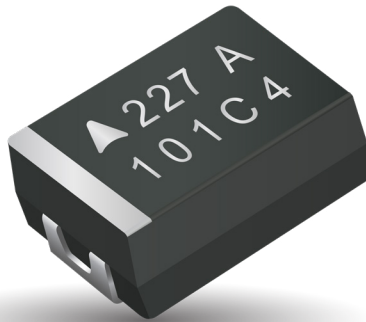


# THJ Series

## High Temperature Tantalum Chip Capacitor



### FEATURES

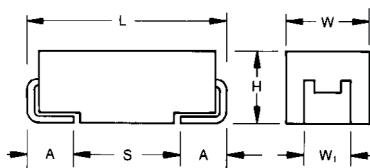
- Improved Reliability – 2x Standard
- 175°C @ 0.5VR Continuous Operation
- 100% Surge Current Tested
- CV Range: 0.10-220µF / 6.3-50V
- 5 Case Sizes Available
- Low ESR options on approval
- High Temperature Automotive and Industry Applications



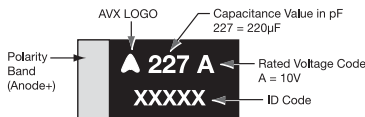
SnPb termination option is not RoHS compliant.

### APPLICATIONS

- Automotive ECU and ABS Control Electronics
- Geothermal Instrumentation



### MARKING A, B, C, D, E CASE



### 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±0.20 (0.008)<br>-0.10 (0.004) | W1±0.20 (0.008) | A±0.30 (0.012)<br>-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) |
| C    | 2312     | 6032-28    | 6.00 (0.236)   | 3.20 (0.126)                    | 2.60 (0.102)                    | 2.20 (0.087)    | 1.30 (0.051)                    | 2.90 (0.114) |
| D    | 2917     | 7343-31    | 7.30 (0.287)   | 4.30 (0.169)                    | 2.90 (0.114)                    | 2.40 (0.094)    | 1.30 (0.051)                    | 4.40 (0.173) |
| E    | 2917     | 7343-43    | 7.30 (0.287)   | 4.30 (0.169)                    | 4.10 (0.162)                    | 2.40 (0.094)    | 1.30 (0.051)                    | 4.40 (0.173) |

W1 dimension applies to the termination width for A dimensional area only.

### HOW TO ORDER

| THJ  | B                            | 105                                                                                                                                            | *                                 | 035                                                                                                          | R                                                                                                                                                                                                                                                                                               | JN                                                   | -                                                                                           |
|------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Type | Case Size<br>See table above | Capacitance Code<br>pF code: 1st two digits<br>represent significant figures<br>3rd digit represents multiplier<br>(number of zeros to follow) | Tolerance<br>K = ±10%<br>M = ±20% | Rated DC Voltage<br>006=6.3Vdc<br>010=10Vdc<br>016=16Vdc<br>020=20Vdc<br>025=25Vdc<br>035=35Vdc<br>050=50Vdc | Packaging<br>R = Pure Tin 7" Reel<br>S = Pure Tin 13" Reel<br>A = Gold Plating 7" Reel<br>(Contact Manufacturer)<br>B = Gold Plating 13" Reel<br>(Contact Manufacturer)<br>H = Tin Lead 7" Reel<br>(Contact Manufacturer)<br>K = Tin Lead 13" Reel<br>(Contact Manufacturer)<br>H, K = Non RoHS | Standard<br>Suffix<br>OR<br>0100<br>Low ESR<br>in mΩ | Additional<br>characters may be<br>added for special<br>requirements<br>V = Dry pack Option |

### TECHNICAL SPECIFICATIONS

|                                    |                                                                                                                                     |     |    |    |    |    |    |    |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----|----|----|----|----|----|----|
| Technical Data:                    | All technical data relate to an ambient temperature of +25°C                                                                        |     |    |    |    |    |    |    |
| Capacitance Range:                 | 0.10 µF to 220 µF                                                                                                                   |     |    |    |    |    |    |    |
| Capacitance Tolerance:             | ±10%; ±20%                                                                                                                          |     |    |    |    |    |    |    |
| Rated Voltage (V <sub>R</sub> )    | ≤ +85°C:                                                                                                                            | 6.3 | 10 | 16 | 20 | 25 | 35 | 50 |
| Category Voltage (V <sub>C</sub> ) | ≤ +125°C:                                                                                                                           | 4   | 7  | 10 | 13 | 17 | 23 | 33 |
| Category Voltage (V <sub>C</sub> ) | ≤ +175°C:                                                                                                                           | 3   | 5  | 8  | 10 | 12 | 17 | 25 |
| Surge Voltage (V <sub>S</sub> )    | ≤ +85°C:                                                                                                                            | 8   | 13 | 20 | 26 | 32 | 46 | 65 |
| Surge Voltage (V <sub>S</sub> )    | ≤ +125°C:                                                                                                                           | 5   | 8  | 13 | 16 | 20 | 28 | 40 |
| Surge Voltage (V <sub>S</sub> )    | ≤ +175°C:                                                                                                                           | 4   | 6  | 10 | 12 | 15 | 21 | 30 |
| Temperature Range:                 | -55°C to 175°C voltage derating.                                                                                                    |     |    |    |    |    |    |    |
| Reliability:                       | 0.5% per 1000 hours at 85°C, V <sub>R</sub> with 0.1Ω/V series impedance, 60% confidence level, 3.5 Fits at 40°C, 0.5V <sub>R</sub> |     |    |    |    |    |    |    |
| Termination Finish:                | Sn Plating (standard), Gold and SnPb Plating upon request                                                                           |     |    |    |    |    |    |    |
|                                    | Meets requirements of AEC-Q200                                                                                                      |     |    |    |    |    |    |    |

# THJ Series

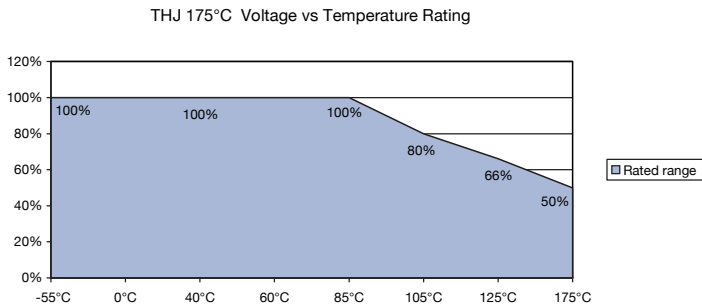
## High Temperature Tantalum Chip Capacitor



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

| Capacitance |      | Rated voltage (V <sub>R</sub> ) to 85°C (Voltage Code) |         |           |         |           |          |         |
|-------------|------|--------------------------------------------------------|---------|-----------|---------|-----------|----------|---------|
| μF          | Code | 6.3V (J)                                               | 10V (A) | 16V (C)   | 20V (D) | 25V (E)   | 35V (V)  | 50V (T) |
| 0.10        | 104  |                                                        |         |           |         |           | A        |         |
| 0.15        | 154  |                                                        |         |           |         |           | A        |         |
| 0.22        | 224  |                                                        |         |           |         |           | A        |         |
| 0.33        | 334  |                                                        |         |           |         |           | A        |         |
| 0.47        | 474  |                                                        |         |           |         | A         | B        |         |
| 0.68        | 684  |                                                        |         |           |         | A         | B        |         |
| 1.0         | 105  |                                                        |         |           |         | A         | A/B      |         |
| 1.5         | 155  |                                                        |         |           | A       |           | C        |         |
| 2.2         | 225  |                                                        |         | A/A(1500) |         | B/B(1500) | C        |         |
| 3.3         | 335  |                                                        | A       | A         | B       |           | C        | D       |
| 4.7         | 475  | A                                                      | A       | A/B       |         |           | C        | D       |
| 6.8         | 685  | A                                                      | A       | A/B       |         | C         | D        | D       |
| 10          | 106  | A                                                      | A/B     | B         |         | C         | D        | D/E     |
| 15          | 156  | B                                                      | B       | B         | C       |           | D        |         |
| 22          | 226  | B                                                      | B       | C/C(500)  |         | D         | D/D(300) |         |
| 33          | 336  | B                                                      | C       | C         | D       | D         | E/E(150) |         |
| 47          | 476  | C                                                      | C       | C/D       |         |           |          |         |
| 68          | 686  | C                                                      | D       | D         |         |           |          |         |
| 100         | 107  | D                                                      | D       | E         |         |           |          |         |
| 150         | 157  | D                                                      |         |           |         |           |          |         |
| 220         | 227  |                                                        | E       |           |         |           |          |         |

Released ratings, (ESR ratings in mOhms in parentheses)  
 Note: Voltage ratings are minimum values. AVX reserves the right to supply higher voltage ratings in the same case size, to the same reliability standards.



# THJ Series

## High Temperature Tantalum Chip Capacitor



### RATINGS & PART NUMBER REFERENCE

| AVX<br>Part No.  | Case<br>Size | Capacitance<br>(µF) | Rated<br>Voltage<br>(V) | Rated<br>Temperature<br>(°C) | Category<br>Voltage<br>(V) | Category<br>Temperature<br>(°C) | DCL<br>Max.<br>(µA) | DF<br>Max.<br>(%) | ESR<br>Max.<br>@ 100kHz<br>(Ω) | 100kHz RMS Current (mA) |      |       |       | MSL             |
|------------------|--------------|---------------------|-------------------------|------------------------------|----------------------------|---------------------------------|---------------------|-------------------|--------------------------------|-------------------------|------|-------|-------|-----------------|
|                  |              |                     |                         |                              |                            |                                 |                     |                   |                                | 25°C                    | 85°C | 125°C | 175°C |                 |
| 6.3 Volt @ 85°C  |              |                     |                         |                              |                            |                                 |                     |                   |                                |                         |      |       |       |                 |
| THJA475*006#JN   | A            | 4.7                 | 6.3                     | 85                           | 3                          | 175                             | 0.5                 | 6                 | 6                              | 112                     | 101  | 45    | 22    | 1               |
| THJA685*006#JN   | A            | 6.8                 | 6.3                     | 85                           | 3                          | 175                             | 0.5                 | 4.5               | 2.6                            | 170                     | 153  | 68    | 34    | 1               |
| THJA106*006#JN   | A            | 10                  | 6.3                     | 85                           | 3                          | 175                             | 0.6                 | 4.5               | 2.2                            | 185                     | 166  | 74    | 37    | 1               |
| THJB156*006#JN   | B            | 15                  | 6.3                     | 85                           | 3                          | 175                             | 0.9                 | 6                 | 2.5                            | 184                     | 166  | 74    | 37    | 1               |
| THJB226*006#JN   | B            | 22                  | 6.3                     | 85                           | 3                          | 175                             | 1.4                 | 6                 | 2.5                            | 184                     | 166  | 74    | 37    | 1               |
| THJB336*006#JN   | B            | 33                  | 6.3                     | 85                           | 3                          | 175                             | 2.1                 | 6                 | 2.2                            | 197                     | 177  | 79    | 39    | 1               |
| THJC476*006#JN   | C            | 47                  | 6.3                     | 85                           | 3                          | 175                             | 3.0                 | 6                 | 1.6                            | 262                     | 236  | 105   | 52    | 1               |
| THJC686*006#JN   | C            | 68                  | 6.3                     | 85                           | 3                          | 175                             | 4.3                 | 6                 | 1.5                            | 271                     | 244  | 108   | 54    | 1               |
| THJD107*006#JN   | D            | 100                 | 6.3                     | 85                           | 3                          | 175                             | 6                   | 4.5               | 0.4                            | 612                     | 551  | 245   | 122   | 1 <sup>1)</sup> |
| THJD157*006#JN   | D            | 150                 | 6.3                     | 85                           | 3                          | 175                             | 9.5                 | 6                 | 0.9                            | 408                     | 367  | 163   | 82    | 1 <sup>1)</sup> |
| 10 Volt @ 85°C   |              |                     |                         |                              |                            |                                 |                     |                   |                                |                         |      |       |       |                 |
| THJA335*010#JN   | A            | 3.3                 | 10                      | 85                           | 5                          | 175                             | 0.5                 | 6                 | 5.5                            | 117                     | 105  | 47    | 23    | 1               |
| THJA475*010#JN   | A            | 4.7                 | 10                      | 85                           | 5                          | 175                             | 0.5                 | 4.5               | 2.9                            | 161                     | 145  | 64    | 32    | 1               |
| THJA685*010#JN   | A            | 6.8                 | 10                      | 85                           | 5                          | 175                             | 0.7                 | 4.5               | 2.6                            | 170                     | 153  | 68    | 34    | 1               |
| THJA106*010#JN   | A            | 10                  | 10                      | 85                           | 5                          | 175                             | 1                   | 6                 | 2.7                            | 167                     | 150  | 67    | 33    | 1               |
| THJB106*010#JN   | B            | 10                  | 10                      | 85                           | 5                          | 175                             | 1                   | 4.5               | 1.8                            | 217                     | 196  | 87    | 43    | 1               |
| THJB156*010#JN   | B            | 15                  | 10                      | 85                           | 5                          | 175                             | 1.5                 | 4.5               | 1.5                            | 238                     | 214  | 95    | 48    | 1               |
| THJB226*010#JN   | B            | 22                  | 10                      | 85                           | 5                          | 175                             | 2.2                 | 6                 | 2.4                            | 188                     | 169  | 75    | 38    | 1               |
| THJC336*010#JN   | C            | 33                  | 10                      | 85                           | 5                          | 175                             | 3.3                 | 6                 | 1.6                            | 262                     | 236  | 105   | 52    | 1               |
| THJC476*010#JN   | C            | 47                  | 10                      | 85                           | 5                          | 175                             | 4.7                 | 4.5               | 0.5                            | 469                     | 422  | 188   | 94    | 1               |
| THJD686*010#JN   | D            | 68                  | 10                      | 85                           | 5                          | 175                             | 6.8                 | 4.5               | 0.4                            | 612                     | 551  | 245   | 122   | 1 <sup>1)</sup> |
| THJD107*010#JN   | D            | 100                 | 10                      | 85                           | 5                          | 175                             | 10                  | 6                 | 0.9                            | 408                     | 367  | 163   | 82    | 1 <sup>1)</sup> |
| THJE227*010#JN   | E            | 220                 | 10                      | 85                           | 5                          | 175                             | 22                  | 10                | 0.5                            | 574                     | 517  | 230   | 115   | 1 <sup>1)</sup> |
| 16 Volt @ 85°C   |              |                     |                         |                              |                            |                                 |                     |                   |                                |                         |      |       |       |                 |
| THJA225*016#JN   | A            | 2.2                 | 16                      | 85                           | 8                          | 175                             | 0.5                 | 4.5               | 3                              | 158                     | 142  | 63    | 32    | 1               |
| THJA225*016#1500 | A            | 2.2                 | 16                      | 85                           | 8                          | 175                             | 0.5                 | 4.5               | 1.5                            | 224                     | 201  | 89    | 45    | 1               |
| THJA335*016#JN   | A            | 3.3                 | 16                      | 85                           | 8                          | 175                             | 0.5                 | 6                 | 5                              | 122                     | 110  | 49    | 24    | 1               |
| THJA475*016#JN   | A            | 4.7                 | 16                      | 85                           | 8                          | 175                             | 0.8                 | 4.5               | 2.9                            | 161                     | 145  | 64    | 32    | 1               |
| THJB475*016#JN   | B            | 4.7                 | 16                      | 85                           | 8                          | 175                             | 0.8                 | 6                 | 3.5                            | 156                     | 140  | 62    | 31    | 1               |
| THJA685*016#JN   | A            | 6.8                 | 16                      | 85                           | 8                          | 175                             | 1.1                 | 6                 | 3.5                            | 146                     | 132  | 59    | 29    | 1               |
| THJB685*016#JN   | B            | 6.8                 | 16                      | 85                           | 8                          | 175                             | 1.1                 | 6                 | 2.5                            | 184                     | 166  | 74    | 37    | 1               |
| THJB106*016#JN   | B            | 10                  | 16                      | 85                           | 8                          | 175                             | 1.6                 | 4.5               | 2.8                            | 174                     | 157  | 70    | 35    | 1               |
| THJB156*016#JN   | B            | 15                  | 16                      | 85                           | 8                          | 175                             | 2.4                 | 6                 | 2                              | 206                     | 186  | 82    | 41    | 1               |
| THJC226*016#JN   | C            | 22                  | 16                      | 85                           | 8                          | 175                             | 3.5                 | 6                 | 1.6                            | 262                     | 236  | 105   | 52    | 1               |
| THJC226*016#0500 | C            | 22                  | 16                      | 85                           | 8                          | 175                             | 3.5                 | 4.5               | 0.5                            | 469                     | 422  | 188   | 94    | 1               |
| THJC336*016#JN   | C            | 33                  | 16                      | 85                           | 8                          | 175                             | 5.3                 | 6                 | 1.5                            | 271                     | 244  | 108   | 54    | 1               |
| THJC476*016#JN   | C            | 47                  | 16                      | 85                           | 8                          | 175                             | 7.5                 | 6                 | 0.8                            | 371                     | 334  | 148   | 74    | 1               |
| THJD476*016#JN   | D            | 47                  | 16                      | 85                           | 8                          | 175                             | 7.5                 | 6                 | 0.9                            | 408                     | 367  | 163   | 82    | 1 <sup>1)</sup> |
| THJD686*016#JN   | D            | 68                  | 16                      | 85                           | 8                          | 175                             | 10.9                | 4.5               | 0.9                            | 408                     | 367  | 163   | 82    | 1 <sup>1)</sup> |
| THJE107*016#JN   | E            | 100                 | 16                      | 85                           | 8                          | 175                             | 16                  | 8                 | 0.4                            | 642                     | 578  | 257   | 128   | 1 <sup>1)</sup> |
| 20 Volt @ 85°C   |              |                     |                         |                              |                            |                                 |                     |                   |                                |                         |      |       |       |                 |
| THJA155*020#JN   | A            | 1.5                 | 20                      | 85                           | 10                         | 175                             | 0.5                 | 6                 | 6.5                            | 107                     | 97   | 43    | 21    | 1               |
| THJB335*020#JN   | B            | 3.3                 | 20                      | 85                           | 10                         | 175                             | 0.7                 | 6                 | 3                              | 168                     | 151  | 67    | 34    | 1               |
| THJC156*020#JN   | C            | 15                  | 20                      | 85                           | 10                         | 175                             | 3.0                 | 6                 | 1.7                            | 254                     | 229  | 102   | 51    | 1               |
| THJD336*020#JN   | D            | 33                  | 20                      | 85                           | 10                         | 175                             | 6.6                 | 6                 | 0.9                            | 408                     | 367  | 163   | 82    | 1 <sup>1)</sup> |
| 25 Volt @ 85°C   |              |                     |                         |                              |                            |                                 |                     |                   |                                |                         |      |       |       |                 |
| THJA474*025#JN   | A            | 0.47                | 25                      | 85                           | 12                         | 175                             | 0.5                 | 4                 | 14                             | 73                      | 66   | 29    | 15    | 1               |
| THJA684*025#JN   | A            | 0.68                | 25                      | 85                           | 12                         | 175                             | 0.5                 | 4                 | 10                             | 87                      | 78   | 35    | 17    | 1               |
| THJA105*025#JN   | A            | 1.0                 | 25                      | 85                           | 12                         | 175                             | 0.5                 | 3                 | 5.2                            | 120                     | 108  | 48    | 24    | 1               |
| THJB225*025#JN   | B            | 2.2                 | 25                      | 85                           | 12                         | 175                             | 0.6                 | 6                 | 4.5                            | 137                     | 124  | 55    | 27    | 1               |
| THJB225*025#1500 | B            | 2.2                 | 25                      | 85                           | 12                         | 175                             | 0.6                 | 6                 | 1.5                            | 238                     | 214  | 95    | 48    | 1               |
| THJC685*025#JN   | C            | 6.8                 | 25                      | 85                           | 12                         | 175                             | 1.7                 | 6                 | 2                              | 235                     | 211  | 94    | 47    | 1               |
| THJC106*025#JN   | C            | 10                  | 25                      | 85                           | 12                         | 175                             | 2.5                 | 6                 | 1.8                            | 247                     | 222  | 99    | 49    | 1               |
| THJD226*025#JN   | D            | 22                  | 25                      | 85                           | 12                         | 175                             | 5.5                 | 6                 | 0.9                            | 408                     | 367  | 163   | 82    | 1 <sup>1)</sup> |
| THJD336*025#JN   | D            | 33                  | 25                      | 85                           | 12                         | 175                             | 8.3                 | 6                 | 0.9                            | 408                     | 367  | 163   | 82    | 1 <sup>1)</sup> |
| 35 Volt @ 85°C   |              |                     |                         |                              |                            |                                 |                     |                   |                                |                         |      |       |       |                 |
| THJA104*035#JN   | A            | 0.1                 | 35                      | 85                           | 17                         | 175                             | 0.5                 | 4                 | 24                             | 56                      | 50   | 22    | 11    | 1               |
| THJA154*035#JN   | A            | 0.15                | 35                      | 85                           | 17                         | 175                             | 0.5                 | 4                 | 21                             | 60                      | 54   | 24    | 12    | 1               |
| THJA224*035#JN   | A            | 0.22                | 35                      | 85                           | 17                         | 175                             | 0.5                 | 4                 | 18                             | 65                      | 58   | 26    | 13    | 1               |
| THJA334*035#JN   | A            | 0.33                | 35                      | 85                           | 17                         | 175                             | 0.5                 | 4                 | 15                             | 71                      | 64   | 28    | 14    | 1               |
| THJB474*035#JN   | B            | 0.47                | 35                      | 85                           | 17                         | 175                             | 0.5                 | 4                 | 10                             | 92                      | 83   | 37    | 18    | 1               |
| THJB684*035#JN   | B            | 0.68                | 35                      | 85                           | 17                         | 175                             | 0.5                 | 4                 | 8                              | 103                     | 93   | 41    | 21    | 1               |
| THJA105*035#JN   | A            | 1.0                 | 35                      | 85                           | 17                         | 175                             | 0.5                 | 4                 | 7.5                            | 100                     | 90   | 40    | 20    | 1               |
| THJB105*035#JN   | B            | 1.0                 | 35                      | 85                           | 17                         | 175                             | 0.5                 | 4                 | 6.5                            | 114                     | 103  | 46    | 23    | 1               |
| THJC155*035#JN   | C            | 1.5                 | 35                      | 85                           | 17                         | 175                             | 0.5                 | 6                 | 4.5                            | 156                     | 141  | 63    | 31    | 1               |
| THJC225*035#JN   | C            | 2.2                 | 35                      | 85                           | 17                         | 175                             | 0.8                 | 6                 | 3.5                            | 177                     | 160  | 71    | 35    | 1               |
| THJC335*035#JN   | C            | 3.3                 | 35                      | 85                           | 17                         | 175                             | 1.2                 | 6                 | 2.5                            | 210                     | 189  | 84    | 42    | 1               |
| THJC475*035#JN   | C            | 4.7                 | 35                      | 85                           | 17                         | 175                             | 1.6                 | 6                 | 2.2                            | 224                     | 201  | 89    | 45    | 1               |
| THJD685*035#JN   | D            | 6.8                 | 35                      | 85                           | 17                         | 175                             | 2.4                 | 6                 | 1.3                            | 340                     | 306  | 136   | 68    | 1 <sup>1)</sup> |

# THJ Series

## High Temperature Tantalum Chip Capacitor

### RATINGS & PART NUMBER REFERENCE

| AVX<br>Part No.  | Case<br>Size | Capacitance<br>(μF) | Rated<br>Voltage<br>(V) | Rated<br>Temperature<br>(°C) | Category<br>Voltage<br>(V) | Category<br>Temperature<br>(°C) | DCL<br>Max.<br>(μA) | DF<br>Max.<br>(%) | ESR<br>Max.<br>@ 100kHz<br>(Ω) | 100kHz RMS Current (mA) |      |       |       | MSL             |
|------------------|--------------|---------------------|-------------------------|------------------------------|----------------------------|---------------------------------|---------------------|-------------------|--------------------------------|-------------------------|------|-------|-------|-----------------|
|                  |              |                     |                         |                              |                            |                                 |                     |                   |                                | 25°C                    | 85°C | 125°C | 175°C |                 |
| THJD106*035#JN   | D            | 10                  | 35                      | 85                           | 17                         | 175                             | 3.5                 | 6                 | 1                              | 387                     | 349  | 155   | 77    | 1 <sup>1)</sup> |
| THJD156*035#JN   | D            | 15                  | 35                      | 85                           | 17                         | 175                             | 5.3                 | 6                 | 0.9                            | 408                     | 367  | 163   | 82    | 1 <sup>1)</sup> |
| THJD226*035#JN   | D            | 22                  | 35                      | 85                           | 17                         | 175                             | 7.7                 | 6                 | 0.6                            | 500                     | 450  | 200   | 100   | 1 <sup>1)</sup> |
| THJD226*035#0300 | D            | 22                  | 35                      | 85                           | 17                         | 175                             | 7.7                 | 6                 | 0.3                            | 707                     | 636  | 283   | 141   | 1 <sup>1)</sup> |
| THJE336*035#JN   | E            | 33                  | 35                      | 85                           | 17                         | 175                             | 11.6                | 6                 | 0.5                            | 574                     | 517  | 230   | 115   | 1 <sup>1)</sup> |
| THJE336*035#0150 | E            | 33                  | 35                      | 85                           | 17                         | 175                             | 11.6                | 6                 | 0.15                           | 1049                    | 944  | 420   | 210   | 1 <sup>1)</sup> |
| 50 Volt @ 85°C   |              |                     |                         |                              |                            |                                 |                     |                   |                                |                         |      |       |       |                 |
| THJD335*050#JN   | D            | 3.3                 | 50                      | 85                           | 25                         | 175                             | 1.7                 | 6                 | 1.1                            | 369                     | 332  | 148   | 74    | 1 <sup>1)</sup> |
| THJD475*050#JN   | D            | 4.7                 | 50                      | 85                           | 25                         | 175                             | 2.4                 | 6                 | 0.9                            | 463                     | 417  | 185   | 93    | 1 <sup>1)</sup> |
| THJD685*050#JN   | D            | 6.8                 | 50                      | 85                           | 25                         | 175                             | 3.4                 | 6                 | 0.7                            | 408                     | 367  | 163   | 82    | 1 <sup>1)</sup> |
| THJD106*050#JN   | D            | 10                  | 50                      | 85                           | 25                         | 175                             | 5                   | 6                 | 0.7                            | 463                     | 417  | 185   | 93    | 1 <sup>1)</sup> |
| THJE106*050#JN   | E            | 10                  | 50                      | 85                           | 25                         | 175                             | 5                   | 6                 | 0.7                            | 486                     | 437  | 194   | 97    | 1 <sup>1)</sup> |

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

All PNs also available with Dry pack option - MSL 3 (see How to order).

<sup>1)</sup> - Dry pack option (see How to order) is recommended for reduction of stress during soldering.

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.

The EIA & CECC standards for low ESR Solid Tantalum Capacitors allow an ESR movement to 1.25 times catalogue limit post mounting.

For typical weight and composition see page 259.

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

# THJ Series

## High Temperature Tantalum Chip Capacitor

### QUALIFICATION TABLE

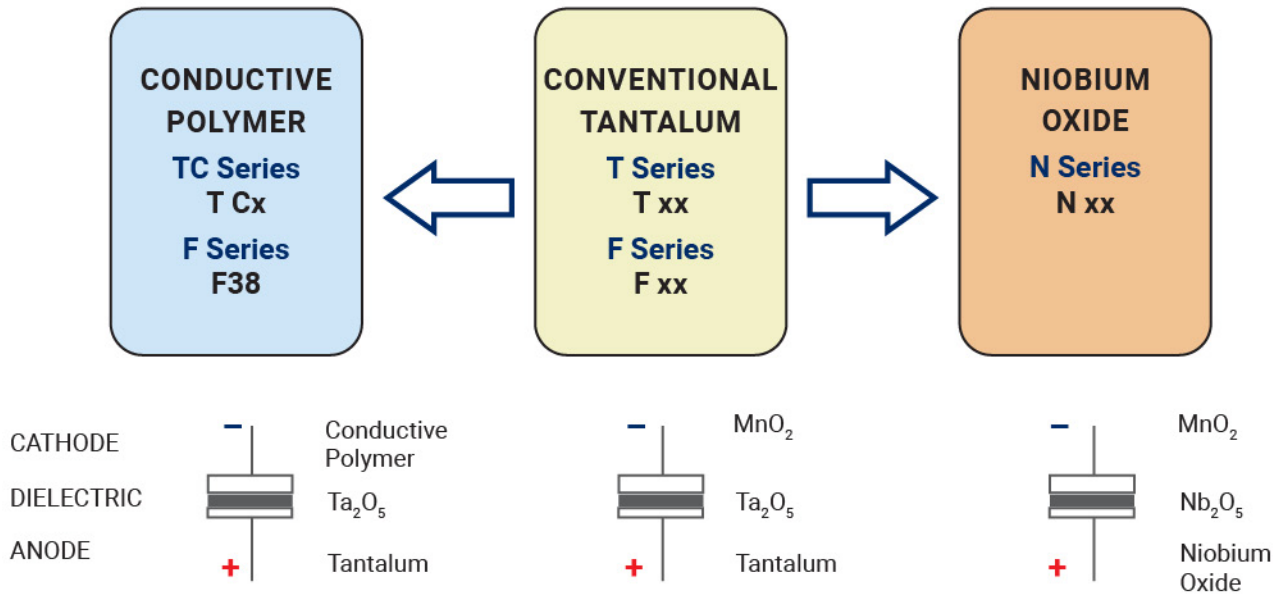
| TEST                  | THJ series (Temperature range -55°C to +175°C)                                                                                                                                                |               |               |                    |                              |           |          |           |            |          |  |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|--------------------|------------------------------|-----------|----------|-----------|------------|----------|--|
|                       | Condition                                                                                                                                                                                     |               |               | Characteristics    |                              |           |          |           |            |          |  |
| Endurance             | Apply rated voltage (Ur) at 85°C and / or category voltage (Uc) at 175°C for 2000 hours through a circuit impedance of ≤0.1Ω/V. Stabilize at room temperature for 1-2 hours before measuring. |               |               | Visual examination | no visible damage            |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | DCL                | 1.25 x initial limit         |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | ΔC/C               | within ±10% of initial value |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | DF                 | initial limit                |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | ESR                | 1.25 x initial limit         |           |          |           |            |          |  |
| Storage Life          | Store at 175°C, no voltage applied, for 2000 hours. Stabilize at room temperature for 1-2 hours before measuring.                                                                             |               |               | Visual examination | no visible damage            |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | DCL                | 1.25 x initial limit         |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | ΔC/C               | within ±10% of initial value |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | DF                 | initial limit                |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | ESR                | 1.25 x initial limit         |           |          |           |            |          |  |
| Biased Humidity       | Apply rated voltage (Ur) at 85°C, 85% relative humidity for 1000 hours. Stabilize at room temperature and humidity for 1-2 hours before measuring.                                            |               |               | Visual examination | no visible damage            |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | DCL                | 2 x initial limit            |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | ΔC/C               | within ±10% of initial value |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | DF                 | 1.2 x initial limit          |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | ESR                | 1.25 x initial limit         |           |          |           |            |          |  |
| Temperature Stability | Step                                                                                                                                                                                          | Temperature°C | Duration(min) |                    | +20°C                        | -55°C     | +20°C    | +125°C    | +175°C     | +20°C    |  |
|                       | 1                                                                                                                                                                                             | +20           | 15            | DCL                | IL*                          | n/a       | IL*      | 10 x IL*  | 12.5 x IL* | IL*      |  |
|                       | 2                                                                                                                                                                                             | -55           | 15            |                    |                              |           |          |           |            |          |  |
|                       | 3                                                                                                                                                                                             | +20           | 15            | ΔC/C               | n/a                          | +0/-10%   | ±5%      | +10/-0%   | +18/-0%    | ±5%      |  |
|                       | 4                                                                                                                                                                                             | +125          | 15            | DF                 | IL*                          | 1.5 x IL* | IL*      | 1.5 x IL* | 2 x IL*    | IL*      |  |
|                       | 5                                                                                                                                                                                             | +175          | 15            | ESR                | 1.25xIL*                     | 2.5xIL*   | 1.25xIL* | 1.25xIL*  | 1.25xIL*   | 1.25xIL* |  |
|                       | 6                                                                                                                                                                                             | +20           | 15            |                    |                              |           |          |           |            |          |  |
| Surge Voltage         | Apply 1.3x category voltage (Uc) at 175°C for 1000 cycles of duration 6 min (30 sec charge, 5 min 30 sec discharge) through a charge / discharge resistance of 1000Ω                          |               |               | Visual examination | no visible damage            |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | DCL                | initial limit                |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | ΔC/C               | within ±5% of initial value  |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | DF                 | initial limit                |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | ESR                | 1.25 x initial limit         |           |          |           |            |          |  |
| Mechanical Shock      | MIL-STD-202, Method 213, Condition F                                                                                                                                                          |               |               | Visual examination | no visible damage            |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | DCL                | initial limit                |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | ΔC/C               | within ±5% of initial value  |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | DF                 | initial limit                |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | ESR                | 1.25 x initial limit         |           |          |           |            |          |  |
| Vibration             | MIL-STD-202, Method 204, Condition D                                                                                                                                                          |               |               | Visual examination | no visible damage            |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | DCL                | initial limit                |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | ΔC/C               | within ±5% of initial value  |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | DF                 | initial limit                |           |          |           |            |          |  |
|                       |                                                                                                                                                                                               |               |               | ESR                | 1.25 x initial limit         |           |          |           |            |          |  |

\*Initial Limit

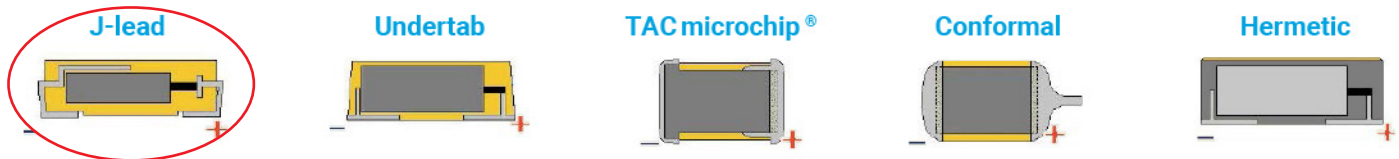
# THJ Series

## High Temperature Tantalum Chip Capacitor

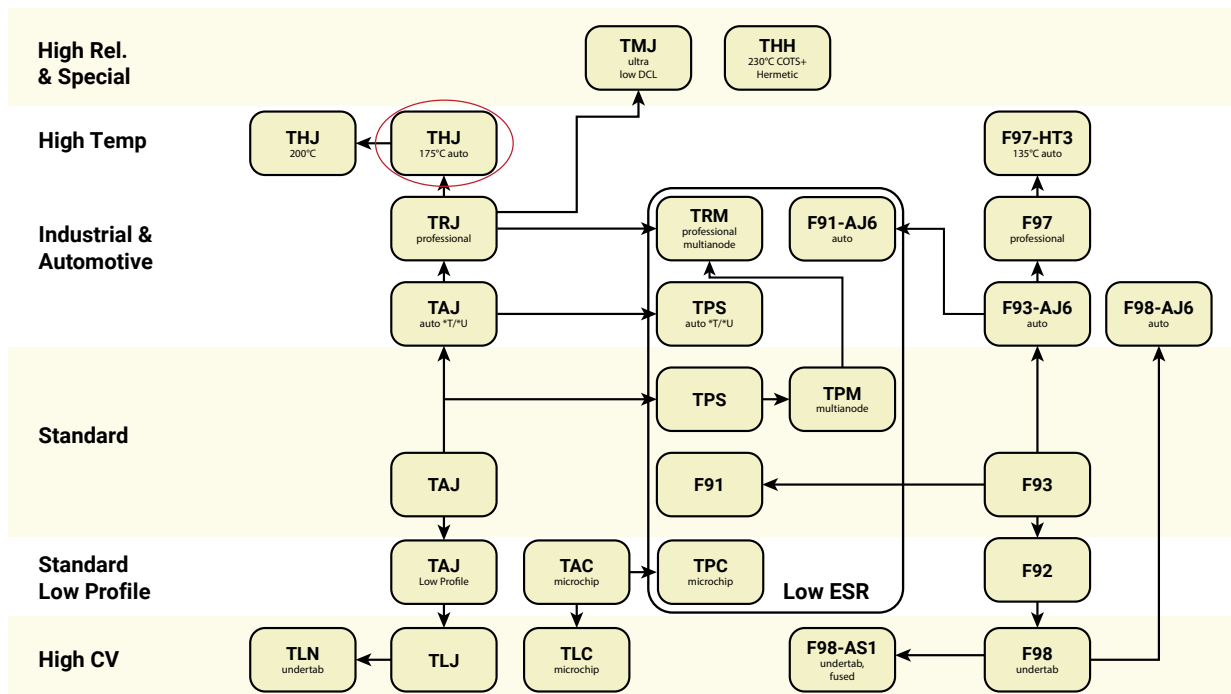
### AVX SOLID ELECTROLYTIC CAPACITOR ROADMAP



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