

# Type TCX 105 °C, Axial Leaded Aluminum Electrolytic Capacitors

## Extended Life Computer Grade Capacitor

Type TCX is an axial leaded, 105 °C, 2000 h extended life industrial and computer grade quality aluminum electrolytic capacitor with low DCL and ESR and is suitable for computer applications.

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### Highlights

- 105 °C rated
- Computer grade
- Low DCL and ESR

### Specifications

**Capacitance Range:** 27 to 12,000  $\mu\text{F}$   
**Voltage Range:** 10 to 150 WVdc  
**Capacitance Tolerance:** 10 to 75 WVdc, -10 +75%  
100 to 150 WVdc, -10 +50%  
**Operating Temperature Range:** -55 °C to 105 °C  
**DC Leakage Current:**  $I = 2 \sqrt{CV}$  after 5 minutes

Not to exceed 2 mA @ 25 °C

I = leakage current in  $\mu\text{A}$

C = Capacitance in  $\mu\text{F}$

V = Rated voltage

### Ripple Current Multipliers:

Rated WVdc 0 to 150	Ripple Multipliers			
	60 Hz	400 Hz	1000 Hz	2400 Hz
	0.8	1.05	1.10	1.14

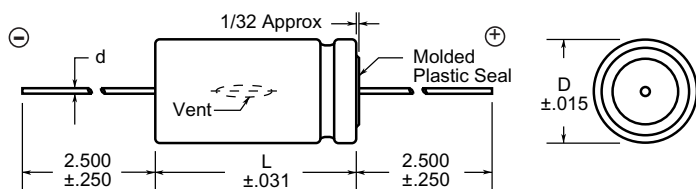
Ambient Temp.	+45 °C	+55 °C	+65 °C	+75 °C	+85 °C	+95 °C
Ripple Multiplier	1.7	1.58	1.4	1.2	1.0	0.7

### QA Stability Test:

Apply WVdc for 2,000 h at 105 °C

- Capacitance change  $\pm 15\%$  from initial limits
- DC leakage current meets initial limits
- ESR  $\leq 150\%$  of initial measured value

### Outline Drawing



(Inches)

Parts are supplied with PVC insulating sleeve.  
Add .010" to diameter and .125" max  
to length to allow for insulation.

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## Ratings

Cap (µF)	Catalog Part Number	Max ESR 120 Hz 25 °C (Ω)	Max Ripple 120 Hz 85 °C (A)	Size		
				Diameter D (Inches)	Length L (Inches)	Lead Wire (d)
<b>10 WVdc ( 12 Vdc Surge )</b>						
10,000	TCX103U010L3C	0.024	5.952	0.875	3.125	0.040
<b>15 WVdc ( 20 Vdc Surge )</b>						
1,000	TCX102U015J1C	0.145	1.394	0.750	1.125	0.040
2,100	TCX212U015J1L	0.071	2.337	0.750	1.625	0.040
8,200	TCX822U015N2L	0.025	5.796	1.000	2.625	0.040
12,000	TCX123U015N3L	0.019	7.589	1.000	3.625	0.040
<b>25 WVdc ( 30 Vdc Surge )</b>						
1,200	TCX122U025N1C	0.109	1.899	1.000	1.125	0.040
1,800	TCX182U025L1L	0.071	2.557	0.875	1.625	0.040
2,400	TCX242U025N1L	0.057	3.081	1.000	1.625	0.040
3,700	TCX372U025L2L	0.037	4.370	0.875	2.625	0.040
7,200	TCX722U025N3L	0.023	6.882	1.000	3.625	0.040
<b>30 WVdc ( 40 Vdc Surge )</b>						
310	TCX311U030G1C	0.316	0.852	0.625	1.125	0.032
470	TCX471U030J1C	0.214	1.149	0.750	1.125	0.040
1,400	TCX142U030J2C	0.075	2.583	0.750	2.125	0.040
2,700	TCX272U030L2L	0.043	4.091	0.875	2.625	0.040
3,000	TCX302U030L3C	0.039	4.643	0.875	3.125	0.040
<b>40 WVdc ( 50 Vdc Surge )</b>						
360	TCX361U040J1C	0.230	1.107	0.750	1.125	0.040
1,000	TCX102U040L1L	0.088	2.290	0.875	1.625	0.040
1,400	TCX142U040J2L	0.063	3.107	0.750	2.625	0.040
2,100	TCX212U040L2L	0.045	3.975	0.875	2.625	0.040

Cap (µF)	Catalog Part Number	Max ESR 120 Hz 25 °C (Ω)	Max Ripple 120 Hz 85 °C (A)	Size		
				Diameter D (Inches)	Length L (Inches)	Lead Wire (d)
<b>40 WVdc ( 50 Vdc Surge )</b>						
4,200	TCX422U040N3L	0.028	6.361	1.000	3.625	0.040
<b>50 WVdc ( 65 Vdc Surge )</b>						
250	TCX251U050G1G	0.306	0.947	0.625	1.375	0.032
370	TCX371U050L1C	0.216	1.250	0.875	1.125	0.040
500	TCX501U050G2C	0.155	1.624	0.625	2.125	0.032
710	TCX711U050N1G	0.118	1.989	1.000	1.375	0.040
950	TCX951U050N1L	0.089	2.456	1.000	1.625	0.040
1,400	TCX142U050L2L	0.061	3.436	0.875	2.625	0.040
1,900	TCX192U050N2L	0.047	4.170	1.000	2.625	0.040
2,800	TCX282U050N3L	0.035	5.655	1.000	3.625	0.040
<b>75 WVdc ( 95 Vdc Surge )</b>						
65	TCX650U075G1C	2.961	0.419	0.625	1.125	0.032
100	TCX101U075J1C	1.932	0.574	0.750	1.125	0.040
560	TCX561U075L2L	0.115	2.491	0.875	2.625	0.040
740	TCX741U075N2L	0.090	3.033	1.000	2.625	0.040
1,100	TCX112U075N3L	0.084	3.633	1.000	3.625	0.040
<b>100 WVdc ( 125 Vdc Surge )</b>						
110	TCX111T100L1G	.404	0.996	0.875	1.375	0.040
150	TCX151T100L1L	0.297	1.248	0.875	1.625	0.040
<b>150 WVdc ( 175 Vdc Surge )</b>						
27	TCX270T150G1C	5.720	0.322	0.625	1.125	0.032
150	TCX151T150J2L	0.404	1.224	0.750	2.625	0.040

## Case Code Format for Type TCX

Case Code	Case Code Chart					
	Inches		Millimeters		d	
	D	L	D	L	Inches	AWG
E1G	0.500	1.375	12.7	34.9	0.032	#20
E2C	0.500	2.125	12.7	53.9	0.032	#20
G1C	0.625	1.125	15.9	28.6	0.032	#20
G1G	0.625	1.375	15.9	34.9	0.032	#20
G1L	0.625	1.625	15.9	41.3	0.032	#20
G2C	0.625	2.125	15.9	53.9	0.032	#20
G2L	0.625	2.625	15.9	66.7	0.032	#20
G3C	0.625	3.125	15.9	79.4	0.032	#20
G3L	0.625	3.625	15.9	92.1	0.032	#20
J1C	0.750	1.125	19.1	28.6	0.040	#18
J1G	0.750	1.375	19.1	34.9	0.040	#18
J1L	0.750	1.625	19.1	41.3	0.040	#18
J2C	0.750	2.125	19.1	53.9	0.040	#18
J2L	0.750	2.625	19.1	66.7	0.040	#18
J3C	0.750	3.125	19.1	79.4	0.040	#18

Case Code	Case Code Chart					
	Inches		Millimeters		d	
	D	L	D	L	Inches	AWG
J3L	0.750	3.625	19.1	92.1	0.040	#18
L1C	0.875	1.125	22.2	28.6	0.040	#18
L1G	0.875	1.375	22.2	34.9	0.040	#18
L1L	0.875	1.625	22.2	41.3	0.040	#18
L2C	0.875	2.125	22.2	53.9	0.040	#18
L2L	0.875	2.625	22.2	66.7	0.040	#18
L3C	0.875	3.125	22.2	79.4	0.040	#18
L3L	0.875	3.625	22.2	92.1	0.040	#18
N1C	1.000	1.125	25.4	28.6	0.040	#18
N1G	1.000	1.375	25.4	34.9	0.040	#18
N1L	1.000	1.625	25.4	41.3	0.040	#18
N2C	1.000	2.125	25.4	53.9	0.040	#18
N2L	1.000	2.625	25.4	66.7	0.040	#18
N3C	1.000	3.125	25.4	79.4	0.040	#18
N3L	1.000	3.625	25.4	92.1	0.040	#18