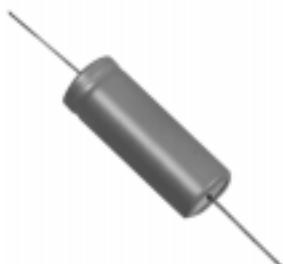


# Type TC Axial Leaded Aluminum Electrolytic Capacitors

## 85 °C, High Ripple, General Purpose Capacitor



Type TC is an axial leaded, 85 °C, 1000 hour long life general purpose aluminum electrolytic capacitor with a high ripple current rating and is suitable for consumer electronic equipment applications.

### Highlights

- General purpose
- High ripple current
- Low profile mounting

### Specifications

|                                     |                                                                                                                                                      |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Capacitance Range:</b>           | 1.0 to 5,000 $\mu$ F                                                                                                                                 |
| <b>Voltage Range:</b>               | 16 to 450 WVdc                                                                                                                                       |
| <b>Capacitance Tolerance:</b>       | < .625 Dia., $\pm 20\%$<br>$\geq .625$ Dia.<br>16 to 150 WVdc, -10 +75%<br>250 to 450 WVdc, -10 +50%                                                 |
| <b>Operating Temperature Range:</b> | -40 °C to 85 °C                                                                                                                                      |
| <b>DC Leakage Current:</b>          | $I = 6 \sqrt{CV}$ after 5 minutes<br>Not to exceed 3 mA @ 25 °C<br>I = leakage current in $\mu$ A<br>C = Capacitance in $\mu$ F<br>V = Rated voltage |

#### Ripple Current Multipliers:

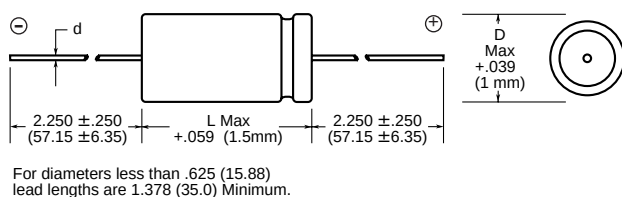
| Rated<br>WVdc | Ripple Multipliers |        |         |         |
|---------------|--------------------|--------|---------|---------|
|               | 60 Hz              | 400 Hz | 1000 Hz | 2400 Hz |
| 0 to 50       | 0.8                | 1.05   | 1.10    | 1.14    |
| 51 to 150     | 0.8       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

|                          |        |        |        |        |        |
|--------------------------|--------|--------|--------|--------|--------|
| <b>Ambient Temp.</b>     | +45 °C | +55 °C | +65 °C | +75 °C | +85 °C |
| <b>Ripple Multiplier</b> | 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.

# Type TC Axial Leaded Aluminum Electrolytic Capacitors

## Ratings

| Cap                        | Catalog<br>Part Number | Max ESR | Max Ripple | Size     |          |       |
|----------------------------|------------------------|---------|------------|----------|----------|-------|
|                            |                        | 120 Hz  | 120 Hz     | Diameter | Length   | Lead  |
|                            |                        | 25 °C   | 85 °C      | D        | L        | Wire  |
| (µF)                       |                        | (Ω)     | (A)        | (Inches) | (Inches) | (d)   |
| 16 WVdc ( 20 Vdc Surge )   |                        |         |            |          |          |       |
| 3,000                      | TC1530                 | 0.11    | 2.066      | 0.875    | 1.625    | 0.040 |
| 4,000                      | TC1540                 | 0.08    | 2.518      | 0.875    | 1.875    | 0.040 |
| 4,000                      | TC1540A                | 0.07    | 1.450      | 0.866    | 1.575    | 0.040 |
| 5,000                      | TC1550                 | 0.07    | 3.217      | 0.875    | 2.625    | 0.040 |
| 25 WVdc ( 30 Vdc Surge )   |                        |         |            |          |          |       |
| 470                        | TC2505A                | 0.38    | 0.550      | 0.394    | 0.787    | 0.032 |
| 1,500                      | TC2515                 | 0.14    | 1.881      | 0.750    | 2.125    | 0.040 |
| 1,500                      | TC2515A                | 0.12    | 1.225      | 0.709    | 1.575    | 0.040 |
| 2,000                      | TC2520                 | 0.11    | 2.204      | 0.875    | 1.875    | 0.040 |
| 2,000                      | TC2520A                | 0.09    | 1.350      | 0.866    | 1.575    | 0.040 |
| 3,000                      | TC2530                 | 0.07    | 3.108      | 0.875    | 2.625    | 0.040 |
| 4,000                      | TC2540                 | 0.06    | 3.779      | 1.000    | 2.625    | 0.040 |
| 4,000                      | TC2540A                | 0.07    | 1.450      | 0.866    | 1.575    | 0.040 |
| 5,000                      | TC2550                 | 0.05    | 4.136      | 1.000    | 2.625    | 0.040 |
| 50 WVdc ( 65 Vdc Surge )   |                        |         |            |          |          |       |
| 22                         | TC36A                  | 6.09    | 0.073      | 0.236    | 0.63     | 0.032 |
| 47                         | TC39A                  | 3.14    | 0.130      | 0.315    | 0.63     | 0.032 |
| 1,000                      | TC50100                | 0.08    | 2.949      | 0.875    | 2.625    | 0.040 |
| 1,000                      | TC50100A               | 0.12    | 1.447      | 0.866    | 1.575    | 0.040 |
| 1,500                      | TC50150                | 0.07    | 3.423      | 1.000    | 2.625    | 0.040 |
| 2,000                      | TC50200                | 0.07    | 3.448      | 1.000    | 2.625    | 0.040 |
| 2,000                      | TC50200A               | 0.09    | 1.350      | 0.866    | 1.575    | 0.040 |
| 3,000                      | TC50300                | 0.05    | 4.766      | 1.000    | 3.625    | 0.040 |
| 5,000                      | TC50500                | 0.03    | 5.820      | 1.000    | 3.625    | 0.040 |
| 5,000                      | TC50500A               | 0.56    | 3.305      | 0.866    | 1.575    | 0.040 |
| 75 WVdc ( 95 Vdc Surge )   |                        |         |            |          |          |       |
| 100                        | TC75101                | 0.77    | 0.597      | 0.625    | 1.375    | 0.040 |
| 100                        | TC75101A               | 2.66    | 0.270      | 0.512    | 1.181    | 0.032 |
| 250                        | TC75251                | 0.37    | 1.024      | 0.750    | 1.625    | 0.040 |
| 500                        | TC75501                | 0.19    | 1.765      | 0.875    | 2.125    | 0.040 |
| 1,000                      | TC75102                | 0.10    | 2.344      | 1.000    | 1.625    | 0.040 |
| 2,000                      | TC75202                | 0.05    | 3.991      | 1.000    | 2.625    | 0.040 |
| 100 WVdc ( 125 Vdc Surge ) |                        |         |            |          |          |       |
| 100                        | TC10101                | 0.36    | 0.974      | 0.750    | 1.375    | 0.040 |
| 100                        | TC10101A               | 3.32    | 0.419      | 0.630    | 1.299    | 0.032 |
| 150                        | TC10151                | 0.24    | 1.276      | 0.750    | 1.625    | 0.040 |
| 150                        | TC10151A               | 1.34    | 0.823      | 0.709    | 1.575    | 0.040 |
| 250                        | TC10251                | 0.15    | 1.885      | 0.875    | 1.875    | 0.040 |
| 500                        | TC10501                | 0.08    | 3.251      | 1.000    | 2.625    | 0.040 |
| 1,000                      | TC10102                | 0.08    | 3.918      | 1.000    | 3.875    | 0.040 |
| 1,000                      | TC10102A               | 0.12    | 1.447      | 0.866    | 1.575    | 0.040 |
| 1,500                      | TC10152                | 0.06    | 4.495      | 1.000    | 3.625    | 0.040 |
| 150 WVdc ( 175 Vdc Surge ) |                        |         |            |          |          |       |
| 80                         | TC492                  | 1.96    | 0.670      | 0.750    | 1.625    | 0.040 |
| 100                        | TC493                  | 0.70    | 0.748      | 0.750    | 1.625    | 0.040 |
| 100                        | TC493A                 | 3.32    | 0.555      | 0.709    | 1.575    | 0.040 |
| 150                        | TC495                  | 0.47    | 0.993      | 0.875    | 1.625    | 0.040 |
| 200                        | TC496                  | 0.35    | 1.293      | 0.875    | 2.125    | 0.040 |
| 300                        | TC499                  | 0.24    | 1.687      | 1.00     | 2.125    | 0.040 |
| 500                        | TC4990                 | 0.15    | 2.362      | 1.00     | 2.625    | 0.040 |
| 250 WVdc ( 300 Vdc Surge ) |                        |         |            |          |          |       |
| 5                          | TC50XA                 | 70.60   | 0.060      | 0.394    | 0.787    | 0.032 |
| 8                          | TC51                   | 15.27   | 0.197      | 0.625    | 1.125    | 0.032 |
| 10                         | TC52                   | 12.22   | 0.220      | 0.625    | 1.125    | 0.032 |
| 10                         | TC52A                  | 33.20   | 0.890      | 0.394    | 0.984    | 0.032 |
| 12                         | TC53                   | 8.65    | 0.262      | 0.625    | 1.125    | 0.032 |
| 16                         | TC54                   | 7.64    | 0.304      | 0.625    | 1.375    | 0.032 |

| Cap<br><br>(μF)            | Catalog<br><br>Part Number | Max ESR | Max Ripple | Size     |          | Lead<br><br>Wire |
|----------------------------|----------------------------|---------|------------|----------|----------|------------------|
|                            |                            | 120 Hz  | 120 Hz     | Diameter | Length   |                  |
|                            |                            | 25 °C   | 85 °C      | D        | L        |                  |
|                            |                            | (Ω)     | (A)        | (Inches) | (Inches) |                  |
| 250 WVdc ( 300 Vdc Surge ) |                            |         |            |          |          |                  |
| 20                         | TC55                       | 6.13    | 0.345      | 0.750    | 1.125    | 0.040            |
| 20                         | TC55A                      | 15.10   | 0.175      | 0.512    | 1.181    | 0.032            |
| 30                         | TC57                       | 4.09    | 0.461      | 0.750    | 1.375    | 0.040            |
| 30                         | TC57A                      | 10.10   | 0.241      | 0.630    | 1.181    | 0.032            |
| 40                         | TC58                       | 2.69    | 0.573      | 0.750    | 1.625    | 0.040            |
| 40                         | TC58A                      | 8.58    | 0.280      | 0.630    | 1.299    | 0.032            |
| 50                         | TC59                       | 2.15    | 0.640      | 0.750    | 1.625    | 0.040            |
| 50                         | TC59A                      | 7.06    | 0.318      | 0.630    | 1.299    | 0.032            |
| 100                        | TC1265                     | 1.08    | 1.220      | 0.875    | 2.625    | 0.040            |
| 100                        | TC1265A                    | 3.32    | 0.555      | 0.866    | 1.575    | 0.040            |
| 160                        | TC1266                     | 0.30    | 1.649      | 1.000    | 2.625    | 0.040            |
| 225                        | TC1267                     | 0.22    | 2.105      | 1.000    | 3.125    | 0.040            |
| 300 WVdc ( 350 Vdc Surge ) |                            |         |            |          |          |                  |
| 150                        | TC593                      | 0.36    | 1.624      | 1        | 3.125    | 0.040            |
| 200                        | TC594                      | 0.28    | 1.865      | 1        | 3.125    | 0.040            |
| 350 WVdc ( 400 Vdc Surge ) |                            |         |            |          |          |                  |
| 5                          | TC60                       | 30.48   | 0.139      | 0.625    | 1.125    | 0.032            |
| 8                          | TC61                       | 19.05   | 0.193      | 0.625    | 1.375    | 0.032            |
| 8                          | TC61A                      | 33.20   | 0.089      | 0.512    | 0.827    | 0.032            |
| 10                         | TC62                       | 15.25   | 0.215      | 0.625    | 1.375    | 0.032            |
| 10                         | TC62A                      | 33.20   | 0.089      | 0.512    | 0.827    | 0.032            |
| 12                         | TC63                       | 12.71   | 0.239      | 0.750    | 1.125    | 0.040            |
| 16                         | TC64                       | 9.54    | 0.302      | 0.750    | 1.375    | 0.040            |
| 20                         | TC65                       | 7.63    | 0.337      | 0.750    | 1.375    | 0.040            |
| 20                         | TC65A                      | 15.10   | 0.175      | 0.512    | 1.181    | 0.032            |
| 40                         | TC67                       | 3.96    | 0.514      | 0.875    | 1.625    | 0.040            |
| 60                         | TC68                       | 2.78    | 0.691      | 0.875    | 2.125    | 0.040            |
| 60                         | TC68A                      | 6.44    | 0.376      | 0.709    | 1.575    | 0.040            |
| 100                        | TC69                       | 1.35    | 1.093      | 0.875    | 2.625    | 0.040            |
| 100                        | TC69A                      | 3.32    | 0.555      | 0.866    | 1.575    | 0.040            |
| 150                        | TC692                      | 0.96    | 1.495      | 1.000    | 3.625    | 0.040            |
| 450 WVdc ( 525 Vdc Surge ) |                            |         |            |          |          |                  |
| 2                          | TC695                      | 86.91   | 0.082      | 0.625    | 1.125    | 0.032            |
| 2                          | TC695A                     | 151.00  | 0.030      | 0.315    | 0.787    | 0.032            |
| 4                          | TC697                      | 43.47   | 0.116      | 0.625    | 1.125    | 0.032            |
| 4                          | TC697A                     | 70.60   | 0.051      | 0.394    | 0.984    | 0.032            |
| 5                          | TC70                       | 35.86   | 0.144      | 0.750    | 1.125    | 0.040            |
| 5                          | TC70A                      | 70.60   | 0.051      | 0.394    | 0.984    | 0.032            |
| 8                          | TC71                       | 21.74   | 0.183      | 0.750    | 1.125    | 0.040            |
| 8                          | TC71A                      | 33.20   | 0.089      | 0.512    | 0.827    | 0.032            |
| 10                         | TC72                       | 17.39   | 0.243      | 0.875    | 1.375    | 0.040            |
| 10                         | TC72A                      | 33.20   | 0.089      | 0.512    | 0.827    | 0.032            |
| 12                         | TC73                       | 14.50   | 0.267      | 0.875    | 1.375    | 0.040            |
| 16                         | TC74                       | 10.88   | 0.304      | 0.750    | 1.625    | 0.040            |
| 16                         | TC74A                      | 24.15   | 0.140      | 0.512    | 0.984    | 0.032            |
| 20                         | TC75                       | 8.71    | 0.371      | 0.875    | 1.625    | 0.040            |
| 20                         | TC75A                      | 15.10   | 0.175      | 0.512    | 1.181    | 0.032            |
| 30                         | TC77                       | 5.82    | 0.488      | 1.000    | 1.625    | 0.040            |
| 30                         | TC77A                      | 10.10   | 0.241      | 0.630    | 1.181    | 0.032            |
| 40                         | TC78                       | 4.36    | 0.653      | 1.000    | 2.125    | 0.040            |
| 40                         | TC78A                      | 8.58    | 0.280      | 0.630    | 1.299    | 0.032            |
| 50                         | TC79                       | 3.06    | 0.709      | 1.000    | 2.125    | 0.040            |
| 50                         | TC79A                      | 7.06    | 0.318      | 0.630    | 1.299    | 0.032            |
| 60                         | TC795                      | 2.55    | 0.855      | 1.000    | 2.625    | 0.040            |
| 80                         | TC80                       | 2.19    | 1.068      | 1.000    | 3.125    | 0.040            |
| 80                         | TC80A                      | 3.32    | 0.555      | 0.866    | 1.575    | 0.040            |
| 100                        | TC807                      | 1.97    | 1.178      | 1.000    | 3.125    | 0.040            |
| 100                        | TC807A                     | 3.32    | 0.555      | 0.866    | 1.575    | 0.040            |