

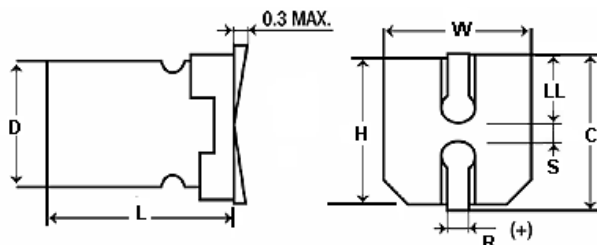
#### FEATURES

Small Size – Long Life – Low Impedance

#### APPLICATIONS

Filtering – Bypass/ Coupling – De-Coupling

|   |                       |   |                                   |           |           |           |           |
|---|-----------------------|---|-----------------------------------|-----------|-----------|-----------|-----------|
| <b>Operating Temperature Range</b>                        |                       | <b>-55°C to +105°C</b>  |                                   |           |           |           |           |
| <b>Capacitance Tolerance</b>                              |                       | <b>+20% at 120 Hz, 20°C</b>   |                                   |           |           |           |           |
| <b>Surge Voltage</b>                                      | <b>WVDC</b>           | <b>6.3</b>  | <b>10</b>                         | <b>16</b> | <b>25</b> | <b>35</b> | <b>50</b> |
|   | <b>SVDC</b>           | 7.9   | 13                                | 20        | 32        | 44        | 63        |
| <b>Dissipation Factor</b>                                 | <b>WVDC</b>           | <b>6.3</b>  | <b>10</b>                         | <b>16</b> | <b>35</b> | <b>50</b> |           |
|   | <b>Tan δ</b>          | .26   | .19                               | .16       | .12       | .12       |           |
| <b>Leakage Current</b>                                    |                       | <b>2 Minutes</b>  |                                   |           |           |           |           |
|   |                       | .01CV or 3uA, Whichever is greater  |                                   |           |           |           |           |
| <b>Low Temperature Stability Impedance Ratio (120 Hz)</b> | <b>Rated WVDC</b>     | <b>6.3</b>  | <b>10</b>                         | <b>16</b> | <b>25</b> | <b>35</b> | <b>50</b> |
|   | <b>-25°C to +20°C</b> | 2   | 2                                 | 2         | 2         | 2         | 2         |
|   | <b>-40°C to +20°C</b> | 3   | 3                                 | 3         | 3         | 3         | 3         |
| <b>Load Life</b>  |                       | <b>5000 hours(3000 hours for D=4,5,6.3mm) at 105°C with rated WVDC</b>  |                                   |           |           |           |           |
|   |                       | <b>Capacitance Change</b>   | ≤30% of initial measured value    |           |           |           |           |
|   |                       | <b>Dissipation Factor</b>   | ≤200% of maximum specified value  |           |           |           |           |
|   |                       | <b>Leakage Current</b>  | Not more than the specified value |           |           |           |           |
| <b>Shelf Life</b>   |                       | <b>1000 hours at 85°C with no voltage applied</b>   |                                   |           |           |           |           |
|   |                       | <b>Capacitance Change</b>   | ≤30% of initial measured value    |           |           |           |           |
|   |                       | <b>Dissipation Factor</b>   | ≤200% of maximum specified value  |           |           |           |           |
|   |                       | <b>Leakage Current</b>  | Not more than the specified value |           |           |           |           |
| <b>Resistance to Soldering Heat</b>                       |                       | <b>Capacitors placed on a 250°C hot plate for 30 seconds with their electrode terminations facing downward will fulfill the following conditions after being cooled to room temperature</b> |                                   |           |           |           |           |
|   |                       | <b>Capacitance Change</b>   | ≤10% of initial measured value    |           |           |           |           |
|   |                       | <b>Dissipation Factor</b>   | ≤100% of maximum specified value  |           |           |           |           |
|   |                       | <b>Leakage Current</b>  | ≤100% of maximum specified value  |           |           |           |           |
| <b>Ripple Current Multipliers</b>                         |                       | <b>Frequency (Hz)</b>   |                                   |           |           |           |           |
|   |                       | 120   | 1k                                | 10k       | 100k      |           |           |
|   |                       | 0.70  | 0.80                              | 0.90      | 1.00      |           |           |



| D   | L             | W<br>+0.2 | H<br>+0.2 | C<br>max | R        | LL<br>+0.2 | S<br>+0.2 |
|-----|---------------|-----------|-----------|----------|----------|------------|-----------|
| 4   | 5.4 +0.3/-0.1 | 4.3       | 4.8       | 5.5      | 0.65±0.1 | 1.0        | -         |
| 5   | 5.4 +0.3/-0.1 | 5.3       | 5.8       | 6.5      | 0.65±0.1 | 1.5        | -         |
| 6.3 | 5.4 +0.3/-0.1 | 6.6       | 7.1       | 7.8      | 0.65±0.1 | 1.8        | -         |
| 6.3 | 7.7 +/- 0.3   | 6.6       | 7.1       | 7.8      | 0.65±0.1 | 1.8        | -         |
| 8   | 6.2 +/- 0.3   | 8.3       | 8.8       | 9.5      | 0.65±0.1 | 2.2        | -         |
| 8   | 10.2 +/- 0.3  | 8.3       | 8.6       | 10.0     | 0.90±0.2 | 3.1        | -         |
| 10  | 10.2 +/- 0.3  | 10.3      | 10.6      | 12.0     | 0.90±0.2 | 4.6        | -         |

# ATB

+105°C, Low Impedance, up to 5000 hours

| Capacitance (µF) | WVDC | IC PART NUMBER | Maximum ESR (Ω) 120 Hz, +20°C | Impedance Ω +20°C, 100kHz | Maximum RMS Ripple Current (mA) 100 kHz, +105°C | Dims DxDL (mm) |
|------------------|------|----------------|-------------------------------|---------------------------|---|----------------|
| 1                | 50   | ATB105M050     | 159.16                        | 5                         | 60  | 4x5.4          |
| 2.2              | 50   | ATB225M050     | 72.34                         | 5                         | 60  | 4x5.4          |
| 3.3              | 50   | ATB335M050     | 48.23                         | 5                         | 60  | 4x5.4          |
| 4.7              | 35   | ATB475M035     | 33.86                         | 1.93                      | 90  | 4x5.4          |
| 4.7              | 50   | ATB475M050     | 33.86                         | 4                         | 95  | 5x5.4          |
| 10               | 16   | ATB106M016     | 21.22                         | 1.9                       | 90  | 4x5.4          |
| 10               | 25   | ATB106M025     | 18.57                         | 1.93                      | 90  | 4x5.4          |
| 10               | 35   | ATB106M035     | 15.92                         | 1                         | 160   | 5x5.4          |
| 10               | 50   | ATB106M050     | 15.92                         | 2.6                       | 140   | 6.3x5.4        |
| 22               | 6.3  | ATB226M6R3     | 7.23                          | 1.3                       | 90  | 4x5.4          |
| 22               | 10   | ATB226M010     | 15.67                         | 1.93                      | 90  | 4x5.4          |
| 22               | 16   | ATB226M016     | 11.45                         | 1.93                      | 160   | 5x5.4          |
| 22               | 25   | ATB226M025     | 9.65                          | 1                         | 160   | 5x5.4          |
| 22               | 35   | ATB226M035     | 8.44                          | 1                         | 160   | 5x5.4          |
| 22               | 50   | ATB226M050     | 7.23                          | 1                         | 230   | 6.3x7.7        |
| 33               | 6.3  | ATB336M6R3     | 4.82                          | 0.5                       | 90  | 4x5.4          |
| 33               | 10   | ATB336M010     | 10.45                         | 1.93                      | 160   | 5x5.4          |
| 33               | 16   | ATB336M016     | 7.64                          | 1                         | 240   | 6.3x5.4        |
| 33               | 25   | ATB336M025     | 6.43                          | 0.52                      | 240   | 6.3x5.4        |
| 33               | 35   | ATB336M035     | 5.63                          | 0.52                      | 240   | 6.3x5.4        |
| 33               | 50   | ATB336M050     | 4.82                          | 0.52                      | 350   | 8x10.2         |
| 47               | 6.3  | ATB476M6R3     | 3.39                          | 0.34                      | 160   | 5x5.4          |
| 47               | 10   | ATB476M010     | 7.34                          | 1                         | 190   | 6.3x5.4        |
| 47               | 16   | ATB476M016     | 5.36                          | 0.52                      | 240   | 6.3x5.4        |
| 47               | 25   | ATB476M025     | 4.52                          | 0.52                      | 240   | 6.3x5.4        |
| 47               | 35   | ATB476M035     | 3.95                          | 0.52                      | 280   | 6.3x7.7        |
| 47               | 50   | ATB476M050     | 3.39                          | 0.34                      | 670   | 10x10.2        |
| 68               | 25   | ATB686M025     | 2.73                          | 0.34                      | 280   | 6.3x7.7        |
| 68               | 35   | ATB686M035     | 2.34                          | 0.34                      | 280   | 6.3x7.7        |
| 68               | 50   | ATB686M050     | 2.34                          | 0.34                      | 670   | 10x10.2        |
| 100              | 6.3  | ATB107M6R3     | 1.59                          | 0.34                      | 240   | 6.3x5.4        |

| Capacitance (µF) | WVDC | IC PART NUMBER | Maximum ESR (Ω) 120 Hz, +20°C | Impedance Ω +20°C, 100kHz | Maximum RMS Ripple Current (mA) 100 kHz, +105°C | Dims DxDL (mm) |
|------------------|------|----------------|-------------------------------|---------------------------|---|----------------|
| 100              | 10   | ATB107M010     | 3.45                          | 0.52                      | 190   | 6.3x5.4        |
| 100              | 16   | ATB107M016     | 2.52                          | 0.52                      | 280   | 6.3x7.7        |
| 100              | 25   | ATB107M025     | 2.12                          | 0.34                      | 300   | 6.3x7.7        |
| 100              | 35   | ATB107M035     | 1.86                          | 0.34                      | 600   | 8x10.2         |
| 100              | 50   | ATB107M050     | 1.59                          | 0.16                      | 670   | 10x10.2        |
| 150              | 6.3  | ATB157M6R3     | 1.06                          | 0.34                      | 240   | 6.3x7.7        |
| 150              | 10   | ATB157M010     | 2.3                           | 0.3                       | 240   | 6.3x7.7        |
| 150              | 16   | ATB157M016     | 1.68                          | 0.34                      | 370   | 8x10.2         |
| 150              | 25   | ATB157M025     | 1.41                          | 0.22                      | 600   | 8x10.2         |
| 150              | 35   | ATB157M035     | 1.24                          | 0.16                      | 850   | 10x10.2        |
| 150              | 50   | ATB157M050     | 1.06                          | 0.12                      | 670   | 10x10.2        |
| 220              | 6.3  | ATB227M6R3     | 0.72                          | 0.34                      | 240   | 6.3x7.7        |
| 220              | 10   | ATB227M010     | 1.57                          | 0.3                       | 600   | 8x10.2         |
| 220              | 16   | ATB227M016     | 1.15                          | 0.16                      | 370   | 8x10.2         |
| 220              | 25   | ATB227M025     | 0.96                          | 0.22                      | 600   | 8x10.2         |
| 220              | 35   | ATB227M035     | 0.84                          | 0.16                      | 850   | 10x10.2        |
| 220              | 50   | ATB227M050     | 0.72                          | 0.12                      | 670   | 10x10.2        |
| 330              | 6.3  | ATB337M6R3     | 0.48                          | 0.12                      | 600   | 8x10.2         |
| 330              | 10   | ATB337M010     | 1.04                          | 0.16                      | 600   | 8x10.2         |
| 330              | 16   | ATB337M016     | 0.76                          | 0.16                      | 600   | 8x10.2         |
| 330              | 25   | ATB337M025     | 0.64                          | 0.16                      | 850   | 10x10.2        |
| 330              | 35   | ATB337M035     | 0.56                          | 0.12                      | 850   | 10x10.2        |
| 470              | 6.3  | ATB477M6R3     | 0.4                           | 0.12                      | 600   | 8x10.2         |
| 470              | 10   | ATB477M010     | 0.73                          | 0.16                      | 850   | 10x10.2        |
| 470              | 16   | ATB477M016     | 0.54                          | 0.12                      | 850   | 10x10.2        |
| 470              | 25   | ATB477M025     | 0.45                          | 0.12                      | 850   | 10x10.2        |
| 680              | 6.3  | ATB687M6R3     | 0.31                          | 0.12                      | 850   | 10x10.2        |
| 680              | 10   | ATB687M010     | 0.51                          | 0.12                      | 850   | 10x10.2        |
| 680              | 16   | ATB687M016     | 0.37                          | 0.12                      | 850   | 10x10.2        |
| 1000             | 6.3  | ATB108M6R3     | 0.25                          | 0.12                      | 850   | 10x10.2        |
| 1000             | 10   | ATB108M010     | 0.34                          | 0.12                      | 850   | 10x10.2        |