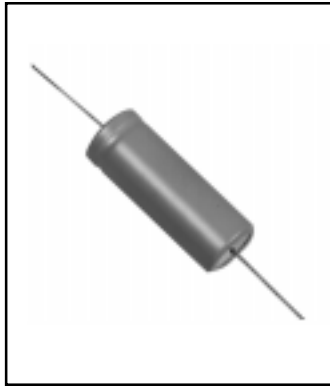


# Type TC Axial Leaded Capacitors

**MALLORY**



- 85°C General Purpose
- Axial Leads for Low Profile Mounting
- Long Life
- High Reliability with High Ripple, Suitable for Consumer Electronic Equipment

## GENERAL SPECIFICATIONS

Operating Temperature:  
-40°C to +85°C

Voltage Range:  
16 WVDC to 450 WVDC

Capacitance Range:  
1  $\mu$ F to 5,000  $\mu$ F

Capacitance Tolerance:  
.625 diameter & larger:  
6 to 150 WVDC -10% +75%  
Over 150 WVDC -10% +50%  
Under .625 Dia.  $\pm$ 20%

DC Leakage Current:  
 $I = 6 \sqrt{CV}$  after 5 minutes  
Not to exceed 3 mA @ 25°C  
C = Capacitance in  $\mu$ F  
V = Rated Voltage  
I = Leakage Current in  $\mu$ A

QA Stability Test:  
Apply WVDC for 1,000 hrs at 85°C

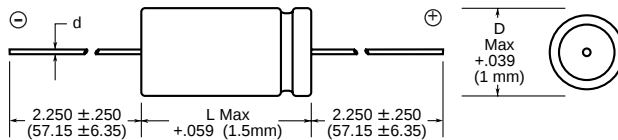
- Capacitance change  $\pm$ 15% from initial limits
- DC leakage current meets initial limits
- ESR  $\leq$  150% of initial measured value

The maximum ripple current at 85°C and 120 Hz for TC capacitors is shown in the Standard Rating Table. Maximum ripple current may be adjusted by the multipliers in the following tables:

| 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 Temperature | Ripple Multiplier |
|---------------------|-------------------|
| +85°C               | 1.0               |
| +75°C               | 1.4               |
| +65°C               | 1.7               |
| +55°C               | 2.0               |
| +45°C               | 2.2               |

## Outline Dimensions



For diameters less than .625 (15.88) lead lengths are 1.378 (35.0) Minimum.

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

| Cap<br>μF             | Max ESR<br>Ohms<br>120Hz<br>25°C | Max Ripple<br>Amps<br>120Hz<br>85°C | Size (Inches) |             |       | Catalog<br>Number |
|-----------------------|----------------------------------|-------------------------------------|---------------|-------------|-------|-------------------|
|                       |                                  |                                     | D<br>Diameter | L<br>Length | d     |                   |
| 16 WVDC; 20 VDC Surge |                                  |                                     |               |             |       |                   |
| 3,000                 | 0.11                             | 2.066                               | 0.875         | 1.625       | 0.040 | TC1530            |
| 4,000                 | 0.08                             | 2.518                               | 0.875         | 1.875       | 0.040 | TC1540            |
| 4,000                 | 0.07                             | 1.450                               | 0.866         | 1.575       | 0.040 | TC1540A           |
| 5,000                 | 0.07                             | 3.217                               | 0.875         | 2.625       | 0.040 | TC1550            |
| 25 WVDC; 30 VDC Surge |                                  |                                     |               |             |       |                   |
| 470                   | 0.38                             | 0.550                               | 0.394         | 0.787       | 0.032 | TC2505A           |
| 1,500                 | 0.14                             | 1.881                               | 0.750         | 2.125       | 0.040 | TC2515            |
| 1,500                 | 0.12                             | 1.225                               | 0.709         | 1.575       | 0.040 | TC2515A           |
| 2,000                 | 0.11                             | 2.204                               | 0.875         | 1.875       | 0.040 | TC2520            |
| 2,000                 | 0.09                             | 1.350                               | 0.866         | 1.575       | 0.040 | TC2520A           |
| 3,000                 | 0.07                             | 3.108                               | 0.875         | 2.625       | 0.040 | TC2530            |
| 4,000                 | 0.06                             | 3.779                               | 1.000         | 2.625       | 0.040 | TC2540            |
| 4,000                 | 0.07                             | 1.450                               | 0.866         | 1.575       | 0.040 | TC2540A           |
| 5,000                 | 0.05                             | 4.136                               | 1.000         | 2.625       | 0.040 | TC2550            |
| 50 WVDC; 65 VDC Surge |                                  |                                     |               |             |       |                   |
| 22                    | 6.09                             | 0.073                               | 0.236         | 0.630       | 0.032 | TC36A             |
| 47                    | 3.14                             | 0.130                               | 0.315         | 0.630       | 0.032 | TC39A             |
| 1,000                 | 0.08                             | 2.949                               | 0.875         | 2.625       | 0.040 | TC50100           |
| 1,000                 | 0.12                             | 1.447                               | 0.866         | 1.575       | 0.040 | TC50100A          |
| 1,500                 | 0.07                             | 3.423                               | 1.000         | 2.625       | 0.040 | TC50150           |
| 2,000                 | 0.07                             | 3.448                               | 1.000         | 2.625       | 0.040 | TC50200           |
| 2,000                 | 0.09                             | 1.350                               | 0.866         | 1.575       | 0.040 | TC50200A          |
| 3,000                 | 0.05                             | 4.766                               | 1.000         | 3.625       | 0.040 | TC50300           |
| 5,000                 | 0.03                             | 5.820                               | 1.000         | 3.625       | 0.040 | TC50500           |
| 5,000                 | 0.56                             | 3.305                               | 0.866         | 1.575       | 0.040 | TC50500A          |

| Cap<br>μF               | Max ESR<br>Ohms<br>120Hz<br>25°C | Max Ripple<br>Amps<br>120Hz<br>85°C | Size (Inches) |             |       | Catalog<br>Number |
|-------------------------|----------------------------------|-------------------------------------|---------------|-------------|-------|-------------------|
|                         |                                  |                                     | D<br>Diameter | L<br>Length |       |                   |
| 75 WVDC; 95 VDC Surge   |                                  |                                     |               |             |       |                   |
| 100                     | 0.77                             | 0.597                               | 0.625         | 1.375       | 0.040 | TC75101           |
| 100                     | 2.66                             | 0.270                               | 0.512         | 1.181       | 0.032 | TC75101A          |
| 250                     | 0.37                             | 1.024                               | 0.750         | 1.625       | 0.040 | TC75251           |
| 500                     | 0.19                             | 1.765                               | 0.875         | 2.125       | 0.040 | TC75501           |
| 1,000                   | 0.10                             | 2.344                               | 1.000         | 1.625       | 0.040 | TC75102           |
| 2,000                   | 0.05                             | 3.991                               | 1.000         | 2.625       | 0.040 | TC75202           |
| 100 WVDC; 125 VDC Surge |                                  |                                     |               |             |       |                   |
| 100                     | 0.36                             | 0.974                               | 0.750         | 1.375       | 0.040 | TC10101           |
| 100                     | 3.32                             | 0.419                               | 0.630         | 1.299       | 0.032 | TC10101A          |
| 150                     | 0.24                             | 1.276                               | 0.750         | 1.625       | 0.040 | TC10151           |
| 150                     | 1.34                             | 0.823                               | 0.709         | 1.575       | 0.040 | TC10151A          |
| 250                     | 0.15                             | 1.885                               | 0.875         | 1.875       | 0.040 | TC10251           |
| 500                     | 0.08                             | 3.251                               | 1.000         | 2.625       | 0.040 | TC10501           |
| 1,000                   | 0.08                             | 3.918                               | 1.000         | 3.875       | 0.040 | TC10102           |
| 1,000                   | 0.12                             | 1.447                               | 0.866         | 1.575       | 0.040 | TC10102A          |
| 1,500                   | 0.06                             | 4.495                               | 1.000         | 3.625       | 0.040 | TC10152           |
| 150 WVDC; 175 VDC Surge |                                  |                                     |               |             |       |                   |
| 80                      | 1.96                             | 0.670                               | 0.750         | 1.625       | 0.040 | TC492             |
| 100                     | 0.70                             | 0.748                               | 0.750         | 1.625       | 0.040 | TC493             |
| 100                     | 3.32                             | 0.555                               | 0.709         | 1.575       | 0.040 | TC493A            |
| 150                     | 0.47                             | 0.993                               | 0.875         | 1.625       | 0.040 | TC495             |
| 200                     | 0.35                             | 1.293                               | 0.875         | 2.125       | 0.040 | TC496             |
| 300                     | 0.24                             | 1.687                               | 1.000         | 2.125       | 0.040 | TC499             |
| 500                     | 0.15                             | 2.362                               | 1.000         | 2.625       | 0.040 | TC4990            |

# Type TC Axial Leaded Capacitors

**MALLORY**

| Cap<br>μF               | Max ESR<br>Ohms<br>120Hz<br>25°C | Max Ripple<br>Amps<br>120Hz<br>85°C | Size (Inches) |             |       | Catalog<br>Number |
|-------------------------|----------------------------------|-------------------------------------|---------------|-------------|-------|-------------------|
|                         |                                  |                                     | D<br>Diameter | L<br>Length | d     |                   |
| 250 WVDC; 300 VDC Surge |                                  |                                     |               |             |       |                   |
| 5                       | 70.60                            | 0.060                               | 0.394         | 0.787       | 0.032 | TC50XA            |
| 8                       | 15.27                            | 0.197                               | 0.625         | 1.125       | 0.032 | TC51              |
| 10                      | 12.22                            | 0.220                               | 0.625         | 1.125       | 0.032 | TC52              |
| 10                      | 33.20                            | 0.890                               | 0.394         | 0.984       | 0.032 | TC52A             |
| 12                      | 8.65                             | 0.262                               | 0.625         | 1.125       | 0.032 | TC53              |
| 16                      | 7.64                             | 0.304                               | 0.625         | 1.375       | 0.032 | TC54              |
| 20                      | 6.13                             | 0.345                               | 0.750         | 1.125       | 0.040 | TC55              |
| 20                      | 15.10                            | 0.175                               | 0.512         | 1.181       | 0.032 | TC55A             |
| 30                      | 4.09                             | 0.461                               | 0.750         | 1.375       | 0.040 | TC57              |
| 30                      | 10.10                            | 0.241                               | 0.630         | 1.181       | 0.032 | TC57A             |
| 40                      | 2.69                             | 0.573                               | 0.750         | 1.625       | 0.040 | TC58              |
| 40                      | 8.58                             | 0.280                               | 0.630         | 1.299       | 0.032 | TC58A             |
| 50                      | 2.15                             | 0.640                               | 0.750         | 1.625       | 0.040 | TC59              |
| 50                      | 7.06                             | 0.318                               | 0.630         | 1.299       | 0.032 | TC59A             |
| 100                     | 1.08                             | 1.220                               | 0.875         | 2.625       | 0.040 | TC1265            |
| 100                     | 3.32                             | 0.555                               | 0.866         | 1.575       | 0.040 | TC1265A           |
| 160                     | 0.30                             | 1.649                               | 1.000         | 2.625       | 0.040 | TC1266            |
| 225                     | 0.22                             | 2.105                               | 1.000         | 3.125       | 0.040 | TC1267            |
| 300 WVDC; 350 VDC Surge |                                  |                                     |               |             |       |                   |
| 150                     | 0.36                             | 1.624                               | 1.000         | 3.125       | 0.040 | TC593             |
| 200                     | 0.28                             | 1.865                               | 1.000         | 3.125       | 0.040 | TC594             |
| 350 WVDC; 400 VDC Surge |                                  |                                     |               |             |       |                   |
| 5                       | 30.48                            | 0.139                               | 0.625         | 1.125       | 0.032 | TC60              |
| 8                       | 19.05                            | 0.193                               | 0.625         | 1.375       | 0.032 | TC61              |
| 8                       | 33.20                            | 0.089                               | 0.512         | 0.827       | 0.032 | TC61A             |
| 10                      | 15.25                            | 0.215                               | 0.625         | 1.375       | 0.032 | TC62              |
| 10                      | 33.20                            | 0.089                               | 0.512         | 0.827       | 0.032 | TC62A             |
| 12                      | 12.71                            | 0.239                               | 0.750         | 1.125       | 0.040 | TC63              |
| 16                      | 9.54                             | 0.302                               | 0.750         | 1.375       | 0.040 | TC64              |
| 20                      | 7.63                             | 0.337                               | 0.750         | 1.375       | 0.040 | TC65              |
| 20                      | 15.10                            | 0.175                               | 0.512         | 1.181       | 0.032 | TC65A             |
| 40                      | 3.96                             | 0.514                               | 0.875         | 1.625       | 0.040 | TC67              |
| 60                      | 2.78                             | 0.691                               | 0.875         | 2.125       | 0.040 | TC68              |
| 60                      | 6.44                             | 0.376                               | 0.709         | 1.575       | 0.040 | TC68A             |
| 100                     | 1.35                             | 1.093                               | 0.875         | 2.625       | 0.040 | TC69              |
| 100                     | 3.32                             | 0.555                               | 0.866         | 1.575       | 0.040 | TC69A             |
| 150                     | 0.96                             | 1.495                               | 1.000         | 3.625       | 0.040 | TC692             |

| Cap<br>μF               | Max ESR<br>Ohms<br>120Hz<br>25°C | Max Ripple<br>Amps<br>120Hz<br>85°C | Size (Inches) |             |       | Catalog<br>Number |
|-------------------------|----------------------------------|-------------------------------------|---------------|-------------|-------|-------------------|
|                         |                                  |                                     | D<br>Diameter | L<br>Length | d     |                   |
| 450 WVDC; 525 VDC Surge |                                  |                                     |               |             |       |                   |
| 2                       | 86.91                            | 0.082                               | 0.625         | 1.125       | 0.032 | TC695             |
| 2                       | 151.00                           | 0.030                               | 0.315         | 0.787       | 0.032 | TC695A            |
| 4                       | 43.47                            | 0.116                               | 0.625         | 1.125       | 0.032 | TC697             |
| 4                       | 70.60                            | 0.051                               | 0.394         | 0.984       | 0.032 | TC697A            |
| 5                       | 35.86                            | 0.144                               | 0.750         | 1.125       | 0.040 | TC70              |
| 5                       | 70.60                            | 0.051                               | 0.394         | 0.984       | 0.032 | TC70A             |
| 8                       | 21.74                            | 0.183                               | 0.750         | 1.125       | 0.040 | TC71              |
| 8                       | 33.20                            | 0.089                               | 0.512         | 0.827       | 0.032 | TC71A             |
| 10                      | 17.39                            | 0.243                               | 0.875         | 1.375       | 0.040 | TC72              |
| 10                      | 33.20                            | 0.089                               | 0.512         | 0.827       | 0.032 | TC72A             |
| 12                      | 14.50                            | 0.267                               | 0.875         | 1.375       | 0.040 | TC73              |
| 16                      | 10.88                            | 0.304                               | 0.750         | 1.625       | 0.040 | TC74              |
| 16                      | 24.15                            | 0.140                               | 0.512         | 0.984       | 0.032 | TC74A             |
| 20                      | 8.71                             | 0.371                               | 0.875         | 1.625       | 0.040 | TC75              |
| 20                      | 15.10                            | 0.175                               | 0.512         | 1.181       | 0.032 | TC75A             |
| 30                      | 5.82                             | 0.488                               | 1.000         | 1.625       | 0.040 | TC77              |
| 30                      | 10.10                            | 0.241                               | 0.630         | 1.181       | 0.032 | TC77A             |
| 40                      | 4.36                             | 0.653                               | 1.000         | 2.125       | 0.040 | TC78              |
| 40                      | 8.58                             | 0.280                               | 0.630         | 1.299       | 0.032 | TC78A             |
| 50                      | 3.06                             | 0.709                               | 1.000         | 2.125       | 0.040 | TC79              |
| 50                      | 7.06                             | 0.318                               | 0.630         | 1.299       | 0.032 | TC79A             |
| 60                      | 2.55                             | 0.855                               | 1.000         | 2.625       | 0.040 | TC795             |
| 80                      | 2.19                             | 1.068                               | 1.000         | 3.125       | 0.040 | TC80              |
| 80                      | 3.32                             | 0.555                               | 0.866         | 1.575       | 0.040 | TC80A             |
| 100                     | 1.97                             | 1.178                               | 1.000         | 3.125       | 0.040 | TC807             |
| 100                     | 3.32                             | 0.555                               | 0.866         | 1.575       | 0.040 | TC807A            |