Dipped, Radial Leaded, Solid Tantalum Capacitors



As a low cost alternative to molded solid tantalum capacitors, the Type TDC, constructed in a tough, radial dipped flame retardant plastic case, assures the user that it is a top performer with such attributes as low DCL, low ESR, low impedance and a great value with low in-place cost. The Type TDC is high shock and vibration resistant and is available in bulk or on radial

Highlights

- Tough plastic case
- Low DCL
- Low ESR and impedance
- Low cost
- Temperature stable
- UL94VO flammability rating
- Resistant to shock and vibration

Specifications

Capacitance Range: 0.10 µF to 330 µF
Voltage Range: 6 WVdc to 50 WVdc at 85 ºC
Tolerance: ±10%, ±20%
Operating Temperature Range: –55 ºC to +125 ºC (with proper derating)

DC Leakage:
+25 ºC - See ratings limit
+85 ºC - 10 x ratings limit
+125 ºC - 12.5 x ratings limit

Capacitance Change Maximum:
–10% @ –55 ºC
+10% @ +85 ºC
+12% @ +125 ºC

Reverse Voltage (Non-continuous):
15% of rated voltage @ 25 ºC
5% of rated voltage @ 85 ºC
1% of rated voltage @ 125 ºC

Reel Packaging:

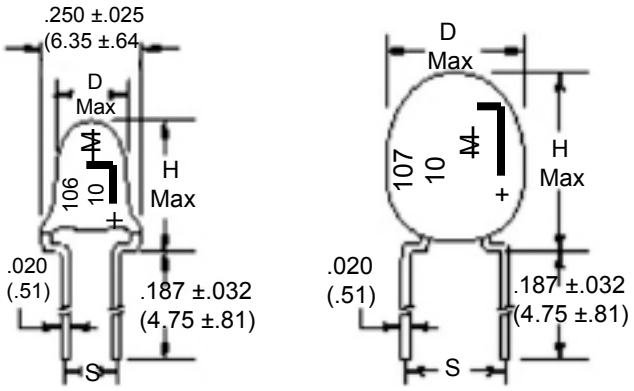
Case Code	Quantity per Reel
E	1,000
F	1,000
G	1,000

RoHS Compliant

Complies with the EU Directive 2002/95/EC requirement restricting the use of Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent chromium (Cr(VI)), PolyBrominated Biphenyls (PBB) and PolyBrominated Diphenyl Ethers (PBDE).

Type TDC Solid Tantalum Capacitors

Capacitor Outline Drawing



Dimensions - Inches (Millimeters)				
Case Code	D (Max.)	H (Max.)	Leads S	Leads Code
E	.175 (4.45)	.350 (8.89)	.125 (3.17) (Standard)	N
			.250 (6.35) (Special)	W
F	.250 (6.35)	.500 (12.7)	.125 (3.17) (Standard)	N
			.250 (6.35) (Special)	W
G	.350 (8.89)	.650 (16.51)	.250 (6.35) (Special)	W

E and F Case Codes:
Lead Spacing = .125 ±.025
(3.17 ±.64)

G Case Code:
Lead Spacing = .250 ±.025
(6.34 ±.64)

Ratings

Cap (µF)	Catalog Part Number	Case Code	Lead Spacing (S)	Max. DCL @ +25 °C (µA)	Max. DF @ +25 °C 120 Hz (%)
6 WVdc; 8 Vdc Surge @ 85 °C 4 WVdc; 5 Vdc Surge @ 125 °C					
3.3	TDC335*006NSE-F	E	0.125	0.5	5
3.9	TDC395*006NSE-F	E	0.125	0.5	5
4.7	TDC475*006NSE-F	E	0.125	0.5	5
5.6	TDC565*006NSE-F	E	0.125	0.5	5
6.8	TDC685*006NSE-F	E	0.125	0.5	5
8.2	TDC825*006NSE-F	E	0.125	0.5	6
10	TDC106*006NSE-F	E	0.125	0.5	6
12	TDC126*006NSE-F	E	0.125	0.6	6
15	TDC156*006NSF-F	F	0.125	0.7	6
18	TDC186*006NSF-F	F	0.125	0.9	6
22	TDC226*006NSF-F	F	0.125	1.1	6
27	TDC276*006NSF-F	F	0.125	1.3	6
33	TDC336*006NSF-F	F	0.125	1.6	6
39	TDC396*006NSF-F	F	0.125	1.9	6
47	TDC476*006NSF-F	F	0.125	2.3	6
56	TDC566*006NSF-F	F	0.125	2.7	6
68	TDC686*006NSF-F	F	0.125	3.3	6
82	TDC826*006NSF-F	F	0.125	3.9	8
100	TDC107*006NSF-F	F	0.125	4.8	8
120	TDC127*006WSG-F	G	0.25	5.8	8
150	TDC157*006WSG-F	G	0.25	7.2	8
180	TDC187*006WSG-F	G	0.25	8.6	8
220	TDC227*006WSG-F	G	0.25	10	8
270	TDC277*006WSG-F	G	0.25	10	8
330	TDC337*006WSG-F	G	0.25	10	8

Cap (µF)	Catalog Part Number	Case Code	Lead Spacing (S)	Max. DCL @ +25 °C (µA)	Max. DF @ +25 °C 120 Hz (%)
10 WVdc; 13 Vdc Surge @ 85 °C 7 WVdc; 9 Vdc Surge @ 125 °C					
2.2	TDC225*010NSE-F	E	0.125	0.5	5
2.7	TDC275*010NSE-F	E	0.125	0.5	5
3.3	TDC335*010NSE-F	E	0.125	0.5	5
3.9	TDC395*010NSE-F	E	0.125	0.5	5
4.7	TDC475*010NSE-F	E	0.125	0.5	5
5.6	TDC565*010NSE-F	E	0.125	0.5	5
6.8	TDC685*010NSE-F	E	0.125	0.5	5
8.2	TDC825*010NSE-F	E	0.125	0.7	6
10	TDC106*010NSF-F	F	0.125	0.8	6
12	TDC126*010NSF-F	F	0.125	1.0	6
15	TDC156*010NSF-F	F	0.125	1.2	6
18	TDC186*010NSF-F	F	0.125	1.4	6
22	TDC226*010NSF-F	F	0.125	1.8	6
27	TDC276*010NSF-F	F	0.125	2.2	6
33	TDC336*010NSF-F	F	0.125	2.6	6
39	TDC396*010NSF-F	F	0.125	3.1	6
47	TDC476*010NSF-F	F	0.125	3.8	6
56	TDC566*010NSF-F	F	0.125	4.5	6
68	TDC686*010NSF-F	F	0.125	5.4	6
82	TDC826*010WSG-F	G	0.25	6.6	8
100	TDC107*010WSG-F	G	0.25	8.0	8
120	TDC127*010WSG-F	G	0.25	9.6	8
150	TDC157*010WSG-F	G	0.25	10.0	8
180	TDC187*010WSG-F	G	0.25	10.0	8
220	TDC227*010WSG-F	G	0.25	10.0	8

* Indicates capacitance tolerance: K = ±10%, M = ±20%, (J = ±5%, Special Order)
CDE reserves the right to substitute a tighter tolerance, higher voltage capacitor within the same case size.

Ratings

Cap (µF)	Catalog Part Number	Case Code	Lead Spacing (S)	Max. DCL @ +25 °C (µA)	Max. DF @ +25 °C 120 Hz (%)
16 WVdc; 20 Vdc Surge @ 85 °C 10 WVdc; 12 Vdc Surge @ 125 °C					
1.5	TDC155*016NSE-F	E	0.125	0.5	5
1.8	TDC185*016NSE-F	E	0.125	0.5	5
2.2	TDC225*016NSE-F	E	0.125	0.5	5
2.7	TDC275*016NSE-F	E	0.125	0.5	5
3.3	TDC335*016NSE-F	E	0.125	0.5	5
3.9	TDC395*016NSE-F	E	0.125	0.5	5
4.7	TDC475*016NSE-F	E	0.125	0.6	5
5.6	TDC565*016NSE-F	E	0.125	0.7	5
6.8	TDC685*016NSE-F	E	0.125	0.9	5
8.2	TDC825*016NSE-F	E	0.125	1.0	6
10	TDC106*016NSF-F	F	0.125	1.3	6
12	TDC126*016NSF-F	F	0.125	1.5	6
15	TDC156*016NSF-F	F	0.125	1.8	6
18	TDC186*016NSF-F	F	0.125	2.2	6
22	TDC226*016NSF-F	F	0.125	2.6	6
27	TDC276*016NSF-F	F	0.125	3.2	6
33	TDC336*016NSF-F	F	0.125	4.0	6
39	TDC396*016WSG-F	G	0.25	4.7	6
47	TDC476*016WSG-F	G	0.25	5.6	6
56	TDC566*016WSG-F	G	0.25	6.8	6
68	TDC686*016WSG-F	G	0.25	8.2	6
82	TDC826*016WSG-F	G	0.25	9.8	8
100	TDC107*016WSG-F	G	0.25	10.0	8
120	TDC127*016WSG-F	G	0.25	10.0	8
150	TDC157*016WSG-F	G	0.25	10.0	8
20 WVdc; 26 Vdc Surge @ 85 °C 13 WVdc; 16 Vdc Surge @ 125 °C					
1.0	TDC105*020NSE-F	E	0.125	0.5	3
1.2	TDC125*020NSE-F	E	0.125	0.5	5
1.5	TDC155*020NSE-F	E	0.125	0.5	5
1.8	TDC185*020NSE-F	E	0.125	0.5	5
2.2	TDC225*020NSE-F	E	0.125	0.5	5
2.7	TDC275*020NSE-F	E	0.125	0.5	5
3.3	TDC335*020NSE-F	E	0.125	0.5	5
3.9	TDC395*020NSE-F	E	0.125	0.6	5
4.7	TDC475*020NSE-F	E	0.125	0.8	5
5.6	TDC565*020NSF-F	F	0.125	0.9	5
6.8	TDC685*020NSF-F	F	0.125	1.1	5

Cap (µF)	Catalog Part Number	Case Code	Lead Spacing (S)	Max. DCL @ +25 °C (µA)	Max. DF @ +25 °C 120 Hz (%)
20 WVdc; 26 Vdc Surge @ 85 °C 13 WVdc; 16 Vdc Surge @ 125 °C					
8.2	TDC825*020NSF-F	F	0.125	1.3	6
10	TDC106*020NSF-F	F	0.125	1.6	6
12	TDC126*020NSF-F	F	0.125	1.9	6
15	TDC156*020NSF-F	F	0.125	2.4	6
18	TDC186*020NSF-F	F	0.125	2.9	6
22	TDC226*020NSF-F	F	0.125	3.5	6
33	TDC336*020WSG-F	G	0.25	5.3	6
39	TDC396*020WSG-F	G	0.25	6.2	6
47	TDC476*020WSG-F	G	0.25	7.5	6
56	TDC566*020WSG-F	G	0.25	9.0	6
68	TDC686*020WSG-F	G	0.25	10.0	6
82	TDC826*020WSG-F	G	0.25	10.0	8
100	TDC107*020WSG-F	G	0.25	10.0	8
25 WVdc; 32 Vdc Surge @ 85 °C 17 WVdc; 22 Vdc Surge @ 125 °C					
1.0	TDC105*025NSE-F	E	0.125	0.50	3
1.2	TDC125*025NSE-F	E	0.125	0.50	5
1.5	TDC155*025NSE-F	E	0.125	0.50	5
1.8	TDC185*025NSE-F	E	0.125	0.50	5
2.2	TDC225*025NSE-F	E	0.125	0.50	5
2.7	TDC275*025NSE-F	E	0.125	0.50	5
3.3	TDC335*025NSE-F	E	0.125	0.70	5
3.9	TDC395*025NSE-F	E	0.125	0.80	5
4.7	TDC475*025NSF-F	F	0.125	0.90	5
5.6	TDC565*025NSF-F	F	0.125	1.10	5
6.8	TDC685*025NSF-F	F	0.125	1.40	5
8.2	TDC825*025NSF-F	F	0.125	1.60	6
10	TDC106*025NSF--F	F	0.125	2.0	6
12	TDC126*025NSF-F	F	0.125	2.4	6
15	TDC156*025NSF-F	F	0.125	3.0	6
18	TDC186*025NSF-F	F	0.125	3.6	6
22	TDC226*025NSF-F	F	0.125	4.4	6
27	TDC276*025WSG-F	G	0.250	5.4	6
33	TDC336*025WSG-F	G	0.250	6.6	6
39	TDC396*025WSG-F	G	0.250	7.8	6
47	TDC476*025WSG-F	G	0.250	9.4	6
56	TDC566*025WSG-F	G	0.250	10.0	6
68	TDC686*025WSG-F	G	0.250	10.0	6

* Indicates capacitance tolerance: K = ±10%, M = ±20%, (J = ±5%, Special Order)

CDE reserves the right to substitute a tighter tolerance, higher voltage capacitor within the same case size.

Type TDC Solid Tantalum Capacitors

Ratings

Cap (µF)	Catalog Part Number	Case Code	Lead Spacing (S)	Max. DCL @ +25 ºC (µA)	Max. DF @ +25 ºC 120 Hz (%)
35 WVdc; 46 Vdc Surge @ 85 ºC 23 WVdc; 28 Vdc Surge @ 125 ºC					
0.10	TDC104*035NSE-F	E	0.125	0.5	3
0.12	TDC124*035NSE-F	E	0.125	0.5	3
0.15	TDC154*035NSE-F	E	0.125	0.5	3
0.18	TDC184*035NSE-F	E	0.125	0.5	3
0.22	TDC224*035NSE-F	E	0.125	0.5	3
0.27	TDC274*035NSE-F	E	0.125	0.5	3
0.33	TDC334*035NSE-F	E	0.125	0.5	3
0.39	TDC394*035NSE-F	E	0.125	0.5	3
0.47	TDC474*035NSE-F	E	0.125	0.5	3
0.56	TDC564*035NSE-F	E	0.125	0.5	3
0.68	TDC684*035NSE-F	E	0.125	0.5	3
0.82	TDC824*035NSE-F	E	0.125	0.5	3
1.0	TDC105*035NSE-F	E	0.125	0.5	3
1.2	TDC125*035NSE-F	E	0.125	0.5	5
1.5	TDC155*035NSE-F	E	0.125	0.5	5
1.8	TDC185*035NSE--F	E	0.125	0.5	5
2.2	TDC225*035NSE-F	E	0.125	0.6	5
2.7	TDC275*035NSF-F	F	0.125	0.7	5
3.3	TDC335*035NSF-F	F	0.125	0.9	5
3.9	TDC339*035NSF-F	F	0.125	1.0	5
4.7	TDC475*035NSF-F	F	0.125	1.3	5
5.6	TDC565*035NSF-F	F	0.125	1.6	5
6.8	TDC685*035NSF-F	F	0.125	1.9	5
8.2	TDC825*035NSF-F	F	0.125	2.3	6
10	TDC106*035NSF-F	F	0.125	2.8	6
12	TDC126*035WSG-F	G	0.25	3.4	6
15	TDC156*035WSG-F	G	0.25	4.2	6
18	TDC186*035WSG-F	G	0.25	5.0	6
22	TDC226*035WSG-F	G	0.25	6.2	6
27	TDC276*035WSG-F	G	0.25	7.6	6
33	TDC336*035WSG-F	G	0.25	9.2	6
39	TDC396*035WSG-F	G	0.25	10	6
47	TDC476*035WSG-F	G	0.25	10	6

Cap (µF)	Catalog Part Number	Case Code	Lead Spacing (S)	Max. DCL @ +25 ºC (µA)	Max. DF @ +25 ºC 120 Hz (%)
50 WVdc; 65 Vdc Surge @ 85 ºC 33 WVdc; 40 Vdc Surge @ 125 ºC					
.10	TDC104*050NSE-F	E	0.125	0.5	3
.12	TDC124*050NSE-F	E	0.125	0.5	3
.15	TDC154*050NSE-F	E	0.125	0.5	3
.18	TDC184*050NSE-F	E	0.125	0.5	3
.22	TDC224*050NSE-F	E	0.125	0.5	3
.27	TDC274*050NSE-F	E	0.125	0.5	3
.33	TDC334*050NSE-F	E	0.125	0.5	3
.39	TDC394*050NSE-F	E	0.125	0.5	3
.47	TDC474*050NSE-F	E	0.125	0.5	3
.56	TDC564*050NSE-F	E	0.125	0.5	3
.68	TDC684*050NSE-F	E	0.125	0.5	3
.82	TDC824*050NSE-F	E	0.125	0.5	3
1.0	TDC105*050NSE-F	E	0.125	0.5	3
1.2	TDC125*050NSE-F	E	0.125	0.5	5
1.5	TDC155*050NSE-F	E	0.125	0.6	5
1.8	TDC185*050NSF-F	F	0.125	0.7	5
2.2	TDC225*050NSF-F	F	0.125	0.9	5
2.7	TDC275*050NSF-F	F	0.125	1.1	5
3.3	TDC335*050NSF-F	F	0.125	1.3	5
3.9	TDC395*050NSF-F	F	0.125	1.6	5
4.7	TDC475*050NSF-F	F	0.125	1.9	5
5.6	TDC565*050NSF-F	F	0.125	2.2	5
6.8	TDC685*050WSG-F	G	0.25	2.7	5
8.2	TDC825*050WSG-F	G	0.25	3.3	6
10	TDC106*050WSG-F	G	0.25	4.0	6
12	TDC126*050WSG-F	G	0.25	4.8	6
15	TDC156*050WSG-F	G	0.25	6.0	6
18	TDC186*050WSG-F	G	0.25	7.2	6
22	TDC226*050WSG-F	G	0.25	8.8	6

* Indicates capacitance tolerance: K = ±10%, M = ±20%, (J = ±5%, Special Order)

CDE reserves the right to substitute a tighter tolerance, higher voltage capacitor within the same case size.

Part Numbering System

TDC	107	K	016	W	S	G	–F
Series	Capacitance	Tolerance	Voltage	Lead Spacing	Lead Length	Case Code	RoHS Compliant
TDC	**394** = 0.39 µF	**J** = ±5%	**006** = 6 Vdc	**N** = .125	**S** = .187	**E**	**–F** = Compliant
	105 = 1.0 µF	**K** = ±10%	**010** = 10 Vdc	**W** = .250	**T** = Tape & Reel	**F**	**Blank** = Not Compliant
	225 = 2.2 µF	**M** = ±20%	**016** = 16 Vdc			**G**	
	186 = 18 µF		**020** = 20 Vdc				
	107 = 100 µF		**025** = 25 Vdc				
			035 = 35 Vdc				
			050 = 50 Vdc				

Notice and Disclaimer: All product drawings, descriptions, specifications, statements, information and data (collectively, the "Information") in this datasheet or other publication are subject to change. The customer is responsible for checking, confirming and verifying the extent to which the Information contained in this datasheet or other publication is applicable to an order at the time the order is placed. All Information given herein is believed to be accurate and reliable, but it is presented without any guarantee, warranty, representation or responsibility of any kind, expressed or implied. Statements of suitability for certain applications are based on the knowledge that the Cornell Dubilier company providing such statements ("Cornell Dubilier") has of operating conditions that such Cornell Dubilier company regards as typical for such applications, but are not intended to constitute any guarantee, warranty or representation regarding any such matter – and Cornell Dubilier specifically and expressly disclaims any guarantee, warranty or representation concerning the suitability for a specific customer application, use, storage, transportation, or operating environment. The Information is intended for use only by customers who have the requisite experience and capability to determine the correct products for their application. Any technical advice inferred from this Information or otherwise provided by Cornell Dubilier with reference to the use of any Cornell Dubilier products is given gratis (unless otherwise specified by Cornell Dubilier), and Cornell Dubilier assumes no obligation or liability for the advice given or results obtained. Although Cornell Dubilier strives to apply the most stringent quality and safety standards regarding the design and manufacturing of its products, in light of the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies or other appropriate protective measures) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage. Although all product-related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicated in such warnings, cautions and notes, or that other safety measures may not be required.