

# TWA Series – DSCC 93026



## TWA Wet Electrolytic Tantalum Capacitor



The TWA series is an axial leaded wet electrolytic tantalum capacitor and represents a new level of high CV (capacitance/voltage) previously unavailable in this technology. TWA incorporates a novel, very high capacitance cathode system that allows for higher CV designs, well beyond values specified in the Mil-PRF-39006 drawing.

TWA products are listed in DSCC 93026, which includes new high capacitance/voltage ratings. This design includes a welded tantalum can and header assembly that provides a hermetic seal to withstand harsh shock and vibration requirements of 39006. Wet tantalums do not require the same derating as solid tantalums. AVX recommends derating components by only 20% in order to enhance reliability.

Customized capacitance and voltage packages are possible and welcomed. Contact the factory about design possibilities beyond those contained in this datasheet.

### OUTLINE DIMENSIONS



### CASE DIMENSIONS: millimeters (inches)

| DSCC Case Size | AVX Case Size | L                              | D                         |                        | E             |
|----------------|---------------|--------------------------------|---------------------------|------------------------|---------------|
|                |               |                                | Without Insulating Sleeve | With Insulating Sleeve |               |
|                |               | +0.79 (0.031)<br>-0.41 (0.016) | ±0.41 (0.016)             | Max                    | ±6.35 (0.250) |
| T1             | A             | 11.51 (0.453)                  | 4.78 (0.188)              | 5.56 (0.219)           | 38.10 (1.500) |
| T2             | B             | 16.28 (0.641)                  | 7.14 (0.281)              | 7.92 (0.312)           | 57.15 (2.250) |
| T3             | D             | 19.46 (0.766)                  | 9.52 (0.375)              | 10.31 (0.406)          | 57.15 (2.250) |
| T4             | E             | 26.97 (1.062)                  | 9.52 (0.375)              | 10.31 (0.406)          | 57.15 (2.250) |

### VOLTAGE RATINGS (Operating Temperature -55°C to 125°C)

| Voltage (DC)          |       |      |      |      |    |      |     |     |
|-----------------------|-------|------|------|------|----|------|-----|-----|
| Rated Voltage: (Ur)   | 85°C  | 25   | 30   | 50   | 60 | 75   | 100 | 125 |
| Derated Voltage: (Uc) | 125°C | 15   | 20   | 30   | 40 | 50   | 65  | 85  |
| Surge Voltage: (Us)   | 85°C  | 28.8 | 34.5 | 57.5 | 69 | 86.3 | 115 | 144 |



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### HOW TO ORDER

#### AVX PART NUMBER:



#### DSCC PART IDENTIFICATION NUMBER (PIN):



#### SPACE LEVEL OPTIONS TO SRC9000\*:



### RIPPLE CURRENT MULTIPLIERS vs. Frequency, temperature and applied voltage<sup>1/2/</sup>

| Frequency of Applied Ripple Current | 120Hz   |      |      |      | 800Hz |      |      |      | 1kHz |      |      |      |      |
|-------------------------------------|---------|------|------|------|-------|------|------|------|------|------|------|------|------|
|                                     | ≤55     | 85   | 105  | 125  | ≤55   | 85   | 105  | 125  | ≤55  | 85   | 105  | 125  |      |
| Ambient Still Air Temperature (°C)  | ≤55     | 85   | 105  | 125  | ≤55   | 85   | 105  | 125  | ≤55  | 85   | 105  | 125  |      |
| % of 85°C                           | 100%    | 0.60 | 0.39 | –    | –     | 0.71 | 0.43 | –    | –    | 0.72 | 0.45 | –    | –    |
| Rated Peak                          | 90%     | 0.60 | 0.46 | –    | –     | 0.71 | 0.55 | –    | –    | 0.72 | 0.55 | –    | –    |
|                                     | 80%     | 0.60 | 0.52 | 0.35 | –     | 0.71 | 0.62 | 0.42 | –    | 0.72 | 0.62 | 0.42 | –    |
| Voltage                             | 70%     | 0.60 | 0.58 | 0.44 | –     | 0.71 | 0.69 | 0.52 | –    | 0.72 | 0.70 | 0.52 | –    |
|                                     | 66-2/3% | 0.60 | 0.60 | 0.46 | 0.27  | 0.71 | 0.71 | 0.55 | 0.32 | 0.72 | 0.72 | 0.55 | 0.32 |

| Frequency of Applied Ripple Current | 10kHz   |      |      |      | 40kHz |      |      |      | 100kHz |      |      |      |      |
|-------------------------------------|---------|------|------|------|-------|------|------|------|--------|------|------|------|------|
|                                     | ≤55     | 85   | 105  | 125  | ≤55   | 85   | 105  | 125  | ≤55    | 85   | 105  | 125  |      |
| Ambient Still Air Temperature (°C)  | ≤55     | 85   | 105  | 125  | ≤55   | 85   | 105  | 125  | ≤55    | 85   | 105  | 125  |      |
| % of 85°C                           | 100%    | 0.88 | 0.55 | –    | –     | 1.00 | 0.63 | –    | –      | 1.10 | 0.69 | –    | –    |
| Rated Peak                          | 90%     | 0.88 | 0.67 | –    | –     | 1.00 | 0.77 | –    | –      | 1.10 | 0.85 | –    | –    |
|                                     | 80%     | 0.88 | 0.76 | 0.52 | –     | 1.00 | 0.87 | 0.59 | –      | 1.10 | 0.96 | 0.65 | –    |
| Voltage                             | 70%     | 0.88 | 0.85 | 0.64 | –     | 1.00 | 0.97 | 0.73 | –      | 1.10 | 1.07 | 0.80 | –    |
|                                     | 66-2/3% | 0.88 | 0.88 | 0.68 | 0.40  | 1.00 | 1.00 | 0.77 | 0.45   | 1.10 | 1.10 | 0.85 | 0.50 |

1/ At 125°C the rated voltage of the capacitors decreases to 66 2/3 of the 85°C rated voltage.

2/ The peak of the applied ac ripple voltage plus the applied dc voltage must not exceed the dc voltage rating of the capacitors.



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## TWA Wet Electrolytic Tantalum Capacitor

### RATINGS & PART NUMBER REFERENCE

| AVX Part Number                        | DSCC Part Number | Cap (µF)<br>25°C<br>at 120Hz | DC Rated Voltage (V)<br>at 85°C | ESR max (ohms)<br>at 120Hz | DC Leakage max (µA) |               | Impedance max (Ohms)<br>-55°C at 120Hz | Maximum Capacitance Change (%) |       |        | AC Ripple (mA rms)<br>85°C at 40kHz | Case Size |      |  |
|--|------------------|------------------------------|---------------------------------|----------------------------|---------------------|---------------|--|--------------------------------|-------|--------|-------------------------------------|-----------|------|--|
|  |                  |                              |                                 |                            | +25°C               | +85°C & 125°C |  | -55°C                          | +85°C | +125°C |                                     | AVX       | DSCC |  |
| <b>25 VDC at 85°C 15 VDC at 125°C</b>  |                  |                              |                                 |                            |                     |               |  |                                |       |        |                                     |           |      |  |
| TWAA127*025□BSZ0000                    | 93026- 29□       | 120                          | 25                              | 1.3                        | 1                   | 5             | 25                                     | -42                            | 8     | 12     | 1250                                | A         | T1   |  |
| TWAB567*025□BSZ0000                    | 93026- 30□       | 560                          | 25                              | 0.83                       | 2                   | 10            | 12                                     | -65                            | 10    | 15     | 2100                                | B         | T2   |  |
| TWAD128*025□BSZ0000                    | 93026- 31□       | 1200                         | 25                              | 0.65                       | 5                   | 20            | 7                                      | -70                            | 12    | 18     | 2600                                | D         | T3   |  |
| TWAE188*025□BSZ0000                    | 93026- 32□       | 1800                         | 25                              | 0.5                        | 6                   | 25            | 7                                      | -75                            | 12    | 20     | 3100                                | E         | T4   |  |
| TWAE228*025□BSZ0000                    | 93026- 64□       | 2200                         | 25                              | 0.5                        | 10                  | 80            | 10                                     | -90                            | 30    | 50     | 3200                                | E         | T4   |  |
| <b>30 VDC at 85°C 20 VDC at 125°C</b>  |                  |                              |                                 |                            |                     |               |  |                                |       |        |                                     |           |      |  |
| TWAA107*030□BSZ0000                    | 93026- 33□       | 100                          | 30                              | 1.3                        | 1                   | 5             | 25                                     | -38                            | 8     | 12     | 1200                                | A         | T1   |  |
| TWAB477*030□BSZ0000                    | 93026- 34□       | 470                          | 30                              | 0.85                       | 2                   | 10            | 15                                     | -65                            | 10    | 18     | 1800                                | B         | T2   |  |
| TWAD108*030□BSZ0000                    | 93026- 35□       | 1000                         | 30                              | 0.7                        | 7                   | 25            | 7                                      | -70                            | 10    | 18     | 2500                                | D         | T3   |  |
| TWAE158*030□BSZ0000                    | 93026- 36□       | 1500                         | 30                              | 0.6                        | 12                  | 35            | 6                                      | -72                            | 10    | 20     | 3000                                | E         | T4   |  |
| <b>50 VDC at 85°C 30 VDC at 125°C</b>  |                  |                              |                                 |                            |                     |               |  |                                |       |        |                                     |           |      |  |
| TWAA686*050□BSZ0000                    | 93026- 37□       | 68                           | 50                              | 1.5                        | 1                   | 5             | 35                                     | -25                            | 8     | 15     | 1050                                | A         | T1   |  |
| TWAB227*050□BSZ0000                    | 93026- 38□       | 220                          | 50                              | 0.9                        | 2                   | 10            | 17.5                                   | -50                            | 8     | 15     | 1800                                | B         | T2   |  |
| TWAD477*050□BSZ0000                    | 93026- 39□       | 470                          | 50                              | 0.75                       | 3                   | 25            | 10                                     | -50                            | 8     | 15     | 2100                                | D         | T3   |  |
| TWAE687*050□BSZ0000                    | 93026- 40□       | 680                          | 50                              | 0.7                        | 5                   | 40            | 8                                      | -58                            | 10    | 20     | 2750                                | E         | T4   |  |
| <b>60 VDC at 85°C 40 VDC at 125°C</b>  |                  |                              |                                 |                            |                     |               |  |                                |       |        |                                     |           |      |  |
| TWAA476*060□BSZ0000                    | 93026- 41□       | 47                           | 60                              | 2                          | 1                   | 5             | 44                                     | -25                            | 8     | 12     | 1050                                | A         | T1   |  |
| TWAB157*060□BSZ0000                    | 93026- 42□       | 150                          | 60                              | 1.1                        | 2                   | 10            | 20                                     | -40                            | 8     | 15     | 1650                                | B         | T2   |  |
| TWAD397*060□BSZ0000                    | 93026- 43□       | 390                          | 60                              | 0.9                        | 3                   | 25            | 15                                     | -60                            | 8     | 15     | 2100                                | D         | T3   |  |
| TWAE567*060□BSZ0000                    | 93026- 44□       | 560                          | 60                              | 0.8                        | 5                   | 40            | 10                                     | -58                            | 8     | 15     | 2750                                | E         | T4   |  |
| TWAE108*060□BSZ0000                    | 93026- 65□       | 1000                         | 60                              | 1                          | 12                  | 90            | 20                                     | -90                            | 30    | 50     | 3200                                | E         | T4   |  |
| <b>75 VDC at 85°C 50 VDC at 125°C</b>  |                  |                              |                                 |                            |                     |               |  |                                |       |        |                                     |           |      |  |
| TWAA336*075□BSZ0000                    | 93026- 45□       | 33                           | 75                              | 2.5                        | 1                   | 5             | 66                                     | -25                            | 5     | 9      | 1050                                | A         | T1   |  |
| TWAB117*075□BSZ0000                    | 93026- 46□       | 110                          | 75                              | 1.3                        | 2                   | 10            | 24                                     | -35                            | 6     | 10     | 1650                                | B         | T2   |  |
| TWAD337*075□BSZ0000                    | 93026- 47□       | 330                          | 75                              | 1                          | 3                   | 30            | 12                                     | -45                            | 6     | 10     | 2100                                | D         | T3   |  |
| TWAE477*075□BSZ0000                    | 93026- 48□       | 470                          | 75                              | 0.9                        | 5                   | 50            | 12                                     | -55                            | 6     | 10     | 2750                                | E         | T4   |  |
| <b>100 VDC at 85°C 65 VDC at 125°C</b> |                  |                              |                                 |                            |                     |               |  |                                |       |        |                                     |           |      |  |
| TWAA156*100□BSZ0000                    | 93026- 49□       | 15                           | 100                             | 3.5                        | 1                   | 5             | 125                                    | -18                            | 3     | 10     | 1050                                | A         | T1   |  |
| TWAB686*100□BSZ0000                    | 93026- 50□       | 68                           | 100                             | 2.1                        | 2                   | 10            | 37                                     | -30                            | 4     | 12     | 1650                                | B         | T2   |  |
| TWAD157*100□BSZ0000                    | 93026- 51□       | 150                          | 100                             | 1.6                        | 3                   | 25            | 22                                     | -35                            | 6     | 12     | 2100                                | D         | T3   |  |
| TWAE227*100□BSZ0000                    | 93026- 52□       | 220                          | 100                             | 1.2                        | 5                   | 50            | 15                                     | -40                            | 6     | 12     | 2750                                | E         | T4   |  |
| <b>125 VDC at 85°C 85 VDC at 125°C</b> |                  |                              |                                 |                            |                     |               |  |                                |       |        |                                     |           |      |  |
| TWAA106*125□BSZ0000                    | 93026- 53□       | 10                           | 125                             | 5.5                        | 1                   | 5             | 175                                    | -15                            | 3     | 10     | 1050                                | A         | T1   |  |
| TWAB476*125□BSZ0000                    | 93026- 54□       | 47                           | 125                             | 2.3                        | 2                   | 10            | 47                                     | -25                            | 5     | 12     | 1650                                | B         | T2   |  |
| TWAD107*125□BSZ0000                    | 93026- 55□       | 100                          | 125                             | 1.8                        | 3                   | 25            | 35                                     | -35                            | 5     | 12     | 2100                                | D         | T3   |  |
| TWAE157*125□BSZ0000                    | 93026- 56□       | 150                          | 125                             | 1.6                        | 5                   | 50            | 20                                     | -35                            | 6     | 12     | 2750                                | E         | T4   |  |

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5RMS with DC bias of 2.2V. DCL is measured at rated voltage after 5 minutes.

NOTE: AVX reserves the rights to supply higher voltage rating in the same case size, to the same reliability standards.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

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- Поставка более 17-ти миллионов наименований электронных компонентов;
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- Подбор аналогов;
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- Техническая поддержка проекта;
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#### Как с нами связаться

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