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# Type TCG Axial Leaded Aluminum Electrolytic Capacitors

## 85 °C Computer Grade Capacitor



Type TCG is an axial leaded, 85 °C, industrial and computer grade quality aluminum electrolytic capacitor that is suitable for computers, communication equipment and power supplies.

### Highlights

- Industrial grade
- Computer grade
- Low profile mounting

### Specifications

**Capacitance Range:** 10 to 10,000  $\mu\text{F}$   
**Voltage Range:** 10 to 450 WVdc  
**Capacitance Tolerance:** 10 to 75 WVdc, -10 +75%  
 150 to 450 WVdc, -10 +50%  
**Operating Temperature Range:** -40 °C to 85 °C  
**DC Leakage Current:**  $I = 6 \sqrt{CV}$  after 5 minutes  
 Not to exceed 3 mA @ 25 °C  
 I = leakage current in  $\mu\text{A}$   
 C = Capacitance in  $\mu\text{F}$   
 V = Rated voltage

### Ripple Current Multipliers:

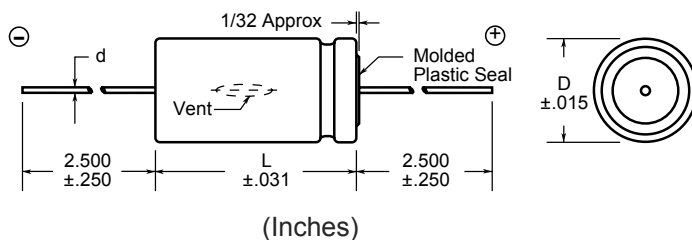
Rated WVdc	Ripple Multipliers			
	60 Hz	400 Hz	1000 Hz	2400 Hz
0 to 50	0.8	1.05	1.10	1.14
51 to 150	0.8	1.08	1.13	1.16
151 & up	0.8	1.15	1.21	1.25

Ambient Temp.	+45 °C	+55 °C	+65 °C	+75 °C	+85 °C
Ripple Multiplier	2.2	2.0	1.7	1.4	1.0

### QA Stability Test:

- Apply WVdc for 1,000 h at 85 °C
- Capacitance change  $\pm 15\%$  from initial limits
  - DC leakage current meets initial limits
  - ESR  $\leq 150\%$  of initial measured value

### Outline Drawing



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 ( $\mu$ F)	Catalog Part Number	Max ESR		Max Ripple		Size		
		120 Hz 25 °C ( $\Omega$ )	120 Hz 85 °C (A)	Diameter D (Inches)	Length L (Inches)	Lead Wire (d)		
<b>10 WVdc ( 12 Vdc Surge )</b>								
2,500	TCG252U010L1C	0.170	1.407	0.875	1.125	0.040		
2,500	TCG252U010N1C	0.171	1.521	1.000	1.125	0.040		
3,500	TCG352U010N1L	0.092	2.424	1.000	1.625	0.040		
5,000	TCG502U010N1G	0.082	2.488	1.000	1.375	0.040		
5,500	TCG552U010N1L	0.081	2.584	1.000	1.625	0.040		
10,000	TCG103U010L3C	0.046	4.274	0.875	3.125	0.040		
10,000	TCG103U010N2C	0.048	3.772	1.000	2.125	0.040		
<b>15 WVdc ( 20 Vdc Surge )</b>								
2,500	TCG252U015G2L	0.126	1.989	0.625	2.625	0.032		
2,900	TCG292U015G2L	0.110	2.134	0.625	2.625	0.032		
4,000	TCG402U015N1L	0.085	2.518	1.000	1.625	0.040		
4,100	TCG412U015N1L	0.083	2.544	1.000	1.625	0.040		
5,000	TCG502U015J2L	0.067	3.015	0.750	2.625	0.040		
6,300	TCG632U015L2L	0.055	3.612	0.875	2.625	0.040		
8,000	TCG802U015N2L	0.045	4.269	1.000	2.625	0.040		
8,200	TCG822U015N2L	0.044	4.310	1.000	2.625	0.040		
10,000	TCG103U015N2L	0.038	4.634	1.000	2.625	0.040		
<b>25 WVdc ( 30 Vdc Surge )</b>								
1,000	TCG102U025N1C	0.216	1.352	1.000	1.125	0.040		
1,100	TCG112U025J1L	0.190	1.431	0.750	1.625	0.040		
2,000	TCG202U025N1L	0.154	2.137	1.000	1.625	0.040		
2,200	TCG222U025J2L	0.098	2.487	0.750	2.625	0.040		
4,000	TCG402U025L3C	0.057	3.827	0.875	3.125	0.040		
<b>30 WVdc ( 40 Vdc Surge )</b>								
500	TCG501U030J1C	0.369	0.874	0.750	1.125	0.040		
1,100	TCG112U030G2L	0.169	1.721	0.625	2.625	0.032		
2,100	TCG212U030L2L	0.072	3.159	0.875	2.625	0.040		
2,400	TCG242U030L2L	0.082	2.961	0.875	2.625	0.040		
2,500	TCG252U030N2L	0.078	3.005	1.000	2.625	0.040		
3,000	TCG302U030L2C	0.065	3.004	0.875	2.125	0.040		
<b>50 WVdc ( 65 Vdc Surge )</b>								
250	TCG251U050G1G	0.499	0.742	0.625	1.375	0.032		
500	TCG501U050G2L	0.156	1.788	0.625	2.625	0.032		
500	TCG501U050N1C	0.262	1.227	1.000	1.125	0.040		
600	TCG601U050G2L	0.211	1.539	0.625	2.625	0.032		
600	TCG601U050L1G	0.215	1.363	0.875	1.375	0.040		
1,100	TCG112U050N1G	1.050	2.480	1.000	1.375	0.040		

Cap ( $\mu$ F)	Catalog Part Number	Max ESR		Max Ripple		Size		
		120 Hz 25 °C ( $\Omega$ )	120 Hz 85 °C (A)	Diameter D (Inches)	Length L (Inches)	Lead Wire (d)		
<b>50 WVdc ( 65 Vdc Surge )</b>								
1,200	TCG122U050L2C	0.110	2.313	0.875	2.125	0.040		
2,300	TCG232U050N2L	0.062	3.653	1.000	2.625	0.040		
2,500	TCG252U050N2L	0.058	3.777	1.000	2.625	0.040		
<b>150 WVdc ( 175 Vdc Surge )</b>								
100	TCG101T150J1L	0.696	0.748	0.750	1.625	0.040		
110	TCG111T150J1L	0.634	0.784	0.750	1.625	0.040		
250	TCG251T150L2C	0.284	1.439	0.875	2.125	0.040		
530	TCG531T150N3C	0.139	2.639	1.000	3.125	0.040		
560	TCG561T150N3C	0.133	2.705	1.000	3.125	0.040		
<b>200 WVdc ( 250 Vdc Surge )</b>								
210	TCG211T200N2C	0.646	1.780	1.000	2.125	0.040		
300	TCG301T200N2C	0.517	1.977	1.000	2.125	0.040		
430	TCG431U200N3L	0.411	2.116	1.000	3.625	0.040		
<b>250 WVdc ( 300 Vdc Surge )</b>								
50	TCG500T250L1G	2.450	0.607	0.875	1.375	0.040		
100	TCG101T250L2C	1.230	1.039	0.875	2.125	0.040		
200	TCG201T250N2L	0.277	1.726	1.000	2.625	0.040		
<b>350 WVdc ( 400 Vdc Surge )</b>								
20	TCG200T350G1L	9.500	0.294	0.625	1.625	0.032		
20	TCG200T350J1C	9.520	0.276	0.750	1.125	0.040		
30	TCG300T350G2C	6.336	0.408	0.625	2.125	0.032		
30	TCG300T350L1C	6.368	0.369	0.875	1.125	0.040		
40	TCG400T350N1C	4.200	0.460	1.000	1.125	0.040		
50	TCG500T350N1G	3.353	0.560	1.000	1.375	0.040		
100	TCG101T350N2C	1.680	0.957	1.000	2.125	0.040		
160	TCG161T350N2L	0.469	1.327	1.000	2.625	0.040		
180	TCG181T350N3C	0.417	1.524	1.000	3.125	0.040		
<b>450 WVdc ( 525 Vdc Surge )</b>								
10	TCG100T450G1L	17.392	0.217	0.625	1.625	0.032		
10	TCG100T450J1C	17.404	0.204	0.750	1.125	0.040		
12	TCG120T450J1G	14.500	0.244	0.750	1.375	0.040		
20	TCG200T450G2L	8.704	0.384	0.625	2.625	0.032		
20	TCG200T450N1C	8.732	0.341	1.000	1.125	0.040		
50	TCG500T450N1L	4.742	0.709	1.000	1.625	0.040		
50	TCG500T450N2C	4.049	0.548	1.000	2.125	0.040		
60	TCG600T450N2L	3.950	0.890	1.000	2.625	0.040		
85	TCG850T450N2L	1.869	0.998	1.000	2.625	0.040		

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## Case Code Format for Type TCG

Case Code Chart						
Case	Inches		Millimeters		d	
Code	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
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

## Type TCG Axial Leaded Aluminum Electrolytic Capacitors

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OBSOLETE