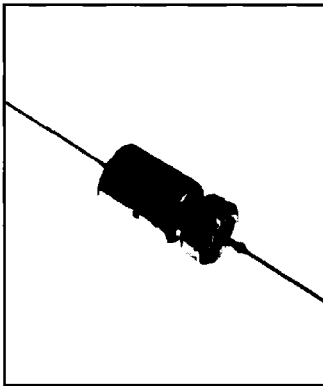


Type TLS Wet Tantalum Capacitors



- Silver Case Technology
- High Capacitance per Case Size
- Extremely Low DCL
- Long Operating Life
- Rugged Mechanical Construction
- Wide Operating Temperature Range

GENERAL SPECIFICATIONS

Operating Temperature:
-55°C to +125°C

Voltage Range:
6 to 125 VDC @ 85°C
4 to 85 VDC @ 125°C

Capacitance:
1.7 to 1200 μ F

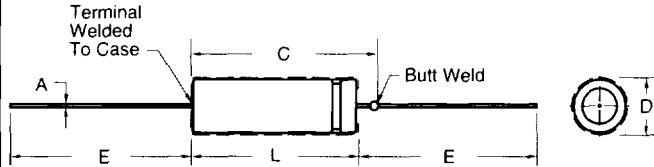
Tolerance Range:
 \pm 20%, \pm 10%
(\pm 5% on special order)

TYPICAL APPLICATIONS

Filtering, coupling, bypass circuits
Critical timing circuits
Low source impedance circuits
High charging current circuits

Wet Tantalum Capacitors

Physical Specifications



Part Number Nomenclature

TLS **405** **K** **060** **C** **1** **A**
(1) (2) (3) (4) (5) (6) (7)

1. TLS Series - Silver Case/Standard Capacitance Ratings
2. Capacitance Code (Expressed in Picofarads)
First 2 digits: Significant Figures
Third digit: Number of zeros (Example: 405 = 4 μ F)
3. Capacitance Tolerance:
M = \pm 20%, K = \pm 10%, J = \pm 5%
4. DC Voltage Rating:
Zeros are used to precede the voltage rating where necessary to complete the three digit block
5. C = Temp Range
6. 1 = Mylar Sleeve
7. Case Size Code

INCHES

(DIMENSIONS)

MILLIMETERS

Case #	MIL	Uninsulated D		Insulated D		C	A Lead Dia		E Lead Lgth	Approximate Weight (Grams) (1 gram = .035 Oz.)	Case #	MIL	Uninsulated D		Insulated D		C	A Lead Dia		E Lead Lgth
		±.016	+.031, -.016	Max	Max		Max	Nom					AWG	±.250	±.41	+.79, -.41		Max	Max	
A	T1	.188	.453	.219	.608	.734	.025	#22	1.500	1.4	A	T1	4.78	11.51	5.56	15.45	18.64	.64	#22	38.10
B	T2	.281	.641	.312	.796	.922	.025	#22	2.250	3.0	B	T2	7.14	16.28	7.92	20.22	23.41	.64	#22	57.15
C	T3	.375	.766	.406	.921	1.047	.025	#22	2.250	5.6	C	T3	9.53	19.46	10.31	23.40	26.59	.64	#22	57.15
F	T4	.375	1.062	.406	1.217	1.343	.025	#22	2.250	9.2	F	T4	9.53	26.97	10.31	30.91	34.11	.64	#22	57.15

Cap μ F	Case Code	Catalog Number	Max DCL μ A		Max ESR Ω	Max Z Ω	Max % Cap Change From 25°C		
			25°C	85°C			-55°C	+25°C	-55°C

6 WVDC; 7 VDC Surge @ 85°C 4 WVDC; 4.7 VDC Surge @ 125°C

30	A	TLS306*006C1A	1	2	4.0	100	-40	+10.5	+12
68	A	TLS686*006C1A	1	2	4.3	60	-40	+14	+16
140	B	TLS147*006C1B	1	3	2.0	40	-40	+14	+16
270	B	TLS277*008C1B	1	8.5	4.0	25	-44	+17.5	+20
330	C	TLS337*008C1C	2	7.9	2.0	20	-44	+14	+16
560	C	TLS567*008C1C	2	13	3.0	25	-64	+17.5	+20
1200	F	TLS128*006C1F	3	14	1.5	20	-80	+25	+25

8 WVDC; 9.2 VDC Surge @ 85°C 5 WVDC; 5.7 VDC Surge @ 125°C

25	A	TLS256*008C1A	1	2	4.0	100	40	+10.5	+12
56	A	TLS566*008C1A	1	2	4.0	59	-40	+14	+16
220	B	TLS227*008C1B	1	7	4.0	30	-44	+17.5	+20
430	C	TLS437*008C1C	2	14	2.8	25	-64	+17.5	+20
850	F	TLS857*008C1F	4	16	1.0	22	-80	+25	+25

* Insert Proper Letter Code For Tolerance: M = \pm 20%, K = \pm 10%, J = \pm 5%

Cap μ F	Case Code	Catalog Number	Max DCL μ A		Max ESR Ω	Max Z Ω	Max % Cap Change From 25°C		
			25°C	85°C			-55°C	+25°C	-55°C

10 WVDC; 11.5 VDC Surge @ 85°C 7 WVDC; 8 VDC Surge @ 125°C

20	A	TLS206*010C1A	1	2	4.0	175	-32	+10.5	+12
47	A	TLS476*010C1A	1	2	5.0	100	-36	+14	+16
100	B	TLS107*010C1B	1	4	2.0	60	-36	+14	+16
180	B	TLS187*010C1B	1	7	3.8	40	-36	+14	+16
250	C	TLS257*010C1C	2	10	2.0	30	-40	+14	+16
390	C	TLS397*010C1C	2	16	2.9	25	-64	+17.5	+20
750	F	TLS757*010C1F	4	16	1.0	23	-80	+25	+25

15 WVDC; 17.2 VDC Surge @ 85°C 10 WVDC; 11.5 VDC Surge @ 125°C

15	A	TLS156*015C1A	1	2	5.0	155	-24	+10.5	+12
33	A	TLS336*015C1A	1	2	5.0	90	-28	+14	+16
70	B	TLS706*015C1B	1	4	2.5	75	-28	+14	+16
120	B	TLS127*015C1B	1	7	4.0	50	-28	+17.5	+20
170	C	TLS177*015C1C	2	10	2.0	35	-32	+14	+16
270	C	TLS277*015C1C	2	16	3.0	30	-56	+17.5	+20
540	F	TLS547*015C1F	6	24	1.2	23	-80	+25	+25

Type TLS Wet Tantalum Capacitors



Wet Tantalum Capacitors

Cap μF	Case Code	Catalog Number	Max DCL μA		Max ESH Ω + 25°C	Max Z Ω -55°C	Max % Cap Change From 25°C		
			25°C	85°C/ 125°C			-55°C	+85°C	+125°C
25 WVDC; 28.8 VDC Surge @ 85°C 15 WVDC; 17.2 VDC Surge @ 125°C									
10	A	TLS106*025C1A	1	2	6.0	220	-16	+8	+9
22	A	TLS226*025C1A	1	2	4.8	140	-20	+10.5	+12
100	B	TLS107*025C1B	1	10	4.0	50	-28	+13	+15
180	C	TLS187*025C1C	2	18	3.8	32	-48	+13	+15
350	F	TLS357*025C1F	7	28	1.3	24	-70	+25	+25

Cap μF	Case Code	Catalog Number	Max DCL μA		Max ESH Ω + 25°C	Max Z Ω -55°C	Max % Cap Change From 25°C		
			25°C	85°C/ 125°C			-55°C	+85°C	+125°C
30 WVDC; 34.5 VDC Surge @ 85°C 20 WVDC; 23 VDC Surge @ 125°C									
8	A	TLS805*030C1A	1	2	7.5	275	-16	+8	+12
15	A	TLS156*030C1A	1	2	8.0	175	-20	+10.5	+12
40	B	TLS406*030C1B	1	5	4.0	65	-24	+10.5	+12
68	B	TLS686*030C1B	1	8	2.4	60	-24	+13	+15
100	C	TLS107*030C1C	2	12	2.5	40	-28	+10.5	+12
150	C	TLS157*030C1C	2	18	4.0	35	-48	+13	+15
300	F	TLS307*030C1F	8	32	1.5	25	-60	+25	+25

Cap μF	Case Code	Catalog Number	Max DCL μA		Max ESH Ω + 25°C	Max Z Ω -55°C	Max % Cap Change From 25°C		
			25°C	85°C/ 125°C			-55°C	+85°C	+125°C
50 WVDC; 57.5 VDC Surge @ 85°C 30 WVDC; 34.5 VDC Surge @ 125°C									
5	A	TLS505*050C1A	1	2	6.0	400	-16	+5	+6
10	A	TLS106*050C1A	1	2	4.0	250	-24	+8	+9
25	B	TLS256*050C1B	1	5	3.0	95	-20	+10.5	+12
47	B	TLS476*050C1B	1	9	3.0	70	-28	+13	+15
60	C	TLS606*050C1C	2	12	2.0	45	-16	+10.5	+12
82	C	TLS826*050C1C	2	16	3.0	45	-32	+13	+15
160	F	TLS167*050C1F	8	32	2.0	27	-50	+25	+25

Cap μF	Case Code	Catalog Number	Max DCL μA		Max ESH Ω + 25°C	Max Z Ω -55°C	Max % Cap Change From 25°C		
			25°C	85°C/ 125°C			-55°C	+85°C	+125°C
60 WVDC; 69 VDC Surge @ 85°C 40 WVDC; 46 VDC Surge @ 125°C									
4	A	TLS405*060C1A	1	2	8.0	550	-16	+5	+6
8.2	A	TLS825*060C1A	1	2	5.0	275	-24	+8	+9
20	B	TLS206*060C1B	1	5	3.0	105	-16	+10.5	+12
39	B	TLS396*060C1B	1	9	4.0	90	-28	+10.5	+12
50	C	TLS506*060C1C	2	12	2.0	50	-16	+10.5	+12
68	C	TLS686*060C1C	2	16	3.0	50	-32	+10.5	+12
140	F	TLS147*060C1F	8	32	2.4	28	-40	+20	+20

* Insert Proper Letter Code For Tolerance: M = ±20%, K = ±10%, J = ±5%

Cap μF	Case Code	Catalog Number	Max DCL μA		Max ESH Ω + 25°C	Max Z Ω -55°C	Max % Cap Change From 25°C		
			25°C	85°C/ 125°C			-55°C	+85°C	+125°C
75 WVDC; 86.2VDC Surge @ 85°C 50 WVDC; 57.5 VDC Surge @ 125°C									
3.5	A	TLS355*075C1A	1	2	8.0	650	-16	+5	+6
6.8	A	TLS685*075C1A	1	2	5.0	300	-20	+8	+9
15	B	TLS156*075C1B	1	5	3.0	150	-16	+8	+9
33	B	TLS336*075C1B	1	10	4.0	90	-24	+10.5	+15
40	C	TLS406*075C1C	2	12	2.0	60	-16	+10.5	+12
56	C	TLS566*075C1C	2	17	4.0	60	-28	+10.5	+15
110	F	TLS117*075C1F	9	36	2.6	29	-35	+20	+20

Cap μF	Case Code	Catalog Number	Max DCL μA		Max ESH Ω + 25°C	Max Z Ω -55°C	Max % Cap Change From 25°C		
			25°C	85°C/ 125°C			-55°C	+85°C	+125°C
100 WVDC; 115 VDC Surge @ 85°C 65 WVDC; 74.8 VDC Surge @ 125°C									
2.5	A	TLS255*100C1A	1	2	12.0	950	-16	+7	+8
4.7	A	TLS475*100C1A	1	2	6.0	500	-16	+7	+8
11	B	TLS116*100C1B	1	4	4.0	200	-16	+7	+8
22	B	TLS226*100C1B	1	9	4.0	100	-16	+7	+8
30	C	TLS306*100C1C	2	12	3.0	80	-16	+7	+8
43	C	TLS436*100C1C	2	17	4.0	70	-20	+7	+8
86	F	TLS866*100C1F	9	36	3.0	30	-25	+15	+15

Cap μF	Case Code	Catalog Number	Max DCL μA		Max ESH Ω + 25°C	Max Z Ω -55°C	Max % Cap Change From 25°C		
			25°C	85°C/ 125°C			-55°C	+85°C	+125°C
125 WVDC; 144 VDC Surge @ 85°C 85 WVDC; 97.8 VDC Surge @ 125°C									
1.7	A	TLS175*125C1A	1	2	14.0	1250	-16	+7	+8
3.6	A	TLS365*125C1A	1	2	8.0	600	-16	+7	+8
9	B	TLS905*125C1B	1	5	5.0	240	-16	+7	+8
14	B	TLS146*125C1B	1	7	6.0	167	-16	+7	+8
18	C	TLS186*125C1C	2	9	3.0	129	-16	+7	+8
25	C	TLS256*125C1C	2	13	5.0	93	-16	+7	+8
56	F	TLS566*125C1F	10	40	4.0	32	-25	+15	+15