U_{+} = 1.0^{0}_{-0.5} V$ , Frequency=100Hz. Test only applied in series equivalent circuit.
3. Voltage derating is applied at +85°C. The DCL parameter should be read after 5 minutes when it connected to the circuit
4. Special size and demand could consult with us.

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Solid Polymer Tantalum Capacitors

Rated Voltage (V)	Rated CAP (µF)	Case Code	Category Temp (°C)	MSL	Max DCL(µA) @25°C	Max DF(%) @25°C 100Hz	Max ESR (mΩ) @25°C 100KHz	100kHz RMS Current (mA)		
								45°C	85°C	125°C
16	220	E	125	3	352	10	40	1768	1591	707
16	220	E	125	3	352	10	70	1336	1203	535
16	220	E	125	3	352	10	100	1118	1006	447
16	220	V	125	3	352	10	30	2236	2012	894
16	220	V	125	3	352	10	50	1732	1559	693
16	330	E	125	3	528	10	40	1768	1591	707
16	330	E	125	3	528	10	50	1581	1423	632
16	330	E	125	3	528	10	60	1443	1299	577
16	330	V	125	3	528	10	30	2236	2012	894
16	330	V	125	3	528	10	50	1732	1559	693
20	1	B	125	3	5.0	10	150	730	657	292
20	1.5	B	125	3	5.0	10	150	730	657	292
20	2.2	A	125	3	5.0	10	150	683	615	273
20	2.2	B	125	3	5.0	10	150	730	657	292
20	2.2	B	125	3	5.0	10	250	566	509	226
20	3.3	A	125	3	5.0	10	150	683	615	273
20	3.3	B	125	3	5.0	10	150	730	657	292
20	3.3	B	125	3	5.0	10	250	566	509	226
20	3.3	C	125	3	5.0	10	100	949	854	379
20	4.7	B	125	3	5.0	10	180	667	600	267
20	4.7	B	125	3	5.0	10	250	566	509	226
20	4.7	C	125	3	5.0	10	80	1061	955	424
20	4.7	C	125	3	5.0	10	100	949	854	379
20	6.8	B	125	3	5.4	10	180	667	600	267
20	6.8	B	125	3	5.4	10	250	566	509	226
20	6.8	C	125	3	5.4	10	80	1061	955	424
20	6.8	C	125	3	5.4	10	100	949	854	379
20	10	B	125	3	8.0	8	100	894	805	358
20	10	B	125	3	8.0	10	150	730	657	292
20	10	B	125	3	8.0	10	200	632	569	253
20	10	C	125	3	8.0	10	80	1061	955	424
20	10	C	125	3	8.0	10	100	949	854	379
20	15	B	125	3	12	10	200	632	569	253
20	15	C	125	3	12	10	80	1061	955	424
20	15	C	125	3	12	10	100	949	854	379
20	15	D	125	3	12	10	80	1199	1079	480
20	15	D	125	3	12	10	120	979	881	392
20	22	B	125	3	18	10	150	730	657	292
20	22	B	125	3	18	10	250	566	509	226
20	22	B	125	3	18	10	300	516	465	207
20	22	C	125	3	18	10	80	1061	955	424
20	22	C	125	3	18	10	100	949	854	379
20	22	D	125	3	18	10	70	1282	1154	513
20	22	D	125	3	18	10	100	1072	965	429
20	22	E	125	3	18	10	30	2041	1837	816
20	22	E	125	3	18	10	50	1581	1423	632
20	22	H	125	3	18	6	25	2049	1844	820
20	22	H	125	3	18	10	35	1732	1559	693
20	22	H	125	3	18	10	50	1449	1304	580
20	33	C	125	3	26	10	70	1134	1021	454
20	33	D	125	3	26	10	60	1384	1246	554
20	33	D	125	3	26	10	100	1072	965	429
20	33	E	125	3	26	10	30	2041	1837	816
20	33	E	125	3	26	10	50	1581	1423	632
20	33	H	125	3	26	6	35	1732	1559	693

1. Please do not use multimeter through the measuring procedures.
2. Capacitance and DF measured at :100Hz  $U_{\sim}=2.2^{0.1}V$ ,  $U_{\sim}=1.0^{0.5}V$ , Frequency=100Hz. Test only applied in series equivalent circuit.
3. Voltage derating is applied at +85°C The DCL parameter should be read after 5 minutes when it connected to the circuit
4. Special size and demand could consult with us.

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Solid Polymer Tantalum Capacitors

Rated Voltage (V)	Rated CAP (μF)	Case Code	Category Temp (°C)	MSL	Max DCL(μA) @25°C	Max DF(%) @25°C 100Hz	Max ESR (mΩ) @25°C 100KHz	100kHz RMS Current (mA)		
								45°C	85°C	125°C
20	47	C	125	3	38	10	100	949	854	379
20	47	D	125	3	38	10	60	1384	1246	554
20	47	D	125	3	38	10	100	1072	965	429
20	47	E	125	3	38	10	30	2041	1837	816
20	47	E	125	3	38	10	50	1581	1423	632
20	47	H	125	3	38	6	25	2049	1844	820
20	47	H	125	3	38	10	35	1732	1559	693
20	47	H	125	3	38	10	50	1449	1304	580
20	68	D	125	3	54	6	50	1517	1365	607
20	68	D	125	3	54	10	80	1199	1079	480
20	68	E	125	3	54	6	30	2041	1837	816
20	68	E	125	3	54	10	50	1581	1423	632
20	100	H	125	3	80	10	80	1146	1031	458
20	100	H	125	3	80	10	150	837	753	335
20	100	D	125	3	80	10	100	1072	965	429
20	100	E	125	3	80	6	30	2041	1837	816
20	100	E	125	3	80	10	60	1443	1299	577
20	100	V	125	3	80	10	40	1936	1743	775
20	150	E	125	3	120	10	50	1581	1423	632
20	150	V	125	3	120	10	40	1936	1743	775
20	220	E	125	3	176	10	50	1581	1423	632
20	220	V	125	3	176	10	40	1936	1743	775
25	0.68	B	125	3	5.0	10	200	632	569	253
25	1	B	125	3	5.0	10	150	730	657	292
25	1.5	B	125	3	5.0	10	150	730	657	292
25	1.5	C	125	3	5.0	10	80	1061	955	424
25	2.2	A	125	3	5.0	10	250	529	476	212
25	2.2	A	125	3	5.0	10	350	447	402	179
25	2.2	A	125	3	5.0	10	650	328	295	131
25	2.2	B	125	3	5.0	10	150	730	657	292
25	2.2	B	125	3	5.0	10	250	566	509	226
25	2.2	C	125	3	5.0	10	80	1061	955	424
25	2.2	C	125	3	5.0	10	100	949	854	379
25	3.3	B	125	3	5.0	10	150	730	657	292
25	3.3	B	125	3	5.0	10	200	632	569	253
25	3.3	C	125	3	5.0	10	80	1061	955	424
25	3.3	C	125	3	5.0	10	100	949	854	379
25	4.7	B	125	3	5.0	6	120	816	735	327
25	4.7	B	125	3	5.0	10	160	707	636	283
25	4.7	B	125	3	5.0	10	200	632	569	253
25	4.7	C	125	3	5.0	10	80	1061	955	424
25	4.7	C	125	3	5.0	10	100	949	854	379
25	6.8	B	125	3	6.8	6	150	730	657	292
25	6.8	B	125	3	6.8	8	200	632	569	253
25	6.8	B	125	3	6.8	10	250	566	509	226
25	6.8	C	125	3	6.8	10	80	1061	955	424
25	6.8	C	125	3	6.8	10	100	949	854	379
25	10	B	125	3	10	6	150	730	657	292
25	10	B	125	3	10	8	180	667	600	267
25	10	B	125	3	10	10	200	632	569	253
25	10	C	125	3	10	10	80	1061	955	424
25	10	C	125	3	10	10	100	949	854	379
25	10	D	125	3	10	10	80	1199	1079	480
25	15	B	125	3	15	6	180	667	600	267
25	15	B	125	3	15	8	250	566	509	226

1. Please do not use multimeter through the measuring procedures.
2. Capacitance and DF measured at :100Hz  $U_{\sim}=2.2^{0.1}V$ ,  $U_{\sim}=1.0^{0.05}V$ , Frequency=100Hz. Test only applied in series equivalent circuit.
3. Voltage derating is applied at +85°C The DCL parameter should be read after 5 minutes when it connected to the circuit
4. Special size and demand could consult with us.

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Solid Polymer Tantalum Capacitors

Rated Voltage (V)	Rated CAP (μF)	Case Code	Category Temp (°C)	MSL	Max DCL(μA) @25°C	Max DF(%) @25°C 100Hz	Max ESR (mΩ) @25°C 100KHz	100kHz RMS Current (mA)		
								45°C	85°C	125°C
25	15	C	125	3	15	10	70	1134	1021	454
25	15	D	125	3	15	10	80	1199	1079	480
25	15	E	125	3	15	10	50	1581	1423	632
25	15	H	125	3	15	10	35	1732	1559	693
25	22	B	125	3	22	6	220	603	543	241
25	22	C	125	3	22	6	70	1134	1021	454
25	22	C	125	3	22	10	100	949	854	379
25	22	D	125	3	22	6	80	1199	1079	480
25	22	D	125	3	22	8	100	1072	965	429
25	22	D	125	3	22	10	120	979	881	392
25	22	E	125	3	22	10	50	1581	1423	632
25	22	H	125	3	22	10	25	2049	1844	820
25	22	H	125	3	22	10	50	1449	1304	580
25	33	D	125	3	33	6	60	1384	1246	554
25	33	D	125	3	33	6	100	1072	965	429
25	33	D	125	3	33	6	150	876	788	350
25	33	E	125	3	33	10	50	1581	1423	632
25	33	H	125	3	33	6	25	2049	1844	820
25	33	H	125	3	33	10	50	1449	1304	580
25	47	D	125	3	47	6	60	1384	1246	554
25	47	D	125	3	47	8	80	1199	1079	480
25	47	D	125	3	47	10	100	1072	965	429
25	47	E	125	3	47	6	30	2041	1837	816
25	47	E	125	3	47	10	60	1443	1299	577
25	47	H	125	3	47	8	30	1871	1684	748
25	47	H	125	3	47	10	80	1146	1031	458
25	47	H	125	3	47	10	150	837	753	335
25	68	H	125	3	68	8	50	1449	1304	580
25	68	H	125	3	68	10	70	1225	1102	490
25	68	D	125	3	68	8	80	1199	1079	480
25	68	D	125	3	68	10	120	979	881	392
25	68	E	125	3	68	6	30	2041	1837	816
25	68	E	125	3	68	10	60	1443	1299	577
25	68	V	125	3	68	10	40	1936	1743	775
25	100	D	125	3	100	10	100	1072	965	429
25	100	E	125	3	100	10	60	1443	1299	577
25	100	E	125	3	150	10	80	1250	1125	500
25	100	E	125	3	100	10	100	1118	1006	447
25	100	V	125	3	100	10	40	1936	1743	775
25	150	V	125	3	150	10	40	1936	1743	775
35	0.68	B	125	3	5.0	10	200	632	569	253
35	1	B	125	3	5.0	10	200	632	569	253
35	1.5	A	125	3	5.0	6	300	483	435	193
35	1.5	B	125	3	5.0	6	200	632	569	253
35	1.5	B	125	3	5.0	10	250	566	509	226
35	1.5	C	125	3	5.0	10	100	949	854	379
35	2.2	B	125	3	5.0	6	150	730	657	292
35	2.2	B	125	3	5.0	10	200	632	569	253
35	2.2	C	125	3	5.0	10	100	949	854	379
35	3.3	B	125	3	5.0	6	150	730	657	292
35	3.3	B	125	3	5.0	10	200	632	569	253
35	3.3	C	125	3	5.0	10	100	949	854	379
35	4.7	B	125	3	6.6	6	150	730	657	292
35	4.7	B	125	3	6.6	10	200	632	569	253
35	4.7	C	125	3	6.6	10	100	949	854	379

1. Please do not use multimeter through the measuring procedures.
2. Capacitance and DF measured at :100Hz  $U_{-} = 2.2^{0.1} V$ ,  $U_{+} = 1.0^{0.5} V$ , Frequency=100Hz. Test only applied in series equivalent circuit.
3. Voltage derating is applied at +85°C The DCL parameter should be read after 5 minutes when it connected to the circuit
4. Special size and demand could consult with us.

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## Solid Polymer Tantalum Capacitors

Rated Voltage (V)	Rated CAP (µF)	Case Code	Category Temp (°C)	MSL	Max DCL(µA) @25°C	Max DF(%) @25°C 100Hz	Max ESR (mΩ) @25°C 100KHz	100kHz RMS Current (mA)		
								45°C	85°C	125°C
35	6.8	C	125	3	9.5	10	80	1061	955	424
35	6.8	D	125	3	9.5	10	80	1199	1079	480
35	10	B	125	3	14	6	150	730	657	292
35	10	C	125	3	14	10	80	1061	955	424
35	10	D	125	3	14	10	80	1199	1079	480
35	10	E	125	3	14	10	50	1581	1423	632
35	10	H	125	3	14	6	25	2049	1844	820
35	10	H	125	3	14	10	50	1449	1304	580
35	15	C	125	3	21	6	70	1134	1021	454
35	15	D	125	3	21	6	60	1384	1246	554
35	15	D	125	3	21	6	80	1199	1079	480
35	15	E	125	3	21	10	50	1581	1423	632
35	15	H	125	3	21	10	25	2049	1844	820
35	15	H	125	3	21	10	50	1449	1304	580
35	22	C	125	3	31	6	80	1061	955	424
35	22	C	125	3	31	6	150	775	697	310
35	22	D	125	3	31	6	30	1958	1762	783
35	22	D	125	3	31	6	70	1282	1154	513
35	22	D	125	3	31	6	150	876	788	350
35	22	E	125	3	31	10	50	1581	1423	632
35	33	D	125	3	46	6	60	1384	1246	554
35	33	D	125	3	46	10	80	1199	1079	480
35	33	E	125	3	46	6	30	2041	1837	816
35	33	E	125	3	46	8	50	1581	1423	632
35	33	E	125	3	46	10	60	1443	1299	577
35	33	V	125	3	46	10	40	1936	1743	775
35	47	D	125	3	66	10	80	1199	1079	480
35	47	D	125	3	66	10	150	876	788	350
35	47	E	125	3	66	6	30	2041	1837	816
35	47	E	125	3	66	8	60	1443	1299	577
35	47	E	125	3	66	10	100	1118	1006	447
35	47	V	125	3	66	10	40	1936	1743	775
35	68	E	125	3	95	10	80	1250	1125	500
35	68	E	125	3	95	10	100	1118	1006	447
35	68	V	125	3	95	10	70	1464	1317	586
35	100	E	125	3	140	10	80	1250	1125	500
35	100	E	125	3	140	10	100	1118	1006	447
35	100	V	125	3	140	10	70	1464	1317	586
50	0.68	B	125	3	5.0	6	200	632	569	253
50	0.68	B	125	3	5.0	10	250	566	509	226
50	1	B	125	3	5.0	6	200	632	569	253
50	1	B	125	3	5.0	10	250	566	509	226
50	1.5	B	125	3	5.0	6	200	632	569	253
50	1.5	B	125	3	5.0	10	250	566	509	226
50	1.5	C	125	3	5.0	6	70	1134	1021	454
50	1.5	C	125	3	5.0	10	100	949	854	379
50	2.2	B	125	3	5.0	10	200	632	569	253
50	2.2	C	125	3	5.0	6	70	1134	1021	454
50	2.2	C	125	3	5.0	10	100	949	854	379
50	3.3	C	125	3	6.6	10	80	1061	955	424
50	3.3	D	125	3	6.6	10	60	1384	1246	554
50	4.7	C	125	3	9.4	10	100	949	854	379
50	4.7	D	125	3	9.4	10	60	1384	1246	554
50	4.7	D	125	3	9.4	10	200	758	682	303
50	6.8	C	125	3	14	10	80	1061	955	424

1. Please do not use multimeter through the measuring procedures.
2. Capacitance and DF measured at :100Hz  $U_{\text{max}}=2.2^{0.1}V$ ,  $U_{\text{min}}=1.0^{0.5}V$ , Frequency=100Hz. Test only applied in series equivalent circuit.
3. Voltage derating is applied at +85°C The DCL parameter should be read after 5 minutes when it connected to the circuit
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# PKT

## Solid Polymer Tantalum Capacitors

### Land Dimension / Courtyard

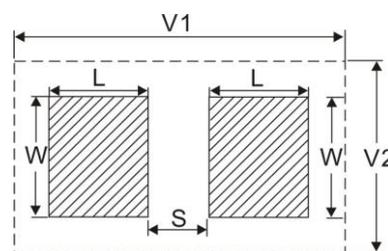
Case Code	Density Level A: Maximum (Most) Land Protrusion (mm)					Density Level B : Median (Nominal) Land Protrusion (mm)					Density Level C: Minimum (Least) Land Protrusion (mm)				
Case	W	L	S	V1	V2	W	L	S	V1	V2	W	L	S	V1	V2
A	1.35	2.20	0.62	6.02	2.8	1.23	1.8	0.82	4.92	2.3	1.13	1.42	0.98	4.06	2.04
B	2.35	2.21	0.92	6.32	4.0	2.23	1.8	1.12	5.22	3.5	2.13	1.42	1.28	4.36	3.24
C	2.35	2.77	2.37	8.92	4.5	2.23	2.37	2.57	7.82	4	2.13	1.99	2.73	6.96	3.74
D	2.55	2.77	3.67	10.22	5.6	2.43	2.37	3.87	9.12	5.1	2.33	1.99	4.03	8.26	4.84
E	2.55	2.77	3.67	10.22	5.6	2.43	2.37	3.87	9.12	5.1	2.33	1.99	4.03	8.26	4.84

**Density Level A:** For low-density product applications. Recommended for wave solder applications and provides a wider process window for reflow solder processes.

**Density Level B:** For products with a moderate level of component density. Provides a robust solder attachment condition for reflow solder processes.

**Density Level C:** For high component density product applications. Before adapting the minimum land pattern variations the user should perform qualification testing based on the conditions outlined in IPC standard 7351 (IPC-7351).

- 1 Height of these chips may create problems in wave soldering.
- 2 Land pattern geometry is too small for silkscreen outline.



Surface Mount Footprints

### Soldering Process

Kingtronics tantalum capacitors are compatible with wave (single or dual), convection, IR, or vapor phase reflow techniques. Preheating of these components is recommended to avoid extreme thermal stress.

Kingtronics' recommended profile conditions for convection and IR reflow reflect the profile conditions of the IPC/J STD 020D standard for moisture sensitivity testing. The devices can safely withstand a maximum of three reflow passes at these conditions.

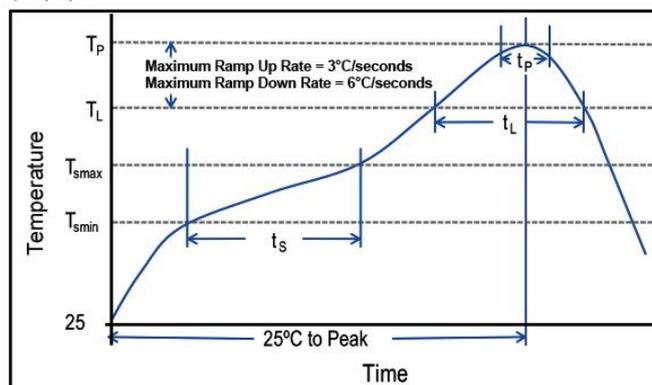
Hand soldering should be performed with care due to the difficulty in process control. If performed, care should be taken to avoid contact of the soldering iron to the molded case. The iron should be used to heat the solder pad, applying solder between the pad and the termination, until reflow occurs. Once reflow occurs, the iron should be removed immediately. "Wiping" the edges of a chip and heating the top surface is not recommended.

During typical reflow operations, a slight darkening of the gold-colored epoxy may be observed. This slight darkening is normal and not harmful to the product. Marking permanency is not affected by this change.

Profile Feature	SnPb Assembly	Pb-Free Assembly
Preheat/Soak		
Temperature Minimum ( $T_{smin}$ )	100 °C	150 °C
Temperature Maximum ( $T_{smax}$ )	150 °C	200 °C
Time (ts) from $T_{smin}$ to $T_{smax}$	60 – 120 seconds	60 – 120 seconds
Ramp-up Rate ( $T_L$ to $T_P$ )	3 °C/seconds maximum	3 °C/seconds maximum
Liquidous Temperature ( $T_L$ )	183 °C	217 °C
Time Above Liquidous ( $t_L$ )	60 – 150 seconds	60 – 150 seconds
Peak Temperature ( $T_P$ )	220°C* , 235°C**	250°C* , 260°C**
Time within 5 °C of Maximum Peak Temperature (tP)	20 seconds maximum	30 seconds maximum
Ramp-down Rate ( $T_P$ to $T_L$ )	6 °C/seconds maximum	6 °C/seconds maximum
Time 25 °C to Peak Temperature	6 minutes maximum	8 minutes maximum

Note: All temperatures refer to the center of the package, measured on the package body surface that is facing up during assembly reflow.

\*Case Size D, E\*\*Case Size A, B, C



Recommended Reflow Profile

**Kingtronics® International Company**

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## Solid Polymer Tantalum Capacitors

### How To Order

<u>PKT</u>	<u>0R1</u>	<u>M</u>	<u>350</u>	<u>A</u>	<u>T</u>	<u>R</u>
<u>Series</u>	<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	M
Tolerance	±20%

#### 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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