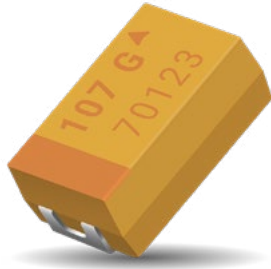


# TLJ Series

## Tantalum Solid Electrolytic Chip Capacitors - High CV Consumer Series



### FEATURES

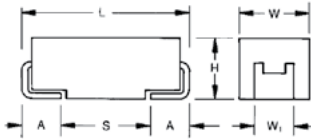
- High Volumetric Efficiency
- 3x Reflow 260°C Compatible
- 100% Surge Current Tested
- 14 Case Sizes Available Including Low Profile Codes
- Environmentally Friendly
- Consumer Applications (e.g. Mobiles Phones, PDA etc.)
- CV Range: 10-1500µF / 2.5-20V



LEAD-FREE COMPATIBLE COMPONENT

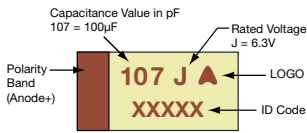
### APPLICATIONS

- Mobile Phones
- MP3/4 Players

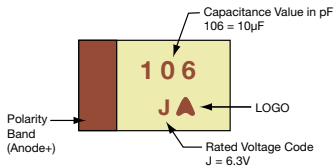


### MARKING

#### A, B, F, G, H, K, S, T, V, W, Y CASE



#### N, P, R CASE



### STANDARD CASE DIMENSIONS:

millimeters (inches)

| Code | EIA Code | EIA Metric | L±0.20 (0.008) | W+0.20 (0.008) -0.10 (0.004) | H+0.20 (0.008) -0.10 (0.004) | W <sub>1</sub> ±0.20 (0.008) | A+0.30 (0.012) -0.20 (0.008) | S Min.       |
|------|----------|------------|----------------|------------------------------|------------------------------|------------------------------|------------------------------|--------------|
| A    | 1206     | 3216-18    | 3.20 (0.126)   | 1.60 (0.063)                 | 1.60 (0.063)                 | 1.20 (0.047)                 | 0.80 (0.031)                 | 1.10 (0.043) |
| B    | 1210     | 3528-21    | 3.50 (0.138)   | 2.80 (0.110)                 | 1.90 (0.075)                 | 2.20 (0.087)                 | 0.80 (0.031)                 | 1.40 (0.055) |
| F    | 2312     | 6032-20    | 6.00 (0.236)   | 3.20 (0.126)                 | 2.00 (0.079) max.            | 2.20 (0.087)                 | 1.30 (0.051)                 | 2.90 (0.114) |
| G    | 1206     | 3216-15    | 3.20 (0.126)   | 1.60 (0.063)                 | 1.50 (0.059) max             | 1.20 (0.047)                 | 0.80 (0.031)                 | 1.10 (0.043) |
| H    | 1210     | 3528-15    | 3.50 (0.138)   | 2.80 (0.110)                 | 1.50 (0.059) max             | 2.20 (0.087)                 | 0.80 (0.031)                 | 1.40 (0.055) |
| K    | 1206     | 3216-10    | 3.20 (0.126)   | 1.60 (0.063)                 | 1.00 (0.039) max             | 1.20 (0.047)                 | 0.80 (0.031)                 | 1.10 (0.043) |
| N    | 0805     | 2012-10    | 2.05 (0.081)   | 1.30 (0.051)                 | 1.00 (0.039) max             | 1.00 (0.039)                 | 0.50 (0.020)                 | 0.85 (0.033) |
| P    | 0805     | 2012-15    | 2.05 (0.081)   | 1.35 (0.053)                 | 1.50 (0.059) max             | 1.00±0.10 (0.039±0.004)      | 0.50 (0.020)                 | 0.85 (0.033) |
| R    | 0805     | 2012-12    | 2.05 (0.081)   | 1.30 (0.051)                 | 1.20 (0.047) max             | 1.00±0.10 (0.039±0.004)      | 0.50 (0.020)                 | 0.85 (0.033) |
| S    | 1206     | 3216-12    | 3.20 (0.126)   | 1.60 (0.063)                 | 1.20 (0.047) max             | 1.20 (0.047)                 | 0.80 (0.031)                 | 1.10 (0.043) |
| T    | 1210     | 3528-12    | 3.50 (0.138)   | 2.80 (0.110)                 | 1.20 (0.047) max             | 2.20 (0.087)                 | 0.80 (0.031)                 | 1.40 (0.033) |
| V    | 2924     | 7361-38    | 7.30 (0.287)   | 6.10 (0.240)                 | 3.55 (0.140)                 | 3.10 (0.122)                 | 1.30 (0.051)                 | 4.40 (0.173) |
| W    | 2312     | 6032-15    | 6.00 (0.236)   | 3.20 (0.126)                 | 1.50 (0.059) max             | 2.20 (0.087)                 | 1.30 (0.051)                 | 2.90 (0.114) |
| Y    | 2917     | 7343-20    | 7.30 (0.287)   | 4.30 (0.169)                 | 2.00 (0.079) max             | 2.40 (0.094)                 | 1.30 (0.051)                 | 4.40 (0.173) |

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

### HOW TO ORDER

**TLJ**  
Type

**W**  
Case Size  
See table above

**157**  
Capacitance Code  
pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)

**M**  
Tolerance  
M = ±20%

**010**  
Rated DC Voltage  
002 = 2.5Vdc  
004 = 4Vdc  
006 = 6.3Vdc  
010 = 10Vdc  
016 = 16Vdc  
020 = 20Vdc

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

**0200**  
ESR in mΩ

### TECHNICAL SPECIFICATIONS

|                                    |  |     |     |     |    |     |    |  |
|------------------------------------|--|-----|-----|-----|----|-----|----|--|
| Technical Data:                    | All technical data relate to an ambient temperature of +25°C   |     |     |     |    |     |    |  |
| Capacitance Range:                 | 10 µF to 1500 µF   |     |     |     |    |     |    |  |
| Capacitance Tolerance:             | ±20%   |     |     |     |    |     |    |  |
| Rated Voltage (V <sub>R</sub> )    | -55°C ≤ +40°C:   | 2.5 | 4   | 6.3 | 10 | 16  | 20 |  |
| Category Voltage (V <sub>C</sub> ) | at 85°C:   | 1.3 | 2   | 3.2 | 5  | 8   | 10 |  |
| Category Voltage (V <sub>C</sub> ) | at 125°C:  | 0.5 | 0.8 | 1.3 | 2  | 3.2 | 4  |  |
| 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 |     |     |     |    |     |    |  |

# TLJ Series

## Tantalum Solid Electrolytic Chip Capacitors - High CV Consumer Series

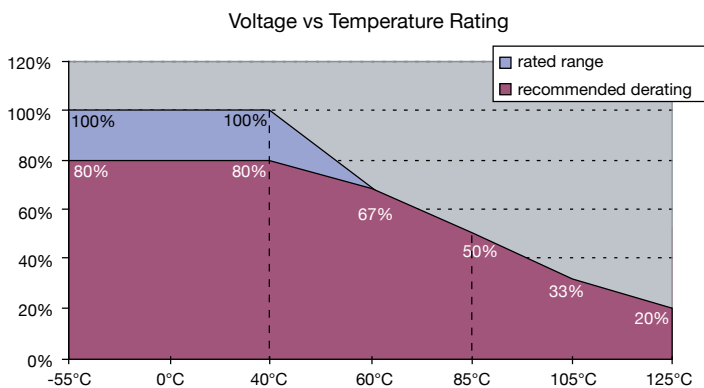


### CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

| Capacitance |      | Rated Voltage DC to 40°C / 0.5DC to 85°C / 0.2DC to 125°C |   |  |   |         |         |
|-------------|------|---|---|--|---|---------|---------|
| µF          | Code | 2.5V (e)  | 4V (G)  | 6.3V (J)   | 10V (A)   | 16V (C) | 20V (D) |
| 6.8         | 685  |   |   |  |   |         |         |
| 10          | 106  |   |   |  | N(2500)<br>R(2000,3000)                             | S(2200) | T(1000) |
| 15          | 156  |   |   |  | R(2000)   |         |         |
| 22          | 226  |   |   | N(5400)/R(3500)  | K(1800)/N(3800)<br>R(3800)                          | T(1000) |         |
| 33          | 336  |   | N(8000)<br>R(3000)                            | K(1700)/N(8000)<br>P(3000)/R(3000)                         | K(1500)/N(9600)<br>P(3500)/R(3500)<br>S(1500)       | T(1000) |         |
| 47          | 476  |   | K(1500)/N(4000)<br>P(3000)/R(3000)            | K(1500)/N(8300)<br>P(700,900,1800,2500)<br>R(3200)/S(1500) | A(600)/G(1500)<br>P(3200)/R(3200)<br>S(1500)/T(600) |         |         |
| 68          | 686  |   | K(1200)/N(8000)<br>P(3000)/R(2900)<br>S(1500) | A(500)/G(800)<br>K(2000)/S(1500)<br>T(600)                 | A(1500)   |         |         |
| 100         | 107  |   | A(500)/G(800)<br>K(2000)/P(2700)<br>S(1400)   | A(500,800)/G(800)<br>K(2000)/<br>P(5400)/T(800)            | A(1400)/H(900)<br>T(900)                            |         |         |
| 150         | 157  |   | A(800)/T(800)                                 | A(900)/H(900)<br>T(1200)                                   | B(500)/W(150,200)                                   |         |         |
| 220         | 227  | T(1100)   | A(1100)/G(3000)<br>H(900)/T(1100)             | B(500)/T(2000)<br>W(200)                                   | F(300)  |         |         |
| 330         | 337  |   | T(2700)/W(200)                                | F(300)   |   |         |         |
| 470         | 477  |   |   |  |   |         |         |
| 680         | 687  |   |   | Y(100,150)   |   |         |         |
| 1000        | 108  |   |   |  |   |         |         |
| 1500        | 158  |   |   | V(100)   |   |         |         |

Released ratings, (ESR ratings in mOhms in parentheses)

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



# TLJ Series

## Tantalum Solid Electrolytic Chip Capacitors - High CV Consumer Series



### RATINGS & PART NUMBER REFERENCE

| Part Number            | Case Size | Capacitance (µF) | Rated Voltage (V) | Rated Temperature (°C) | Category Voltage (V) | Category Temperature (°C) | Maximum Surge Current (A) | DCL Max. (µA) | ESR Max. @ 100kHz (mΩ) | 100kHz RMS Current (mA) |      |       | Product Category | MSL |
|------------------------|-----------|------------------|-------------------|------------------------|----------------------|---------------------------|---------------------------|---------------|------------------------|-------------------------|------|-------|------------------|-----|
|                        |           |                  |                   |                        |                      |                           |                           |               |                        | 25°C                    | 85°C | 125°C |                  |     |
| <b>2.5 Volt @ 40°C</b> |           |                  |                   |                        |                      |                           |                           |               |                        |                         |      |       |                  |     |
| TLJT227M002#1100       | T         | 220              | 2.5               | 40                     | 0.5                  | 125                       | 0.8                       | 5.5           | 1100                   | 270                     | 243  | 108   | 2                | 3   |
| <b>4 Volt @ 40°C</b>   |           |                  |                   |                        |                      |                           |                           |               |                        |                         |      |       |                  |     |
| TLJN336M004#8000       | N         | 33               | 4                 | 40                     | 0.8                  | 125                       | 0.2                       | 1.3           | 8000                   | 79                      | 71   | 32    | 1                | 3   |
| TLJR336M004#3000       | R         | 33               | 4                 | 40                     | 0.8                  | 125                       | 0.6                       | 1.3           | 3000                   | 135                     | 122  | 54    | 2                | 3   |
| TLJK476M004#1500       | K         | 47               | 4                 | 40                     | 0.8                  | 125                       | 1.0                       | 1.9           | 1500                   | 208                     | 187  | 83    | 2                | 3   |
| TLJN476M004#4000       | N         | 47               | 4                 | 40                     | 0.8                  | 125                       | 0.6                       | 1.9           | 4000                   | 112                     | 101  | 45    | 1                | 3   |
| TLJP476M004#3000       | P         | 47               | 4                 | 40                     | 0.8                  | 125                       | 0.6                       | 1.9           | 3000                   | 141                     | 127  | 57    | 2                | 3   |
| TLJR476M004#3000       | R         | 47               | 4                 | 40                     | 0.8                  | 125                       | 0.6                       | 1.9           | 3000                   | 135                     | 122  | 54    | 2                | 3   |
| TLJK686M004#1200       | K         | 68               | 4                 | 40                     | 0.8                  | 125                       | 1.2                       | 2.7           | 1200                   | 233                     | 209  | 93    | 2                | 3   |
| TLJN686M004#8000       | N         | 68               | 4                 | 40                     | 0.8                  | 125                       | 0.2                       | 5.4           | 8000                   | 79                      | 71   | 32    | 1                | 3   |
| TLJP686M004#3000       | P         | 68               | 4                 | 40                     | 0.8                  | 125                       | 0.6                       | 2.7           | 3000                   | 141                     | 127  | 57    | 2                | 3   |
| TLJR686M004#2900       | R         | 68               | 4                 | 40                     | 0.8                  | 125                       | 0.6                       | 2.7           | 2900                   | 138                     | 124  | 55    | 2                | 3   |
| TLJS686M004#1500       | S         | 68               | 4                 | 40                     | 0.8                  | 125                       | 1.0                       | 2.7           | 1500                   | 208                     | 187  | 83    | 2                | 3   |
| TLJA107M004#0500       | A         | 100              | 4                 | 40                     | 0.8                  | 125                       | 2.1                       | 4.0           | 500                    | 387                     | 349  | 155   | 1                | 3   |
| TLJG107M004#0800       | G         | 100              | 4                 | 40                     | 0.8                  | 125                       | 1.6                       | 4.0           | 800                    | 296                     | 266  | 118   | 2                | 3   |
| TLJK107M004#2000       | K         | 100              | 4                 | 40                     | 0.8                  | 125                       | 0.8                       | 8.0           | 2000                   | 180                     | 162  | 72    | 2                | 3   |
| TLJP107M004#2700       | P         | 100              | 4                 | 40                     | 0.8                  | 125                       | 0.6                       | 8.0           | 2700                   | 149                     | 134  | 60    | 2                | 3   |
| TLJS107M004#1400       | S         | 100              | 4                 | 40                     | 0.8                  | 125                       | 1.1                       | 4.0           | 1400                   | 215                     | 194  | 86    | 2                | 3   |
| TLJA157M004#0800       | A         | 150              | 4                 | 40                     | 0.8                  | 125                       | 1.6                       | 6.0           | 800                    | 306                     | 276  | 122   | 2                | 3   |
| TLJT157M004#0800       | T         | 150              | 4                 | 40                     | 0.8                  | 125                       | 1.6                       | 6.0           | 800                    | 316                     | 285  | 126   | 2                | 3   |
| TLJA227M004#1100       | A         | 220              | 4                 | 40                     | 0.8                  | 125                       | 1.3                       | 17.6          | 1100                   | 261                     | 235  | 104   | 2                | 3   |
| TLJG227M004#3000       | G         | 220              | 4                 | 40                     | 0.8                  | 125                       | 0.6                       | 17.6          | 3000                   | 153                     | 137  | 61    | 2                | 3   |
| TLJH227M004#0900       | H         | 220              | 4                 | 40                     | 0.8                  | 125                       | 1.5                       | 8.8           | 900                    | 298                     | 268  | 119   | 2                | 3   |
| TLJT227M004#1100       | T         | 220              | 4                 | 40                     | 0.8                  | 125                       | 1.3                       | 8.8           | 1100                   | 270                     | 243  | 108   | 2                | 3   |
| TLJT337M004#2700       | T         | 330              | 4                 | 40                     | 0.8                  | 125                       | 0.6                       | 26.4          | 2700                   | 172                     | 155  | 69    | 2                | 3   |
| TLJW337M004#0200       | W         | 330              | 4                 | 40                     | 0.8                  | 125                       | 3.1                       | 13.2          | 200                    | 671                     | 604  | 268   | 1                | 3   |
| <b>6.3 Volt @ 40°C</b> |           |                  |                   |                        |                      |                           |                           |               |                        |                         |      |       |                  |     |
| TLJN226M006#5400       | N         | 22               | 6.3               | 40                     | 1.3                  | 125                       | 0.5                       | 1.3           | 5400                   | 96                      | 87   | 38    | 1                | 3   |
| TLJR226M006#3500       | R         | 22               | 6.3               | 40                     | 1.3                  | 125                       | 0.8                       | 1.3           | 3500                   | 125                     | 113  | 50    | 2                | 3   |
| TLJK336M006#1700       | K         | 33               | 6.3               | 40                     | 1.3                  | 125                       | 1.5                       | 2.0           | 1700                   | 196                     | 176  | 78    | 2                | 3   |
| TLJN336M006#8000       | N         | 33               | 6.3               | 40                     | 1.3                  | 125                       | 0.4                       | 2.0           | 8000                   | 79                      | 71   | 32    | 1                | 3   |
| TLJP336M006#3000       | P         | 33               | 6.3               | 40                     | 1.3                  | 125                       | 0.9                       | 2.0           | 3000                   | 141                     | 127  | 57    | 1                | 3   |
| TLJR336M006#3000       | R         | 33               | 6.3               | 40                     | 1.3                  | 125                       | 0.9                       | 2.0           | 3000                   | 135                     | 122  | 54    | 2                | 3   |
| TLJK476M006#1500       | K         | 47               | 6.3               | 40                     | 1.3                  | 125                       | 1.6                       | 2.8           | 1500                   | 208                     | 187  | 83    | 2                | 3   |
| TLJN476M006#8300       | N         | 47               | 6.3               | 40                     | 1.3                  | 125                       | 0.4                       | 5.6           | 8300                   | 78                      | 70   | 31    | 1                | 3   |
| TLJP476M006#0700       | P         | 47               | 6.3               | 40                     | 1.3                  | 125                       | 2.7                       | 2.8           | 700                    | 293                     | 263  | 117   | 2                | 3   |
| TLJP476M006#0900       | P         | 47               | 6.3               | 40                     | 1.3                  | 125                       | 2.3                       | 2.8           | 900                    | 258                     | 232  | 103   | 2                | 3   |
| TLJP476M006#1800       | P         | 47               | 6.3               | 40                     | 1.3                  | 125                       | 1.4                       | 2.8           | 1800                   | 183                     | 164  | 73    | 2                | 3   |
| TLJP476M006#2500       | P         | 47               | 6.3               | 40                     | 1.3                  | 125                       | 1.1                       | 2.8           | 2500                   | 155                     | 139  | 62    | 2                | 3   |
| TLJR476M006#3200       | R         | 47               | 6.3               | 40                     | 1.3                  | 125                       | 0.9                       | 2.8           | 3200                   | 131                     | 118  | 52    | 2                | 3   |
| TLJS476M006#1500       | S         | 47               | 6.3               | 40                     | 1.3                  | 125                       | 1.6                       | 2.8           | 1500                   | 208                     | 187  | 83    | 2                | 3   |
| TLJA686M006#0500       | A         | 68               | 6.3               | 40                     | 1.3                  | 125                       | 3.3                       | 4.1           | 500                    | 387                     | 349  | 155   | 1                | 3   |
| TLJG686M006#0800       | G         | 68               | 6.3               | 40                     | 1.3                  | 125                       | 2.5                       | 4.1           | 800                    | 296                     | 266  | 118   | 2                | 3   |
| TLJK686M006#2000       | K         | 68               | 6.3               | 40                     | 1.3                  | 125                       | 1.3                       | 8.16          | 2000                   | 180                     | 162  | 72    | 2                | 3   |
| TLJS686M006#1500       | S         | 68               | 6.3               | 40                     | 1.3                  | 125                       | 1.6                       | 4.1           | 1500                   | 208                     | 187  | 83    | 2                | 3   |
| TLJT686M006#0600       | T         | 68               | 6.3               | 40                     | 1.3                  | 125                       | 3.0                       | 4.1           | 600                    | 365                     | 329  | 146   | 1                | 3   |
| TLJA107M006#0500       | A         | 100              | 6.3               | 40                     | 1.3                  | 125                       | 3.3                       | 6.0           | 500                    | 387                     | 349  | 155   | 2                | 3   |
| TLJA107M006#0800       | A         | 100              | 6.3               | 40                     | 1.3                  | 125                       | 2.5                       | 6.0           | 800                    | 306                     | 276  | 122   | 2                | 3   |
| TLJG107M006#0800       | G         | 100              | 6.3               | 40                     | 1.3                  | 125                       | 2.5                       | 6.0           | 800                    | 296                     | 266  | 118   | 2                | 3   |
| TLJK107M006#2000       | K         | 100              | 6.3               | 40                     | 1.3                  | 125                       | 1.3                       | 12.0          | 2000                   | 180                     | 162  | 72    | 2                | 3   |
| TLJP107M006#5400       | P         | 100              | 6.3               | 40                     | 1.3                  | 125                       | 0.5                       | 12.0          | 5400                   | 105                     | 95   | 42    | 2                | 3   |
| TLJT107M006#0800       | T         | 100              | 6.3               | 40                     | 1.3                  | 125                       | 2.5                       | 6.0           | 800                    | 316                     | 285  | 126   | 2                | 3   |
| TLJA157M006#0900       | A         | 150              | 6.3               | 40                     | 1.3                  | 125                       | 2.3                       | 9.0           | 900                    | 289                     | 260  | 115   | 2                | 3   |
| TLJH157M006#0900       | H         | 150              | 6.3               | 40                     | 1.3                  | 125                       | 2.3                       | 9.0           | 900                    | 298                     | 268  | 119   | 2                | 3   |
| TLJT157M006#1200       | T         | 150              | 6.3               | 40                     | 1.3                  | 125                       | 1.9                       | 9.0           | 1200                   | 258                     | 232  | 103   | 2                | 3   |
| TLJB227M006#0500       | B         | 220              | 6.3               | 40                     | 1.3                  | 125                       | 3.3                       | 13.2          | 500                    | 412                     | 371  | 165   | 1                | 3   |
| TLJT227M006#2000       | T         | 220              | 6.3               | 40                     | 1.3                  | 125                       | 1.3                       | 26.4          | 2000                   | 200                     | 180  | 80    | 2                | 3   |
| TLJW227M006#0200       | W         | 220              | 6.3               | 40                     | 1.3                  | 125                       | 4.8                       | 13.2          | 200                    | 671                     | 604  | 268   | 1                | 3   |
| TLJF337M006#0300       | F         | 330              | 6.3               | 40                     | 1.3                  | 125                       | 4.2                       | 19.8          | 300                    | 577                     | 520  | 231   | 1                | 3   |
| TLJY687M006#0100       | Y         | 680              | 6.3               | 40                     | 1.3                  | 125                       | 5.7                       | 40.8          | 100                    | 1118                    | 1006 | 447   | 1                | 3   |
| TLJY687M006#0150       | Y         | 680              | 6.3               | 40                     | 1.3                  | 125                       | 5.3                       | 40.8          | 150                    | 913                     | 822  | 365   | 1                | 3   |
| TLJV158M006#0100       | V         | 1500             | 6.3               | 40                     | 1.3                  | 125                       | 5.7                       | 90            | 100                    | 1581                    | 1423 | 632   | 1                | 3   |

# TLJ Series

## Tantalum Solid Electrolytic Chip Capacitors - High CV Consumer Series



### RATINGS & PART NUMBER REFERENCE

| Part Number           | Case Size | Capacitance (µF) | Rated Voltage (V) | Rated Temperature (°C) | Category Voltage (V) | Category Temperature (°C) | Maximum Surge Current (A) | DCL Max. (µA) | ESR Max. @ 100kHz (mΩ) | 100kHz RMS Current (mA) |      |       | Product Category | MSL |
|-----------------------|-----------|------------------|-------------------|------------------------|----------------------|---------------------------|---------------------------|---------------|------------------------|-------------------------|------|-------|------------------|-----|
|                       |           |                  |                   |                        |                      |                           |                           |               |                        | 25°C                    | 85°C | 125°C |                  |     |
| <b>10 Volt @ 40°C</b> |           |                  |                   |                        |                      |                           |                           |               |                        |                         |      |       |                  |     |
| TLJN106M010#2500      | N         | 10               | 10                | 40                     | 2                    | 125                       | 1.7                       | 1.0           | 2500                   | 141                     | 127  | 57    | 1                | 3   |
| TLJR106M010#2000      | R         | 10               | 10                | 40                     | 2                    | 125                       | 2.0                       | 1.0           | 2000                   | 166                     | 149  | 66    | 1                | 3   |
| TLJR106M010#3000      | R         | 10               | 10                | 40                     | 2                    | 125                       | 1.4                       | 1.0           | 3000                   | 135                     | 122  | 54    | 1                | 3   |
| TLJR156M010#2000      | R         | 15               | 10                | 40                     | 2                    | 125                       | 2.0                       | 1.5           | 2000                   | 166                     | 149  | 66    | 1                | 3   |
| TLJK226M010#1800      | K         | 22               | 10                | 40                     | 2                    | 125                       | 2.2                       | 2.2           | 1800                   | 167                     | 150  | 67    | 2                | 3   |
| TLJN226M010#3800      | N         | 22               | 10                | 40                     | 2                    | 125                       | 1.2                       | 2.2           | 3800                   | 115                     | 103  | 46    | 1                | 3   |
| TLJR226M010#3800      | R         | 22               | 10                | 40                     | 2                    | 125                       | 1.2                       | 2.2           | 3800                   | 120                     | 108  | 48    | 2                | 3   |
| TLJK336M010#1500      | K         | 33               | 10                | 40                     | 2                    | 125                       | 2.6                       | 3.3           | 1500                   | 208                     | 187  | 83    | 2                | 3   |
| TLJN336M010#9600      | N         | 33               | 10                | 40                     | 2                    | 125                       | 0.5                       | 6.6           | 9600                   | 72                      | 65   | 29    | 1                | 3   |
| TLJP336M010#3500      | P         | 33               | 10                | 40                     | 2                    | 125                       | 1.3                       | 3.3           | 3500                   | 131                     | 118  | 52    | 2                | 3   |
| TLJR336M010#3500      | R         | 33               | 10                | 40                     | 2                    | 125                       | 1.3                       | 3.3           | 3500                   | 125                     | 113  | 50    | 2                | 3   |
| TLJS336M010#1500      | S         | 33               | 10                | 40                     | 2                    | 125                       | 2.6                       | 3.3           | 1500                   | 208                     | 187  | 83    | 2                | 3   |
| TLJA476M010#0600      | A         | 47               | 10                | 40                     | 2                    | 125                       | 4.8                       | 4.7           | 600                    | 354                     | 318  | 141   | 1                | 3   |
| TLJG476M010#1500      | G         | 47               | 10                | 40                     | 2                    | 125                       | 2.6                       | 4.7           | 1500                   | 216                     | 194  | 86    | 2                | 3   |
| TLJP476M010#3200      | P         | 47               | 10                | 40                     | 2                    | 125                       | 1.4                       | 4.7           | 3200                   | 137                     | 123  | 55    | 2                | 3   |
| TLJR476M010#3200      | R         | 47               | 10                | 40                     | 2                    | 125                       | 1.4                       | 9.4           | 3200                   | 131                     | 118  | 52    | 2                | 3   |
| TLJS476M010#1500      | S         | 47               | 10                | 40                     | 2                    | 125                       | 2.6                       | 4.7           | 1500                   | 208                     | 187  | 83    | 2                | 3   |
| TLJT476M010#0600      | T         | 47               | 10                | 40                     | 2                    | 125                       | 4.8                       | 4.7           | 600                    | 365                     | 329  | 146   | 1                | 3   |
| TLJA686M010#1500      | A         | 68               | 10                | 40                     | 2                    | 125                       | 2.6                       | 6.8           | 1500                   | 224                     | 201  | 89    | 2                | 3   |
| TLJA107M010#1400      | A         | 100              | 10                | 40                     | 2                    | 125                       | 2.7                       | 10.0          | 1400                   | 231                     | 208  | 93    | 2                | 3   |
| TLJH107M010#0900      | H         | 100              | 10                | 40                     | 2                    | 125                       | 3.7                       | 10.0          | 900                    | 298                     | 268  | 119   | 2                | 3   |
| TLJT107M010#0900      | T         | 100              | 10                | 40                     | 2                    | 125                       | 3.7                       | 10.0          | 900                    | 298                     | 268  | 119   | 2                | 3   |
| TLJB157M010#0500      | B         | 150              | 10                | 40                     | 2                    | 125                       | 5.3                       | 15.0          | 500                    | 412                     | 371  | 165   | 1                | 3   |
| TLJW157M010#0150      | W         | 150              | 10                | 40                     | 2                    | 125                       | 8.3                       | 15.0          | 150                    | 775                     | 697  | 310   | 1                | 3   |
| TLJW157M010#0200      | W         | 150              | 10                | 40                     | 2                    | 125                       | 7.7                       | 15.0          | 200                    | 671                     | 604  | 268   | 1                | 3   |
| TLJF227M010#0300      | F         | 220              | 10                | 40                     | 2                    | 125                       | 6.7                       | 22.0          | 300                    | 577                     | 520  | 231   | 1                | 3   |
| <b>16 Volt @ 40°C</b> |           |                  |                   |                        |                      |                           |                           |               |                        |                         |      |       |                  |     |
| TLJS106M016#2200      | S         | 10               | 16                | 40                     | 3.2                  | 125                       | 3.0                       | 1.6           | 2200                   | 172                     | 155  | 69    | 1                | 3   |
| TLJT226M016#1000      | T         | 22               | 16                | 40                     | 3.2                  | 125                       | 5.5                       | 3.5           | 1000                   | 283                     | 255  | 113   | 1                | 3   |
| TLJT336M016#1000      | T         | 33               | 16                | 40                     | 3.2                  | 125                       | 5.5                       | 5.3           | 1000                   | 283                     | 255  | 113   | 1                | 3   |
| <b>20 Volt @ 40°C</b> |           |                  |                   |                        |                      |                           |                           |               |                        |                         |      |       |                  |     |
| TLJT106M020#1000      | T         | 10               | 20                | 40                     | 4                    | 125                       | 6.9                       | 2.0           | 1000                   | 283                     | 255  | 113   | 1                | 3   |

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

All technical data relates to an ambient temperature of +25°C. Capacitance is 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 259.

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

# TLJ Series

## Tantalum Solid Electrolytic Chip Capacitors - High CV Consumer Series



### QUALIFICATION TABLE – CATEGORY 1

| TEST                  | TLJ series (Temperature range -55°C to +125°C)   |               |               |                    |                                    |           |            |            |            |            |
|-----------------------|--|---------------|---------------|--------------------|------------------------------------|-----------|------------|------------|------------|------------|
|                       | Condition  |               |               | Characteristics    |                                    |           |            |            |            |            |
| Endurance             | Apply rated voltage (Ur) at 40°C and / or category voltage (Uc) at 85°C for 2000 hours through a circuit impedance of $\leq 0.1\Omega/V$ . Stabilize at room temperature for 1-2 hours before measuring. |               |               | Visual examination | no visible damage                  |           |            |            |            |            |
|                       |  |               |               | DCL                | 2 x initial limit                  |           |            |            |            |            |
|                       |  |               |               | $\Delta C/C$       | within $\pm 10\%$ of initial value |           |            |            |            |            |
|                       |  |               |               | ESR                | 1.25 x initial limit               |           |            |            |            |            |
| Humidity              | Store at 65°C and 90-95% relative humidity for 500 hours, with no applied voltage. Stabilize at room temperature and humidity for 1-2 hours before measuring.  |               |               | Visual examination | no visible damage                  |           |            |            |            |            |
|                       |  |               |               | DCL                | 2 x initial limit                  |           |            |            |            |            |
|                       |  |               |               | $\Delta C/C$       | within $\pm 10\%$ of initial value |           |            |            |            |            |
|                       |  |               |               | ESR                | 1.25 x initial limit               |           |            |            |            |            |
| Temperature Stability | Step   | Temperature°C | Duration(min) |                    |                                    |           |            |            |            |            |
|                       | 1  | +20           | 15            | +20°C              | -55°C                              | +20°C     | +85°C      | +125°C     | +20°C      |            |
|                       | 2  | -55           | 15            | DCL                | 2 x IL*                            | n/a       | 2 x IL*    | 20 x IL*   | 25 x IL*   | IL*        |
|                       | 3  | +20           | 15            | $\Delta C/C$       | n/a                                | +0/-20%   | $\pm 5\%$  | +20/-0%    | +25/-0%    | $\pm 5\%$  |
|                       | 4  | +85           | 15            | ESR                | 1.25 x IL*                         | 2.5 x IL* | 1.25 x IL* | 1.25 x IL* | 1.25 x IL* | 1.25 x IL* |
|                       | 5  | +125          | 15            |                    |                                    |           |            |            |            |            |
|                       | 6  | +20           | 15            |                    |                                    |           |            |            |            |            |
| Surge Voltage         | Apply 1.3x rated voltage (Ur) at 40°C for 1000 cycles of duration 6 min (30 sec charge, 5 min 30 sec discharge) through a charge / discharge resistance of 1000 $\Omega$                                 |               |               | Visual examination | no visible damage                  |           |            |            |            |            |
|                       |  |               |               | DCL                | 2 x initial limit                  |           |            |            |            |            |
|                       |  |               |               | $\Delta C/C$       | within $\pm 5\%$ of initial value  |           |            |            |            |            |
|                       |  |               |               | ESR                | 1.25 x initial limit               |           |            |            |            |            |
| Mechanical Shock      | MIL-STD-202, Method 213, Condition C   |               |               | Visual examination | no visible damage                  |           |            |            |            |            |
|                       |  |               |               | DCL                | initial limit                      |           |            |            |            |            |
|                       |  |               |               | $\Delta C/C$       | within $\pm 5\%$ of initial value  |           |            |            |            |            |
|                       |  |               |               | ESR                | initial limit                      |           |            |            |            |            |
| Vibration             | MIL-STD-202, Method 204, Condition D   |               |               | Visual examination | no visible damage                  |           |            |            |            |            |
|                       |  |               |               | DCL                | initial limit                      |           |            |            |            |            |
|                       |  |               |               | $\Delta C/C$       | within $\pm 5\%$ of initial value  |           |            |            |            |            |
|                       |  |               |               | ESR                | initial limit                      |           |            |            |            |            |

\*Initial Limit

### QUALIFICATION TABLE – CATEGORY 2

| TEST                  | TLJ series (Temperature range -55°C to +125°C)   |               |               |                    |                                    |           |            |            |            |            |
|-----------------------|--|---------------|---------------|--------------------|------------------------------------|-----------|------------|------------|------------|------------|
|                       | Condition  |               |               | Characteristics    |                                    |           |            |            |            |            |
| Endurance             | Apply rated voltage (Ur) at 40°C and / or category voltage (Uc) at 85°C for 2000 hours through a circuit impedance of $\leq 0.1\Omega/V$ . Stabilize at room temperature for 1-2 hours before measuring. |               |               | Visual examination | no visible damage                  |           |            |            |            |            |
|                       |  |               |               | DCL                | 2 x initial limit                  |           |            |            |            |            |
|                       |  |               |               | $\Delta C/C$       | within +5/-30% of initial value    |           |            |            |            |            |
|                       |  |               |               | ESR                | 1.25 x initial limit               |           |            |            |            |            |
| Humidity              | Store at 65°C and 90-95% relative humidity for 500 hours, with no applied voltage. Stabilize at room temperature and humidity for 1-2 hours before measuring.  |               |               | Visual examination | no visible damage                  |           |            |            |            |            |
|                       |  |               |               | DCL                | 2 x initial limit                  |           |            |            |            |            |
|                       |  |               |               | $\Delta C/C$       | within $\pm 10\%$ of initial value |           |            |            |            |            |
|                       |  |               |               | ESR                | 1.25 x initial limit               |           |            |            |            |            |
| Temperature Stability | Step   | Temperature°C | Duration(min) |                    |                                    |           |            |            |            |            |
|                       | 1  | +20           | 15            | +20°C              | -55°C                              | +20°C     | +85°C      | +125°C     | +20°C      |            |
|                       | 2  | -55           | 15            | DCL                | 2 x IL*                            | n/a       | 2 x IL*    | 20 x IL*   | 25 x IL*   | 2 x IL*    |
|                       | 3  | +20           | 15            | $\Delta C/C$       | n/a                                | +5/-20%   | $\pm 10\%$ | +20/-0%    | +25/-0%    | $\pm 10\%$ |
|                       | 4  | +85           | 15            | ESR                | 1.25 x IL*                         | 2.5 x IL* | 1.25 x IL* | 1.25 x IL* | 1.25 x IL* | 1.25 x IL* |
|                       | 5  | +125          | 15            |                    |                                    |           |            |            |            |            |
|                       | 6  | +20           | 15            |                    |                                    |           |            |            |            |            |
| Surge Voltage         | Apply 1.3x rated voltage (Ur) at 40°C for 1000 cycles of duration 6 min (30 sec charge, 5 min 30 sec discharge) through a charge / discharge resistance of 1000 $\Omega$                                 |               |               | Visual examination | no visible damage                  |           |            |            |            |            |
|                       |  |               |               | DCL                | 2 x initial limit                  |           |            |            |            |            |
|                       |  |               |               | $\Delta C/C$       | within $\pm 5\%$ of initial value  |           |            |            |            |            |
|                       |  |               |               | ESR                | 1.25 x initial limit               |           |            |            |            |            |
| Mechanical Shock      | MIL-STD-202, Method 213, Condition C   |               |               | Visual examination | no visible damage                  |           |            |            |            |            |
|                       |  |               |               | DCL                | initial limit                      |           |            |            |            |            |
|                       |  |               |               | $\Delta C/C$       | within $\pm 5\%$ of initial value  |           |            |            |            |            |
|                       |  |               |               | ESR                | initial limit                      |           |            |            |            |            |
| Vibration             | MIL-STD-202, Method 204, Condition D   |               |               | Visual examination | no visible damage                  |           |            |            |            |            |
|                       |  |               |               | DCL                | initial limit                      |           |            |            |            |            |
|                       |  |               |               | $\Delta C/C$       | within $\pm 5\%$ of initial value  |           |            |            |            |            |
|                       |  |               |               | ESR                | initial limit                      |           |            |            |            |            |

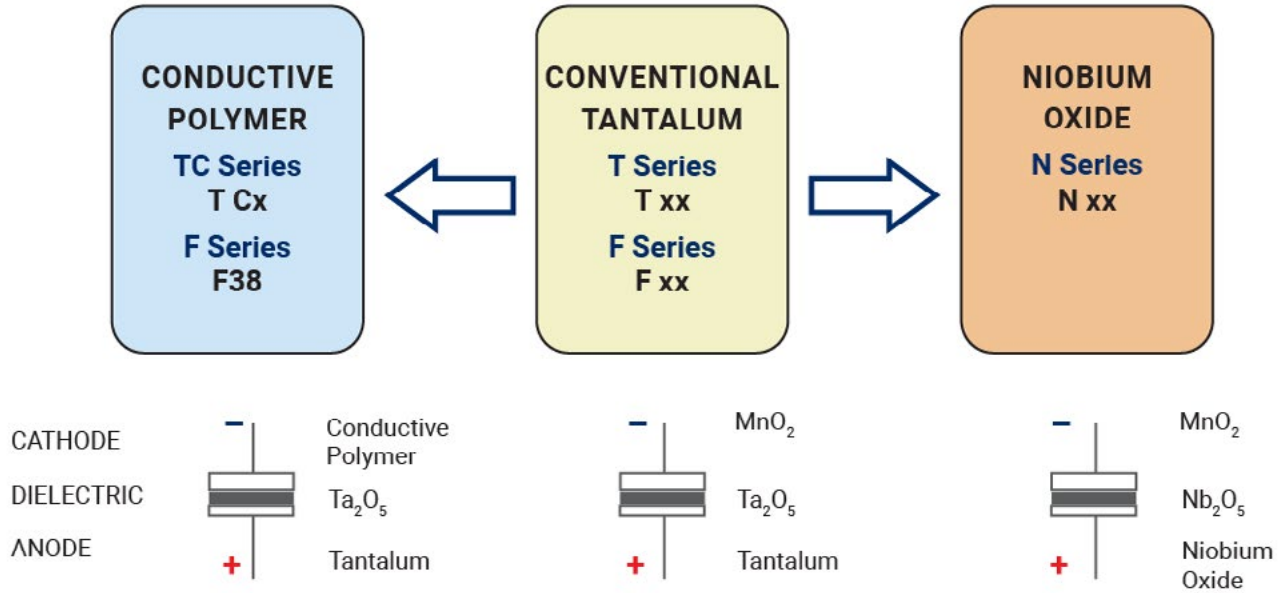
\*Initial Limit

# TLJ Series

## Tantalum Solid Electrolytic Chip Capacitors - High CV Consumer Series



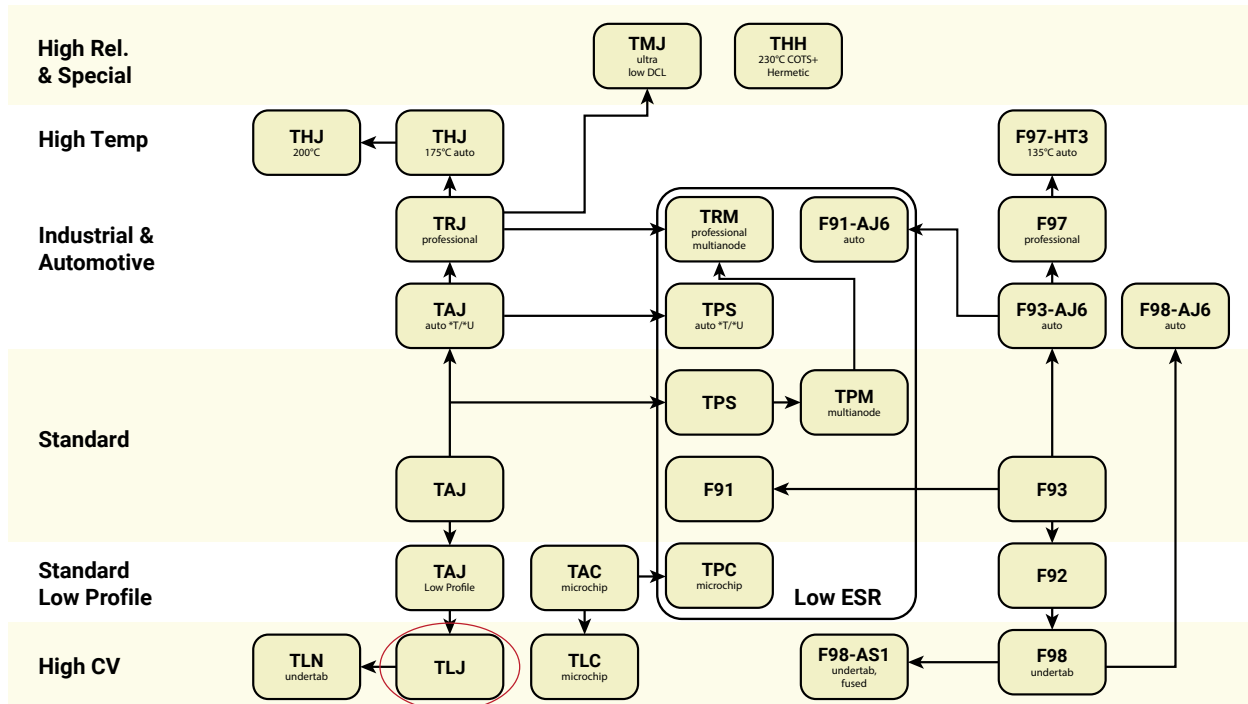
### SOLID ELECTROLYTIC CAPACITOR ROADMAP



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