

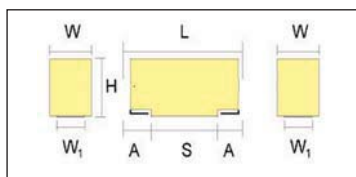
# TLN Series



## Tantalum Solid Electrolytic Chip Capacitors Undertab Series



- Undertab terminations layout:
  - High Volumetric Efficiency
  - High PCB assembly density
  - High capacitance in smaller dimensions
- 3x reflow 260°C compatible
- Consumer applications (e.g. PCMCIA/USB wireless express cards, mobiles, MP3 etc.)
- 6 case sizes available
- CV range: 47-1000µF / 4-10V



For part marking see page 129

### CASE DIMENSIONS: millimeters (inches)

| Code     | EIA Code | EIA Metric | L±0.20 (0.008) | W+0.20 (0.008)<br>-0.10 (0.004) | H max.       | W <sub>1</sub> ±0.20 (0.008) | A+0.30 (0.012)<br>-0.20 (0.008) |
|----------|----------|------------|----------------|---------------------------------|--------------|------------------------------|---------------------------------|
| <b>G</b> | 1206     | 3216-15    | 3.20 (0.126)   | 1.60 (0.063)                    | 1.50 (0.059) | 1.20 (0.047)                 | 0.80 (0.031)                    |
| <b>K</b> | 1206     | 3216-10    | 3.20 (0.126)   | 1.60 (0.063)                    | 1.00 (0.039) | 1.20 (0.047)                 | 0.80 (0.031)                    |
| <b>L</b> | 1210     | 3528-10    | 3.50 (0.138)   | 2.80 (0.110)                    | 1.00 (0.039) | 2.20 (0.087)                 | 0.80 (0.031)                    |
| <b>N</b> | 0805     | 2012-10    | 2.05 (0.081)   | 1.30 (0.051)                    | 1.00 (0.039) | 1.00 (0.039)                 | 0.50 (0.020)                    |
| <b>S</b> | 1206     | 3216-12    | 3.20 (0.126)   | 1.60 (0.063)                    | 1.20 (0.047) | 1.20 (0.047)                 | 0.80 (0.031)                    |
| <b>T</b> | 1210     | 3528-12    | 3.50 (0.138)   | 2.80 (0.110)                    | 1.20 (0.047) | 2.20 (0.087)                 | 0.80 (0.031)                    |
| <b>Y</b> | 2917     | 7343-20    | 7.30 (0.287)   | 4.30 (0.169)                    | 2.00 (0.079) | 2.40 (0.094)                 | 1.30 (0.051)                    |

W<sub>1</sub> dimension applies to the termination width for A dimensional area only.

Under development

### HOW TO ORDER

**TLN**

Type

**S**

Case Size  
See table above

**227**

Capacitance Code  
pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)

**M**

Tolerance  
M = ±20%

**004**

Rated DC Voltage  
004 = 4Vdc  
006 = 6.3Vdc  
010 = 10Vdc

**R**

Packaging  
R = Pure Tin 7" Reel  
S = Pure Tin 13" Reel

**3000**

ESR in mΩ

### TECHNICAL SPECIFICATIONS

|                                    |                                                                                                        |     |      |    |  |
|------------------------------------|--------------------------------------------------------------------------------------------------------|-----|------|----|--|
| Technical Data:                    | All technical data relate to an ambient temperature of +25°C                                           |     |      |    |  |
| Capacitance Range:                 | 47 µF to 1000 µF                                                                                       |     |      |    |  |
| Capacitance Tolerance:             | ±20%                                                                                                   |     |      |    |  |
| Rated Voltage (V <sub>R</sub> )    | -55°C ≤ +40°C:                                                                                         | 4   | 6.3  | 10 |  |
| Category Voltage (V <sub>C</sub> ) | at 85°C:                                                                                               | 2   | 3.15 | 5  |  |
| Category Voltage (V <sub>C</sub> ) | at 125°C:                                                                                              | 0.8 | 1.26 | 2  |  |
| Temperature Range:                 | -55°C to +125°C with category voltage                                                                  |     |      |    |  |
| Reliability:                       | 0.2% per 1000 hours at 85°C, 0.5xV <sub>R</sub> with 0.1Ω/V series impedance with 60% confidence level |     |      |    |  |



# TLN Series



## Tantalum Solid Electrolytic Chip Capacitors Undertab Series

### CAPACITANCE AND RATED VOLTAGE, VR (VOLTAGE CODE) RANGE (LETTER DENOTES CASE SIZE)

| Capacitance |      | Rated Voltage DC to 40°C / 0.5DC to 85°C/ 0.2DC to 125°C |                             |                                    |
|-------------|------|----------------------------------------------------------|-----------------------------|------------------------------------|
| µF          | Code | 4V (G)                                                   | 6.3V (J)                    | 10V (A)                            |
| 33          | 336  |                                                          |                             |                                    |
| 47          | 476  |                                                          |                             | K(1500)/N(6000)                    |
| 68          | 686  | N(3000)*                                                 | K(5400)                     | K(5400)/S(6000)                    |
| 100         | 107  | N(5200)                                                  | K(5400)/S(5400)             | K(2500)/L(7200)*<br>S(2500)        |
| 150         | 157  | K(2500)/S(2500)                                          | K(2500)/L(5400)*<br>S(2500) | H(6000)/(1300)/<br>S(7200)*T(1500) |
| 220         | 227  | K(2500)/L(1300)<br>S(3000)/T(1500)                       | L(1000)<br>S(8300)*T(1500)  | G(7200)*H(6000)*<br>T(1300)        |
| 330         | 337  | G(4000)*L(4000)*<br>S(5200)*                             | G(5400)*H(3000)*            | H(7200)*T(9600)*                   |
| 470         | 477  | G(5200)*H(3000)*<br>T(4000)*                             | H(5400)*T(8300)*            | H(9600)*                           |
| 680         | 687  | H(4000)*T(5200)*                                         | H(8300)*                    |                                    |
| 1000        | 108  | H(5200)*                                                 | Y(150)                      |                                    |

Available Ratings, (ESR ratings in mOhms in brackets)

Engineering samples - please contact manufacturer

\*Codes under development - subject to change

Note: Voltage ratings are minimum values. AVX reserves the right to supply higher ratings in the same case size, to the same reliability standards.

### RATINGS & PART NUMBER REFERENCE

| AVX<br>Part No.                                       | Case<br>Size | Capacitance<br>(µF) | Rated<br>Voltage<br>(V) | Maximum<br>Surge<br>Current (A)* | DCL<br>(µA)<br>Max. | ESR<br>Max. (mΩ)<br>@100kHz | MSL | 100kHz Ripple Current (mA) |      |       | 100kHz Ripple Voltage (mV) |      |       |
|-------------------------------------------------------|--------------|---------------------|-------------------------|----------------------------------|---------------------|-----------------------------|-----|----------------------------|------|-------|----------------------------|------|-------|
|                                                       |              |                     |                         |                                  |                     |                             |     | 25°C                       | 85°C | 125°C | 25°C                       | 85°C | 125°C |
| 4 Volt @ 40°C (2 Volt @ 85°C, 0.8 Volt @ 125°C)       |              |                     |                         |                                  |                     |                             |     |                            |      |       |                            |      |       |
| TLNN107M004#5200                                      | N            | 100                 | 4                       | 0.4                              | 20                  | 5200                        | 3   | 88                         | 79   | 35    | 456                        | 410  | 182   |
| TLNK157M004#2500                                      | K            | 150                 | 4                       | 0.7                              | 12                  | 2500                        | 3   | 148                        | 133  | 59    | 371                        | 334  | 148   |
| TLNS157M004#2500                                      | S            | 150                 | 4                       | 0.7                              | 12                  | 2500                        | 3   | 148                        | 133  | 59    | 371                        | 334  | 148   |
| TLNK227M004#2500                                      | K            | 220                 | 4                       | 0.7                              | 44                  | 2500                        | 3   | 148                        | 133  | 59    | 371                        | 334  | 148   |
| TLNL227M004#1300                                      | L            | 220                 | 4                       | 1.1                              | 17.6                | 1300                        | 3   | 215                        | 193  | 86    | 279                        | 251  | 112   |
| TLNS227M004#3000                                      | S            | 220                 | 4                       | 0.6                              | 17.6                | 3000                        | 3   | 135                        | 122  | 54    | 406                        | 366  | 162   |
| TLNT227M004#1500                                      | T            | 220                 | 4                       | 1.0                              | 17.6                | 1500                        | 3   | 216                        | 194  | 86    | 324                        | 292  | 130   |
| 6.3 Volt @ 40°C (3.15 Volt @ 85°C, 1.26 Volt @ 125°C) |              |                     |                         |                                  |                     |                             |     |                            |      |       |                            |      |       |
| TLNK686M006#5400                                      | K            | 68                  | 6.3                     | 0.5                              | 4.1                 | 5400                        | 3   | 101                        | 91   | 40    | 545                        | 490  | 218   |
| TLNK107M006#5400                                      | K            | 100                 | 6.3                     | 0.5                              | 6                   | 5400                        | 3   | 101                        | 91   | 40    | 545                        | 490  | 218   |
| TLNS107M006#5400                                      | S            | 100                 | 6.3                     | 0.5                              | 6                   | 5400                        | 3   | 101                        | 91   | 40    | 545                        | 490  | 218   |
| TLNK157M006#2500                                      | K            | 150                 | 6.3                     | 1.1                              | 18                  | 2500                        | 3   | 148                        | 133  | 59    | 371                        | 334  | 148   |
| TLNS157M006#2500                                      | S            | 150                 | 6.3                     | 1.1                              | 18                  | 2500                        | 3   | 148                        | 133  | 59    | 371                        | 334  | 148   |
| TLNL227M006#1000                                      | L            | 220                 | 6.3                     | 2.2                              | 26.4                | 1000                        | 3   | 245                        | 220  | 98    | 245                        | 220  | 98    |
| TLNT227M006#1500                                      | T            | 220                 | 6.3                     | 1.6                              | 26.4                | 1500                        | 3   | 216                        | 194  | 86    | 324                        | 292  | 130   |
| TLNY108M006#0150                                      | Y            | 1000                | 6.3                     | 5.3                              | 63                  | 150                         | 3   | 876                        | 788  | 350   | 131                        | 118  | 53    |
| 10 Volt @ 40°C (5 Volt @ 85°C, 2 Volt @ 125°C)        |              |                     |                         |                                  |                     |                             |     |                            |      |       |                            |      |       |
| TLNK476M010#1500                                      | K            | 47                  | 10                      | 2.6                              | 4.7                 | 1500                        | 3   | 191                        | 172  | 77    | 287                        | 259  | 115   |
| TLNN476M010#6000                                      | N            | 47                  | 10                      | 0.8                              | 9.4                 | 6000                        | 3   | 82                         | 73   | 33    | 490                        | 441  | 196   |
| TLNK686M010#5400                                      | K            | 68                  | 10                      | 0.9                              | 6.8                 | 5400                        | 3   | 101                        | 91   | 40    | 545                        | 490  | 218   |
| TLNS686M010#6000                                      | S            | 68                  | 10                      | 0.8                              | 6.8                 | 6000                        | 3   | 96                         | 86   | 38    | 574                        | 517  | 230   |
| TLNK107M010#2500                                      | K            | 100                 | 10                      | 1.7                              | 20                  | 2500                        | 3   | 148                        | 133  | 59    | 371                        | 334  | 148   |
| TLNS107M010#2500                                      | S            | 100                 | 10                      | 1.7                              | 10                  | 2500                        | 3   | 148                        | 133  | 59    | 371                        | 334  | 148   |
| TLNH157M010#6000                                      | H            | 150                 | 10                      | 0.8                              | 30                  | 6000                        | 3   | 108                        | 97   | 43    | 648                        | 583  | 259   |
| TLNL157M010#1300                                      | L            | 150                 | 10                      | 2.9                              | 30                  | 1300                        | 3   | 215                        | 193  | 86    | 279                        | 251  | 112   |
| TLNT157M010#1500                                      | T            | 150                 | 10                      | 2.6                              | 30                  | 1500                        | 3   | 216                        | 194  | 86    | 324                        | 292  | 130   |
| TLNT227M010#1300                                      | T            | 220                 | 10                      | 2.9                              | 44                  | 1300                        | 3   | 232                        | 209  | 93    | 302                        | 271  | 121   |

Moisture Sensitivity Level (MSL) is defined according to J-STD-020.

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

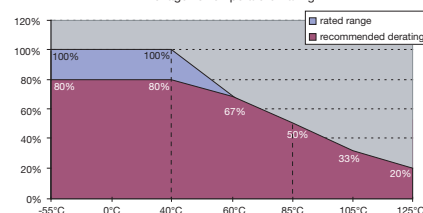
ESR allowed to move up to 1.25 times catalogue limit post mounting

DCL allowed to move up to 2.00 times catalogue limit post mounting

For typical weight and composition see page 122.

**NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.**

Voltage vs Temperature Rating





**Стандарт  
Электрон  
Связь**

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

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