

# Conductive Polymer Chip Tantalum Capacitor SMD – JTD

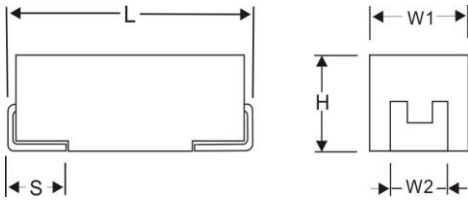
## FEATURES

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



## SPECIFICATIONS

Operating Temperature Range	-55°C to +125°C
Rated Capacitance Range	0.47µF ~ 1000µF at 100Hz
Capacitance Tolerance	±20%
Rated Voltage	D.C. 2.5V ~ 63V
Leakage Current DCL	0.1CV (µA) at rated voltage after 5 minutes
Equivalent Series Resistance ESR	Refer to Part Number Electrical Specifications Table
Termination Finished	Sn Plating (standard), Gold and SnPb Plating upon request
Resistance to soldering heat	3×260°C peak for max. 10s reflow



DIMENSIONS – MILLIMETERS (Unit: mm)						
Case Size	L	W1	H	S	W2	
A	1206	3.3±0.2	1.7±0.2	1.8±0.2	0.7±0.2	1.2±0.2
B	1210	3.6±0.2	2.9±0.2	2.1±0.2	0.7±0.2	2.2±0.2
C	2312	6.2±0.2	3.3±0.2	2.6±0.2	1.3±0.2	2.2±0.2
H	2917	7.4±0.2	4.4±0.2	2.0±0.2	1.3±0.2	2.4±0.2
D	2917	7.4±0.2	4.4±0.2	3.0±0.2	1.3±0.2	2.4±0.2
E	2917	7.4±0.4	4.4±0.4	4.3±0.4	1.3±0.2	2.4±0.2
V	2924	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)	A(150,250), B(150,180,200), C(80)
6.8				A(120,200)	A(150), B(150,180,200), C(100)
10			A(100,150,200)	A(70,150,300), B(120,200,350)	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(80,100), D(60)
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)
47	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)
68	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)
100	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)
150	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)
220	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)
330	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)
470	D(25,30,40,80)				
680	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)		
1000	D(50,100), E(50)	D(100), E(50,100), V(40)	E(50)		

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

Rated Voltage(V)	20	25	35	50	63
Capacitance(μF)	Case Size & ESR				
0.68		B(200)	B(200)	B(200,250)	
1	B(150)	B(150)	B(200)	B(200,250)	B(200), C(100,120), D(100)
1.5	B(150)	B(150), C(80)	A(300), B(200,250), C(100)	B(200,250), C(70,100)	C(100,120), D(100)
2.2	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)
3.3	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)
4.7	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)
6.8	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)
10	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)
15	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)
22	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)	
33	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)	
47	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)		
68	D(50,80), E(30,50)	H(50,70), D(80,120),	E(80,100), V(70)		
100	H(80,150), D(100) E(30,60), V(40)	D(100), E(60,80,100), V(40)	E(80,100), V(70)		
150	E(50), V(40)	V(40)			
220	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
	68	A	125	3	17	6	150	683	615	273
		A	125	3	17	8	250	529	476	212
	100	A	125	3	25	6	250	529	476	212
		B	125	3	25	8	100	894	805	358
		B	125	3	25	8	150	730	657	292
	150	B	125	3	25	8	200	632	569	253
		B	125	3	38	6	180	667	600	267
	220	B	125	3	55	8	100	894	805	358
		B	125	3	55	8	150	730	657	292
		B	125	3	55	8	200	632	569	253
		C	125	3	55	8	50	1342	1207	537
		C	125	3	55	8	100	949	854	379
		D	125	3	55	10	60	1384	1246	554
		H	125	3	55	10	35	1732	1559	693
	330	H	125	3	55	10	70	1225	1102	490
		B	125	3	83	8	150	730	657	292
		B	125	3	83	8	200	632	569	253
		C	125	3	83	8	50	1342	1207	537
		C	125	3	83	8	100	949	854	379
		D	125	3	83	8	60	1384	1246	554
		D	125	3	83	8	100	1072	965	429
		D	125	3	83	8	200	758	682	303
	360	H	125	3	83	10	35	1732	1559	693
		H	125	3	83	10	70	1225	1102	490
		D	125	3	90	6	25	2145	1930	858
		D	125	3	90	6	30	1958	1762	783
		D	125	3	90	6	40	1696	1526	678
	470	D	125	3	90	6	80	1199	1079	480
		C	125	3	118	8	70	1134	1021	454
		C	125	3	118	8	100	949	854	379
		D	125	3	118	6	50	1517	1365	607
		D	125	3	118	10	70	1282	1154	513
		D	125	3	118	10	100	1072	965	429
		H	125	3	60	10	26	2010	1809	804
		H	125	3	118	10	30	1871	1684	748
	680	H	125	3	118	10	50	1449	1304	580
		D	125	3	170	10	50	1517	1365	607
		D	125	3	170	10	100	1072	965	429
	1000	E	125	3	170	10	50	1581	1423	632
D		125	3	250	10	100	1072	965	429	
E		125	3	250	10	50	1581	1423	632	
V		125	3	250	10	40	1936	1743	775	
4	15	A	125	3	6.0	6	100	837	753	335
		A	125	3	6.0	10	150	683	615	273
		B	125	3	6.0	10	150	730	657	292
	22	A	125	3	8.8	6	200	592	532	237
		B	125	3	8.8	10	180	667	600	267
		C	125	3	8.8	10	100	949	854	379
	33	A	125	3	13	6	150	683	615	273
		A	125	3	13	8	200	592	532	237
		B	125	3	13	10	180	667	600	267
	47	C	125	3	13	10	100	949	854	379
		A	125	3	19	6	150	683	615	273
		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  $U_{-} = 2.2^{0.1} V$ ,  $U_{\sim} = 1.0^{0.0.5} V$ , 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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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	
		C	125	3	19	10	100	949	854	379	
	68	A	125	3	27	6	200	592	532	237	
		B	125	3	27	8	100	894	805	358	
		B	125	3	27	8	150	730	657	292	
		B	125	3	27	8	200	632	569	253	
		C	125	3	27	10	80	1061	955	424	
	100	A	125	3	40	8	120	764	687	306	
		A	125	3	40	8	180	624	561	249	
		A	125	3	40	10	250	529	476	212	
		B	125	3	40	8	50	1265	1138	506	
		B	125	3	40	8	100	894	805	358	
		B	125	3	40	8	180	667	600	267	
		C	125	3	40	10	80	1061	955	424	
	150	B	125	3	60	8	40	1414	1273	566	
		B	125	3	60	8	100	894	805	358	
		B	125	3	60	8	150	730	657	292	
		C	125	3	60	8	60	1225	1102	490	
		C	125	3	60	8	100	949	854	379	
		C	125	3	60	8	120	866	779	346	
		D	125	3	60	10	60	1384	1246	554	
		H	125	3	60	6	35	1732	1559	693	
		H	125	3	60	10	70	1225	1102	490	
		H	125	3	60	10	100	816	735	327	
	220	B	125	3	100	10	250	566	509	226	
		B	125	3	100	10	300	516	465	207	
		C	125	3	88	8	60	1225	1102	490	
		C	125	3	88	8	100	949	854	379	
		D	125	3	88	10	60	1384	1246	554	
		D	125	3	88	10	100	1072	965	429	
		H	125	3	88	10	35	1732	1559	693	
		H	125	3	88	10	70	1225	1102	490	
		330	C	125	3	132	8	80	1061	955	424
			C	125	3	132	8	150	775	697	310
	D		125	3	132	10	70	1282	1154	513	
	D		125	3	132	10	100	1072	965	429	
	E		125	3	132	10	50	1581	1423	632	
	H		125	3	132	6	35	1732	1559	693	
	H		125	3	132	10	70	1225	1102	490	
	470	D	125	3	188	10	80	1199	1079	480	
		D	125	3	188	10	120	979	881	392	
		E	125	3	188	10	50	1581	1423	632	
H		125	3	188	10	25	2049	1844	820		
H		125	3	188	10	30	1871	1684	748		
H		125	3	188	10	80	1146	1031	458		
680	D	125	3	272	10	100	1072	965	429		
	E	125	3	272	10	50	1581	1423	632		
	E	125	3	272	10	100	1118	1006	447		
	V	125	3	272	10	40	1936	1743	775		
6.3	10	A	125	3	6.3	6	100	837	753	335	
		A	125	3	6.3	10	150	683	615	273	
		A	125	3	6.3	10	200	592	532	237	
	15	A	125	3	9.5	6	180	624	561	249	
		B	125	3	9.5	10	150	730	657	292	
	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  $U_{-} = 2.2^{0.1} V$ ,  $U_{\sim} = 1.0^{0.0.5} V$ , 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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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
		B	125	3	14	10	150	730	657	292
		C	125	3	14	10	80	1061	955	424
	33	A	125	3	21	6	120	764	687	306
		A	125	3	21	8	180	624	561	249
		A	125	3	21	8	250	529	476	212
		B	125	3	21	6	90	943	849	377
		B	125	3	21	8	130	784	706	314
		B	125	3	21	10	200	632	569	253
		C	125	3	21	8	60	1225	1102	490
		C	125	3	21	10	100	949	854	379
		C	125	3	21	10	150	683	615	273
	47	A	125	3	30	8	250	529	476	212
		B	125	3	30	8	100	894	805	358
		B	125	3	30	10	200	632	569	253
		C	125	3	30	10	80	1061	955	424
	68	A	125	3	43	8	200	592	532	237
		B	125	3	43	8	100	894	805	358
		B	125	3	43	8	150	730	657	292
		B	125	3	43	8	250	566	509	226
		C	125	3	43	8	80	1061	955	424
		C	125	3	43	10	100	949	854	379
		D	125	3	43	10	60	1384	1246	554
		D	125	3	43	10	100	949	854	379
	100	A	125	3	63	8	200	592	532	237
		B	125	3	100	10	70	1069	962	428
		B	125	3	100	10	150	730	657	292
		B	125	3	100	10	350	478	430	191
		C	125	3	63	8	80	1061	955	424
		C	125	3	63	8	100	949	854	379
		C	125	3	63	10	120	866	779	346
		D	125	3	63	10	60	1384	1246	554
		H	125	3	63	10	35	1732	1559	693
		H	125	3	63	10	100	949	854	379
	150	B	125	3	95	8	100	894	805	358
		B	125	3	95	8	180	667	600	267
		B	125	3	95	8	250	566	509	226
		C	125	3	95	8	80	1061	955	424
		C	125	3	95	8	100	949	854	379
		D	125	3	95	10	30	1958	1762	783
		D	125	3	95	10	60	1384	1246	554
		D	125	3	95	10	100	1072	965	429
		H	125	3	95	10	35	1732	1559	693
		H	125	3	95	10	70	1225	1102	490
		H	125	3	95	10	100	894	805	358
		220	B	125	3	139	8	180	667	600
	B		125	3	139	10	250	566	509	226
	C		125	3	139	8	40	1500	1350	600
C	125		3	139	8	100	949	854	379	
D	125		3	139	10	60	1384	1246	554	
D	125		3	139	10	100	1072	965	429	
E	125		3	139	10	50	1581	1423	632	
H	125		3	139	6	25	2049	1844	820	
H	125		3	139	10	40	1620	1458	648	
H	125		3	139	10	70	1225	1102	490	
330	C		125	3	208	10	50	1342	1207	537
	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  $U_{-} = 2.2^{0.1} V$ ,  $U_{\sim} = 1.0^{0.0.5} V$ , Frequency=100Hz. Test only applied in series equivalent circuit.
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								45°C	85°C	125°C
6.3	330	D	125	3	208	10	25	2145	1930	858
		D	125	3	208	10	30	1958	1762	783
		D	125	3	208	10	60	1384	1246	554
		E	125	3	208	10	50	1581	1423	632
		H	125	3	208	10	30	1871	1684	748
		H	125	3	208	10	50	1449	1304	580
	470	H	125	3	208	10	80	1146	1031	458
		D	125	3	296	10	80	1199	1079	480
		D	125	3	296	10	100	1072	965	429
		E	125	3	296	10	50	1581	1423	632
		E	125	3	296	10	100	1118	1006	447
		H	125	3	296	10	40	1620	1458	648
		H	125	3	296	10	80	1146	1031	458
		V	125	3	296	10	40	1936	1743	775
680	E	125	3	428	10	50	1581	1423	632	
10	4.7	A	125	3	4.7	10	100	837	753	335
	6.8	A	125	3	6.8	10	120	764	687	306
		A	125	3	6.8	10	200	592	532	237
	10	A	125	3	10	8	70	1000	900	400
		A	125	3	10	8	150	683	615	273
		A	125	3	10	10	300	483	435	193
		B	125	3	10	10	120	816	735	327
		B	125	3	10	10	200	632	569	253
		B	125	3	10	10	350	478	430	191
	15	A	125	3	15	6	120	764	687	306
		A	125	3	15	8	180	624	561	249
		B	125	3	15	10	150	730	657	292
		C	125	3	15	10	100	949	854	379
	22	A	125	3	22	8	150	683	615	273
		A	125	3	22	8	300	483	435	193
		A	125	3	22	8	650	328	295	131
		B	125	3	22	6	120	816	735	327
		B	125	3	22	10	180	667	600	267
		C	125	3	22	10	100	949	854	379
	33	B	125	3	33	6	150	730	657	292
		B	125	3	33	8	200	632	569	253
		B	125	3	33	10	250	566	509	226
		C	125	3	33	6	80	1061	955	424
		C	125	3	33	10	100	949	854	379
		C	125	3	33	10	100	949	854	379
	47	B	125	3	47	8	80	1000	900	400
		B	125	3	47	8	100	894	805	358
		B	125	3	47	10	130	784	706	314
		C	125	3	47	8	80	1061	955	424
		C	125	3	47	10	100	949	854	379
		C	125	3	47	10	100	949	854	379
	68	C	125	3	68	6	80	1061	955	424
		C	125	3	68	8	100	949	854	379
		D	125	3	68	10	40	1696	1526	678
		D	125	3	68	10	60	1384	1246	554
		D	125	3	68	10	100	1072	965	429
		H	125	3	68	10	25	2049	1844	820
		H	125	3	68	10	35	1732	1559	693
		H	125	3	68	10	50	1449	1304	580
	100	B	125	3	100	10	70	1069	962	428
		B	125	3	100	10	150	730	657	292
		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  $U_{-} = 2.2^{0.1} V$ ,  $U_{\sim} = 1.0^{0.0.5} V$ , 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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# Conductive Polymer Chip Tantalum Capacitor SMD – JTD

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	
		C	125	3	100	8	80	1061	955	424	
		C	125	3	100	10	100	949	854	379	
		D	125	3	100	6	25	2145	1930	858	
		D	125	3	100	10	45	1599	1439	639	
		D	125	3	100	10	90	1130	1017	452	
		H	125	3	100	10	25	2049	1844	820	
		H	125	3	100	10	50	1449	1304	580	
	150	C	125	3	150	8	100	949	854	379	
		D	125	3	150	10	40	1696	1526	678	
		D	125	3	150	10	60	1384	1246	554	
		D	125	3	150	10	80	1199	1079	480	
		E	125	3	150	10	50	1581	1423	632	
		H	125	3	150	6	25	2049	1844	820	
		H	125	3	150	10	50	1449	1304	580	
		220	C	125	3	220	10	30	1732	1559	693
	C		125	3	220	10	60	1225	1102	490	
	D		125	3	220	10	70	1282	1154	513	
	D		125	3	220	10	100	1072	965	429	
	E		125	3	220	10	50	1581	1423	632	
	H		125	3	220	6	25	2049	1844	820	
	H		125	3	220	10	50	1449	1304	580	
	H		125	3	220	10	70	1225	1102	490	
	330	H	125	3	330	10	30	1871	1684	748	
		H	125	3	330	10	50	1449	1304	580	
		H	125	3	330	10	80	1146	1031	458	
		D	125	3	330	8	20	2398	2158	959	
		D	125	3	330	8	70	1282	1154	513	
		E	125	3	330	10	40	1768	1591	707	
		E	125	3	330	10	60	1443	1299	577	
		V	125	3	330	10	40	1936	1743	775	
	16	1	A	125	3	5.0	10	250	529	476	212
			A	125	3	5.0	10	400	418	376	167
			A	125	3	5.0	10	650	328	295	131
		1.5	B	125	3	5.0	10	120	816	735	327
			B	125	3	5.0	10	150	730	657	292
		2.2	B	125	3	5.0	10	150	730	657	292
			B	125	3	5.0	10	150	730	657	292
		3.3	A	125	3	5.3	10	150	683	615	273
			B	125	3	5.3	10	150	730	657	292
			B	125	3	5.3	10	200	632	569	253
		4.7	A	125	3	7.5	10	150	683	615	273
			A	125	3	7.5	10	250	529	476	212
			B	125	3	7.5	10	150	730	657	292
			B	125	3	7.5	10	180	667	600	267
			B	125	3	7.5	10	200	632	569	253
			C	125	3	7.5	10	80	1061	955	424
		6.8	A	125	3	10.9	6	150	683	615	273
B			125	3	10.9	10	150	730	657	292	
B			125	3	10.9	10	180	667	600	267	
B			125	3	10.9	10	200	632	569	253	
10		C	125	3	10.9	10	100	949	854	379	
		A	125	3	16	6	250	529	476	212	
			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  $U_{-} = 2.2^{0.1} V$ ,  $U_{\sim} = 1.0^{0.5} V$ , 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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# Conductive Polymer Chip Tantalum Capacitor SMD – JTD

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
		B	125	3	16	10	300	516	465	207
		C	125	3	16	10	90	1000	900	400
	15	B	125	3	24	6	150	730	657	292
		B	125	3	24	10	180	667	600	267
		B	125	3	24	10	200	632	569	253
		C	125	3	24	10	80	1061	955	424
		C	125	3	24	10	100	949	854	379
		D	125	3	24	10	60	1384	1246	554
	22	B	125	3	35	6	150	730	657	292
		B	125	3	35	6	250	566	509	226
		B	125	3	35	6	300	516	465	207
		C	125	3	35	10	80	1061	955	424
		C	125	3	35	10	100	949	854	379
		D	125	3	35	10	40	1696	1526	678
		D	125	3	35	10	60	1384	1246	554
	33	E	125	3	35	10	50	1581	1423	632
		B	125	3	53	8	100	894	805	358
		B	125	3	53	10	200	632	569	253
		C	125	3	53	10	80	1061	955	424
		C	125	3	53	10	100	949	854	379
		D	125	3	53	10	40	1696	1526	678
		D	125	3	53	10	60	1384	1246	554
		E	125	3	53	10	50	1581	1423	632
	47	H	125	3	53	10	25	2049	1844	820
		H	125	3	53	10	40	1620	1458	648
		C	125	3	75	10	100	949	854	379
		D	125	3	75	10	50	1517	1365	607
		D	125	3	75	10	70	1282	1154	513
		D	125	3	75	10	100	1072	965	429
		E	125	3	75	10	40	1768	1591	707
		E	125	3	75	10	60	1443	1299	577
	68	H	125	3	75	10	25	2049	1844	820
		H	125	3	75	10	50	1449	1304	580
		D	125	3	109	10	60	1384	1246	554
		D	125	3	109	10	80	1199	1079	480
		E	125	3	109	10	40	1768	1591	707
		E	125	3	109	10	60	1443	1299	577
	100	H	125	3	109	10	25	2049	1844	820
		H	125	3	109	10	50	1449	1304	580
		C	125	3	160	10	80	1061	955	424
		C	125	3	160	10	100	949	854	379
		D	125	3	160	10	80	1199	1079	480
		D	125	3	160	10	100	1072	965	429
		E	125	3	160	10	40	1768	1591	707
	150	E	125	3	160	10	60	1443	1299	577
		H	125	3	160	10	40	1620	1458	648
		H	125	3	240	10	80	1146	1031	458
		D	125	3	240	10	50	1517	1365	607
		D	125	3	240	10	80	1199	1079	480
		E	125	3	240	10	40	1768	1591	707
	220	E	125	3	240	10	60	1443	1299	577
		V	125	3	240	10	40	1936	1743	775
		D	125	3	352	10	60	1384	1246	554
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  $U_{-} = 2.2^{0.1} V$ ,  $U_{\sim} = 1.0^{0.0.5} V$ , 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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# Conductive Polymer Chip Tantalum Capacitor SMD – JTD

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
		E	125	3	352	10	70	1336	1203	535
		E	125	3	352	10	100	1118	1006	447
		V	125	3	352	10	30	2236	2012	894
	330	V	125	3	352	10	50	1732	1559	693
		E	125	3	528	10	40	1768	1591	707
		E	125	3	528	10	50	1581	1423	632
		E	125	3	528	10	60	1443	1299	577
		V	125	3	528	10	30	2236	2012	894
		V	125	3	528	10	50	1732	1559	693
20	1	B	125	3	5.0	10	150	730	657	292
	1.5	B	125	3	5.0	10	150	730	657	292
	2.2	A	125	3	5.0	10	150	683	615	273
		B	125	3	5.0	10	150	730	657	292
	3.3	B	125	3	5.0	10	250	566	509	226
		A	125	3	5.0	10	150	683	615	273
		B	125	3	5.0	10	150	730	657	292
		B	125	3	5.0	10	250	566	509	226
	4.7	C	125	3	5.0	10	100	949	854	379
		B	125	3	5.0	10	180	667	600	267
		B	125	3	5.0	10	250	566	509	226
		C	125	3	5.0	10	80	1061	955	424
	6.8	C	125	3	5.0	10	100	949	854	379
		B	125	3	5.4	10	180	667	600	267
		B	125	3	5.4	10	250	566	509	226
		C	125	3	5.4	10	80	1061	955	424
	10	C	125	3	5.4	10	100	949	854	379
		B	125	3	8.0	8	100	894	805	358
		B	125	3	8.0	10	150	730	657	292
		B	125	3	8.0	10	200	632	569	253
		C	125	3	8.0	10	80	1061	955	424
	15	C	125	3	8.0	10	100	949	854	379
		B	125	3	12	10	200	632	569	253
		C	125	3	12	10	80	1061	955	424
		C	125	3	12	10	100	949	854	379
		D	125	3	12	10	80	1199	1079	480
	22	D	125	3	12	10	120	979	881	392
		B	125	3	18	10	150	730	657	292
		B	125	3	18	10	250	566	509	226
		B	125	3	18	10	300	516	465	207
		C	125	3	18	10	80	1061	955	424
		C	125	3	18	10	100	949	854	379
		D	125	3	18	10	70	1282	1154	513
		D	125	3	18	10	100	1072	965	429
		E	125	3	18	10	30	2041	1837	816
		E	125	3	18	10	50	1581	1423	632
		H	125	3	18	6	25	2049	1844	820
		H	125	3	18	10	35	1732	1559	693
	33	H	125	3	18	10	50	1449	1304	580
		C	125	3	26	10	70	1134	1021	454
D		125	3	26	10	60	1384	1246	554	
D		125	3	26	10	100	1072	965	429	
E		125	3	26	10	30	2041	1837	816	
E		125	3	26	10	50	1581	1423	632	
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  $U_{-} = 2.2^{0.1} V$ ,  $U_{\sim} = 1.0^{0.0.5} V$ , 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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# Conductive Polymer Chip Tantalum Capacitor SMD – JTD

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
		D	125	3	38	10	60	1384	1246	554
		D	125	3	38	10	100	1072	965	429
		E	125	3	38	10	30	2041	1837	816
		E	125	3	38	10	50	1581	1423	632
		H	125	3	38	6	25	2049	1844	820
		H	125	3	38	10	35	1732	1559	693
	68	H	125	3	38	10	50	1449	1304	580
		D	125	3	54	6	50	1517	1365	607
		D	125	3	54	10	80	1199	1079	480
		E	125	3	54	6	30	2041	1837	816
		E	125	3	54	10	50	1581	1423	632
	100	H	125	3	80	10	80	1146	1031	458
		H	125	3	80	10	150	837	753	335
		D	125	3	80	10	100	1072	965	429
		E	125	3	80	6	30	2041	1837	816
		E	125	3	80	10	60	1443	1299	577
	150	V	125	3	80	10	40	1936	1743	775
		E	125	3	120	10	50	1581	1423	632
	220	V	125	3	120	10	40	1936	1743	775
E		125	3	176	10	50	1581	1423	632	
25	0.68	B	125	3	5.0	10	200	632	569	253
		B	125	3	5.0	10	150	730	657	292
	1.5	B	125	3	5.0	10	150	730	657	292
		C	125	3	5.0	10	80	1061	955	424
	2.2	A	125	3	5.0	10	250	529	476	212
		A	125	3	5.0	10	350	447	402	179
		A	125	3	5.0	10	650	328	295	131
		B	125	3	5.0	10	150	730	657	292
		B	125	3	5.0	10	250	566	509	226
		C	125	3	5.0	10	80	1061	955	424
		C	125	3	5.0	10	100	949	854	379
	3.3	B	125	3	5.0	10	150	730	657	292
		B	125	3	5.0	10	200	632	569	253
		C	125	3	5.0	10	80	1061	955	424
	4.7	C	125	3	5.0	10	100	949	854	379
		B	125	3	5.0	6	120	816	735	327
		B	125	3	5.0	10	160	707	636	283
		B	125	3	5.0	10	200	632	569	253
		C	125	3	5.0	10	80	1061	955	424
	6.8	C	125	3	5.0	10	100	949	854	379
B		125	3	6.8	6	150	730	657	292	
B		125	3	6.8	8	200	632	569	253	
B		125	3	6.8	10	250	566	509	226	
C		125	3	6.8	10	80	1061	955	424	
10	C	125	3	6.8	10	100	949	854	379	
	B	125	3	10	6	150	730	657	292	
	B	125	3	10	8	180	667	600	267	
	B	125	3	10	10	200	632	569	253	
	C	125	3	10	10	80	1061	955	424	
	C	125	3	10	10	100	949	854	379	
15	D	125	3	10	10	80	1199	1079	480	
	B	125	3	15	6	180	667	600	267	
		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  $U_{-} = 2.2^{0.1} V$ ,  $U_{\sim} = 1.0^{0.5} V$ , 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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# Conductive Polymer Chip Tantalum Capacitor SMD – JTD

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
		D	125	3	15	10	80	1199	1079	480
		E	125	3	15	10	50	1581	1423	632
		H	125	3	15	10	35	1732	1559	693
	22	B	125	3	22	6	220	603	543	241
		C	125	3	22	6	70	1134	1021	454
		C	125	3	22	10	100	949	854	379
		D	125	3	22	6	80	1199	1079	480
		D	125	3	22	8	100	1072	965	429
		D	125	3	22	10	120	979	881	392
		E	125	3	22	10	50	1581	1423	632
		H	125	3	22	10	25	2049	1844	820
	33	H	125	3	22	10	50	1449	1304	580
		D	125	3	33	6	60	1384	1246	554
		D	125	3	33	6	100	1072	965	429
		D	125	3	33	6	150	876	788	350
		E	125	3	33	10	50	1581	1423	632
	47	H	125	3	33	6	25	2049	1844	820
		H	125	3	33	10	50	1449	1304	580
		D	125	3	47	6	60	1384	1246	554
		D	125	3	47	8	80	1199	1079	480
		D	125	3	47	10	100	1072	965	429
		E	125	3	47	6	30	2041	1837	816
		E	125	3	47	10	60	1443	1299	577
		H	125	3	47	8	30	1871	1684	748
	68	H	125	3	47	10	80	1146	1031	458
		H	125	3	47	10	150	837	753	335
		H	125	3	68	8	50	1449	1304	580
		H	125	3	68	10	70	1225	1102	490
		D	125	3	68	8	80	1199	1079	480
		D	125	3	68	10	120	979	881	392
		E	125	3	68	6	30	2041	1837	816
100	E	125	3	68	10	60	1443	1299	577	
	V	125	3	68	10	40	1936	1743	775	
	D	125	3	100	10	100	1072	965	429	
	E	125	3	100	10	60	1443	1299	577	
	E	125	3	150	10	80	1250	1125	500	
150	E	125	3	100	10	100	1118	1006	447	
	V	125	3	100	10	40	1936	1743	775	
	V	125	3	150	10	40	1936	1743	775	
	0.68	B	125	3	5.0	10	200	632	569	253
	1	B	125	3	5.0	10	200	632	569	253
		A	125	3	5.0	6	300	483	435	193
	1.5	B	125	3	5.0	6	200	632	569	253
		B	125	3	5.0	10	250	566	509	226
		C	125	3	5.0	10	100	949	854	379
	2.2	B	125	3	5.0	6	150	730	657	292
B		125	3	5.0	10	200	632	569	253	
C		125	3	5.0	10	100	949	854	379	
3.3	B	125	3	5.0	6	150	730	657	292	
	B	125	3	5.0	10	200	632	569	253	
	C	125	3	5.0	10	100	949	854	379	
4.7	B	125	3	6.6	6	150	730	657	292	
	B	125	3	6.6	10	200	632	569	253	
	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  $U_{-} = 2.2^{0.1} V$ ,  $U_{\sim} = 1.0^{0.05} V$ , 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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# Conductive Polymer Chip Tantalum Capacitor SMD – JTD

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	
		D	125	3	9.5	10	80	1199	1079	480	
	10	B	125	3	14	6	150	730	657	292	
		C	125	3	14	10	80	1061	955	424	
		D	125	3	14	10	80	1199	1079	480	
		E	125	3	14	10	50	1581	1423	632	
		H	125	3	14	6	25	2049	1844	820	
		H	125	3	14	10	50	1449	1304	580	
	15	C	125	3	21	6	70	1134	1021	454	
		D	125	3	21	6	60	1384	1246	554	
		D	125	3	21	6	80	1199	1079	480	
		E	125	3	21	10	50	1581	1423	632	
		H	125	3	21	10	25	2049	1844	820	
		H	125	3	21	10	50	1449	1304	580	
	22	C	125	3	31	6	80	1061	955	424	
		C	125	3	31	6	150	775	697	310	
		D	125	3	31	6	30	1958	1762	783	
		D	125	3	31	6	70	1282	1154	513	
		D	125	3	31	6	150	876	788	350	
		E	125	3	31	10	50	1581	1423	632	
	33	D	125	3	46	6	60	1384	1246	554	
		D	125	3	46	10	80	1199	1079	480	
		E	125	3	46	6	30	2041	1837	816	
		E	125	3	46	8	50	1581	1423	632	
		E	125	3	46	10	60	1443	1299	577	
		V	125	3	46	10	40	1936	1743	775	
	47	D	125	3	66	10	80	1199	1079	480	
		D	125	3	66	10	150	876	788	350	
		E	125	3	66	6	30	2041	1837	816	
		E	125	3	66	8	60	1443	1299	577	
		E	125	3	66	10	100	1118	1006	447	
		V	125	3	66	10	40	1936	1743	775	
	68	E	125	3	95	10	80	1250	1125	500	
		E	125	3	95	10	100	1118	1006	447	
		V	125	3	95	10	70	1464	1317	586	
	100	E	125	3	140	10	80	1250	1125	500	
		E	125	3	140	10	100	1118	1006	447	
		V	125	3	140	10	70	1464	1317	586	
	50	0.68	B	125	3	5.0	6	200	632	569	253
			B	125	3	5.0	10	250	566	509	226
		1	B	125	3	5.0	6	200	632	569	253
			B	125	3	5.0	10	250	566	509	226
		1.5	B	125	3	5.0	10	250	566	509	226
			C	125	3	5.0	6	70	1134	1021	454
			C	125	3	5.0	10	100	949	854	379
		2.2	B	125	3	5.0	10	200	632	569	253
			C	125	3	5.0	6	70	1134	1021	454
			C	125	3	5.0	10	100	949	854	379
3.3		C	125	3	6.6	10	80	1061	955	424	
		D	125	3	6.6	10	60	1384	1246	554	
4.7		C	125	3	9.4	10	100	949	854	379	
		D	125	3	9.4	10	60	1384	1246	554	
		D	125	3	9.4	10	200	758	682	303	
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  $U_{-} = 2.2^{0.1} V$ ,  $U_{\sim} = 1.0^{0.0.5} V$ , 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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# Conductive Polymer Chip Tantalum Capacitor SMD – JTD

## Land Dimension / Courtyard

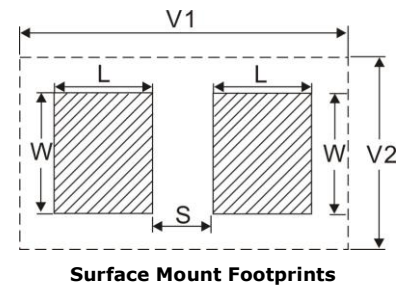
Case Code	Density Level A: Maximum (Most) Land Protrusion (mm)					Density Level B : Median (Nominal) Land Protrusion (mm)					Density Level C: Minimum (Least) Land Protrusion (mm)				
	W	L	S	V1	V2	W	L	S	V1	V2	W	L	S	V1	V2
A	1.35	2.20	0.62	6.02	2.8	1.23	1.8	0.82	4.92	2.3	1.13	1.42	0.98	4.06	2.04
B	2.35	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.



## Soldering Process

jb 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. jb's 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.

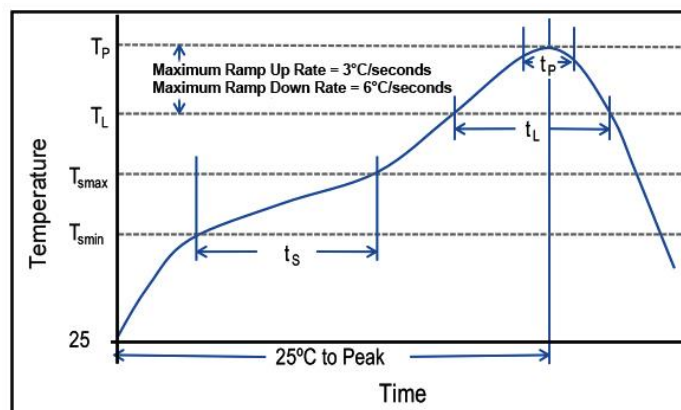
Hand soldering should be performed with care due to the difficulty in process control. If performed, care should be taken to avoid contact of the soldering iron to the molded case. The iron should be used to heat the solder pad, applying solder between the pad and the termination, until reflow occurs. 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 ( $t_s$ ) 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 ( $t_P$ )	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

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