

TD Series

Tantalum Solid Electrolytic Capacitors Dipped Type (Epoxy-Coated)



FEATURES:

- Lead-Free, ROHS Compliant.
- Specially designed of general purpose.
- Highly reliable resin dipped type.
- Excellent frequency and temperature characteristics.
- Non-flammable epoxy resin.



SPECIFICATIONS:

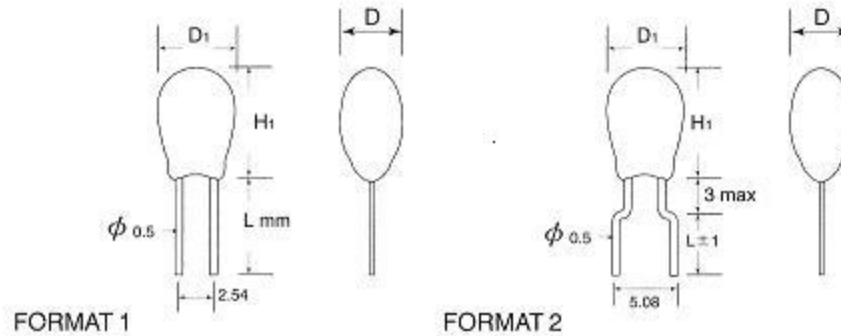
Item	Performance Characteristics																																																											
Operating Temperature Range	-55 to + 125 °C (-55 to + 85 °C for 4 & 6.3V)																																																											
Rated Working Voltage Range	6.3 to 50 V DC																																																											
Nominal Capacitance Range	0.1 to 330 μF																																																											
Capacitance Tolerance	±20% (±10% is available) (120Hz, +20°C)																																																											
Leakage Current	Not more than 0.008CV [μA] or 0.5μA whichever is greater																																																											
Characteristics at High and Low Temperature	Capacitance (μF)	Capacitance Change(%)			DF Max.(%)				DCL Max.(μF)																																																			
		-55°C	+85°C	+125°C	-50°C	+20°C	+85°C	+125°C	+20°C	+85°C	+125°C																																																	
	≤1.0				6	4	6	6	1.50.02 C ₀ U ₁ (or) 1μF (whichever is greater)	10l ₀	12.5l ₀																																																	
	1.5~68	±10	±15	±25	8	6	8	8																																																				
100~330				10	8	10	10																																																					
Moisture Resistance	Test conditions																																																											
	Relative humidity : 90 to 95% without load																																																											
	Ambient temperature : +40°C																																																											
	Duration : 500 hours																																																											
	Post test requirements at + 20°C																																																											
	Leakage current : ≤ 0.012CV or 0.75 [μF], whichever is greater Capacitance change : ± 10% of initial measured value tan δ : ≤ 150% of initial specified value																																																											
Endurance	Test conditions																																																											
	<table border="1"> <thead> <tr> <th>Item</th> <th>Conditions</th> <th colspan="4">Derating (for 10 to 50V only)</th> <th colspan="4">Rating</th> </tr> </thead> <tbody> <tr> <td>Duration</td> <td></td> <td colspan="4">1000 hours</td> <td colspan="4">2000 hours</td> </tr> <tr> <td>Ambient temperature</td> <td></td> <td colspan="4">+ 105°C</td> <td colspan="4">+ 85°C</td> </tr> <tr> <td>Applied voltage</td> <td></td> <td colspan="4">Derated working voltage</td> <td colspan="4">Rated working voltage</td> </tr> <tr> <td>Source impedance</td> <td></td> <td colspan="4">1Ω/V</td> <td colspan="4">1Ω/V</td> </tr> </tbody> </table>										Item	Conditions	Derating (for 10 to 50V only)				Rating				Duration		1000 hours				2000 hours				Ambient temperature		+ 105°C				+ 85°C				Applied voltage		Derated working voltage				Rated working voltage				Source impedance		1Ω/V				1Ω/V			
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Shelf Life	Test conditions																																																											
	Duration : 2000 hours																																																											
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Same limits for "Endurance".																																																												

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TanTalum Capacitor Dipped Type outline Dpawings



Dimensions Millimeters

Case Size	A	B	C	D	E	F
Formats 1/2						
H1 max	7.0	8.0	9.5	11.0	13.0	16.5
D1 max	4.5	5.0	5.5	6.5	8.5	9.5
D max	4.2	4.7	5.5	6.5	8.5	9.5

Wire Length (L)	5,7±1	16,18±1
Code	A	B

Rated Voltage, Capacitance of Capacitors.

VR (V)	6.3	10	16	25	35	50
Code	0J	1A	1C	1E	1V	1H
Capacitance (μF)	Case Size					
0.10 (104)					A	A
0.15 (154)					A	A
0.22 (224)					A	A
0.33 (334)					A	A
0.47 (474)					A	A
0.68 (684)					A	A
1.0 (105)				A	A	B
1.5 (155)			A	A	A	C
2.2 (225)		A	A	A	B	C
3.3 (335)	A	A	A	B	B	D
4.7 (475)	A	A	B	B	C	D
6.8 (685)	A	B	B	C	D	E
10 (106)	B	B	B	C	D	E
15 (156)	B	C	C	D	E	F
22 (226)	C	C	C	D	E	F
33 (336)	C	D	D	E	F	
47 (476)	D	D	D	E	F	
68 (686)	D	D	E	F		
100 (107)	E	E	E	F		
150 (157)	E	E	F			
220 (227)	E	F				
330 (337)	F					

Leads & Solderability
 Tinned radial leads, ϕ :0.5mm.
 Standard lead spacing: 2.54 ± 0.5, 5.08 ± 0.5mm
 Solderability:
 - Recommended soldering bath

temperature: 260°C
 -Time of immersion: 3s
 The tin should cover 95% of wire surface.
 Permissible pull test: 10 N.

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Explanation of Part Numbers

<u>T D</u>	<u>A</u>	<u>4 7 5</u>	<u>M</u>	<u>0 1 6</u>	<u>B</u>	<u>I</u>	<u>B&T</u>
Series Code	Size Code	Nominal Capacitance	Capacitance Tolerance	Rated Voltage	Wire Length	Format & lead space	Bulk & Ammo pack

RATINGS AND PART NUMBER REFERENCE

SONJIU Part No.	Case Size	Capacitance μF	DCL (μA) Max.	DF % Max.	ESR max. (Ω) @ 100kHz
6.3 volt @ 85°C (4 volt, @ 125°C)					
TDA335#006###	A	3.3	0.5	6	13.0
TDA475#006###	A	4.7	0.5	6	10.0
TDA685#006###	A	6.8	0.5	6	8.0
TDB106#006###	B	10	0.5	8	6.0
TDB156#006###	B	15	0.8	8	5.0
TDC226#006###	C	22	1.1	8	3.7
TDC336#006###	C	33	1.7	8	3.0
TDD476#006###	D	47	2.4	8	2.0
TDD686#006###	D	68	3.4	8	1.8
TDE107#006###	E	100	5.0	10	1.6
TDE157#006###	E	150	7.6	10	0.9
TDE227#006###	E	220	11.0	10	0.9
TDF337#006###	F	330	16.6	10	0.7
10 volt @ 85°C (6.3 volt, @ 125°C)					
TDA225#010###	A	2.2	0.5	6	13.0
TDA335#010###	A	3.3	0.5	6	10.0
TDA475#010###	A	4.7	0.5	6	8.0
TDB685#010###	B	6.8	0.5	6	6.0
TDB106#010###	B	10	0.8	8	5.0
TDC156#010###	C	15	1.2	8	3.7
TDC226#010###	C	22	1.7	8	2.7
TDD336#010###	D	33	2.6	8	2.1
TDD476#010###	D	47	3.7	8	1.7
TDD686#010###	D	68	5.4	8	1.8
TDE107#010###	E	100	8.0	10	1.0
TDE157#010###	E	150	12.0	10	0.8
TDF227#010###	F	220	17.6	10	0.8
16 volt @ 85°C (10 volt, @ 125°C)					
TDA155#016###	A	1.5	0.5	4	10.0
TDA225#016###	A	2.2	0.5	6	8.0
TDA335#016###	A	3.3	0.5	6	6.0
TDB475#016###	B	4.7	0.6	6	5.0
TDB685#016###	B	6.8	0.8	8	4.0
TDB106#016###	B	10	1.2	8	3.2
TDC156#016###	C	15	1.9	8	2.5
TDC226#016###	C	22	2.8	8	2.0
TDD336#016###	D	33	4.2	8	1.6
TDD476#016###	D	47	6.0	8	1.3
TDE686#016###	E	68	8.7	8	1.0
TDE107#016###	E	100	12.8	10	0.8
TDF157#016###	F	150	19.2	10	0.6
TDF227#016###	F	220	19.2	10	0.6

SONJIU Part No.	Case Size	Capacitance μF	DCL (μF) Max.	DF % Max.	ESR max. (Ω) @ 100kHz
25 volt @ 85°C (16 volt, @ 125°C)					
TDA105#025###	A	1.0	0.5	4	10.0
TDA155#025###	A	1.5	0.5	4	8.0
TDA225#025###	A	2.2	0.5	6	6.0
TDB335#025###	B	3.3	0.6	6	5.0
TDB475#025###	B	4.7	0.9	6	4.0
TDC685#025###	C	6.8	1.3	6	3.1
TDC106#025###	C	10	2.0	8	2.5
TDD156#025###	D	15	3.0	8	2.0
TDD226#025###	D	22	4.4	8	1.5
TDE336#025###	E	33	6.6	8	1.2
TDE476#025###	E	47	9.4	8	1.0
TDF686#025###	F	68	13.6	8	0.8
35 volt @ 85°C (23 volt, @ 125°C)					
TDA104#035###	A	0.1	0.5	4	26.0
TDA154#035###	A	0.15	0.5	4	21.0
TDA224#035###	A	0.22	0.5	4	17.0
TDA334#035###	A	0.33	0.5	4	15.0
TDA474#035###	A	0.47	0.5	4	13.0
TDA684#035###	A	0.68	0.5	4	10.0
TDA105#035###	A	1.0	0.5	4	8.0
TDA155#035###	A	1.5	0.5	4	6.0
TDB225#035###	B	2.2	0.6	6	5.0
TDB335#035###	B	3.3	0.9	6	4.0
TDC475#035###	C	4.7	1.3	6	3.0
TDD685#035###	D	6.8	1.9	6	2.5
TDD106#035###	D	10	2.8	8	2.0
TDE156#035###	E	15	4.2	8	1.6
TDE226#035###	E	22	6.1	8	1.3
TDF336#035###	F	33	9.2	8	1.0
TDF476#035###	F	47	10.0	8	0.8
50 volt @ 85°C (33 volt, @ 125°C)					
TDA104#050###	A	0.1	0.5	4	26.0
TDA154#050###	A	0.15	0.5	4	21.0
TDA224#050###	A	0.22	0.5	4	17.0
TDA334#050###	A	0.33	0.5	4	15.0
TDA474#050###	A	0.47	0.5	4	13.0
TDA684#050###	A	0.68	0.5	4	10.0
TDB105#050###	B	1.0	0.5	4	8.0
TDC155#050###	C	1.5	0.6	4	6.0
TDC225#050###	C	2.2	0.8	6	3.5
TDD335#050###	D	3.3	1.3	6	3.0
TDD475#050###	D	4.7	1.8	6	2.5
TDE685#050###	E	6.8	2.7	6	2.0
TDE106#050###	E	10	4.0	8	1.6
TDF156#050###	F	15	6.0	8	1.2
TDF226#050###	F	22	8.8	8	1.0

NOTE: All #016### to ambient temperature of + 20°C measured at 120Hz, 0.5V rms unless otherwise stated

- insert capacitance tolerance; K for $\pm 10\%$ and M for $\pm 20\%$
- insert wire length see page 8
- insert format 1, for pitch 2.54mm; format 2, for pitch 5.08mm
- insert Bulk: Code B or Ammo pack: Code T

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Packaging of bead tantalum capacitors

Quantity per bag: Code B

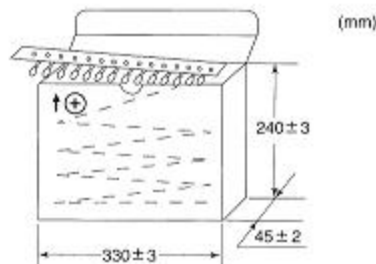
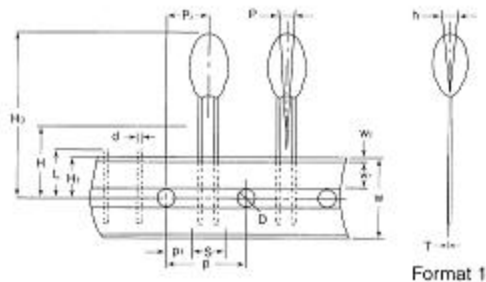
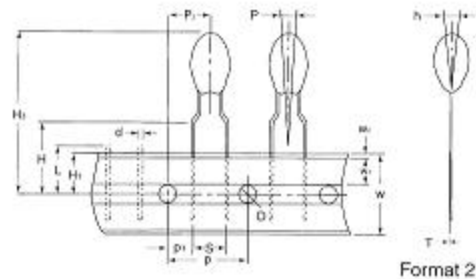
The capacity of the plastic bags depends on

CASE SIZE FORMAT	Qty per bag (cut ≤ 7mm)
From A to B	1000
From C to D	1000
From E to F	500

CASE SIZE FORMAT	Qty per bag (cut ≤ 18 mm)
From A to B	1000
From C to D	500
From E to F	500

TAPE & AMMO PACKING (conform to: IEC286-2) Code T.

Tape & Ammo Packing (conform to: IEC286 - 2)



Item	Code	Dimension (mm)
Carrier tape width	W	18.0 ^{+1.0} _{-0.5}
Hold down tape width	W ₁	6.0 ± 0.5
Hold down tape position	W ₂	1.0max
Feed hole diameter	D	4.0 ± 0.2
Feed hole pitch	P	12.7 ± 0.3
Hole center to lead	P ₁	Format 1: 5.05 ± 0.7
		Format 2: 3.85 ± 0.7
Hole center to component center	P	6.35 ± 1.0
Lead wire clench height	H	16 ± 0.5
Hole position	H1	9.0 ± 0.5
Base of component height	H ₂	0.8min
Component height	H ₃	32.2max
Component alignment	ΔP	0 ± 1.3
	Δh	0 ± 2.0
Lead spacing	S	'S' wires: 2.5 ^{+0.6} _{-0.1}
		'B' wires: 5.0 ^{+0.6} _{-0.5}
Lead diameter	d	0.5 ± 0.05
length of snipped lead	L	11.0max
Carrier tape thickness	T	0.5 ± 0.1

Case Code	A~B	C~D	E~F
QTY. (PCS/box)	2500	2000	1000