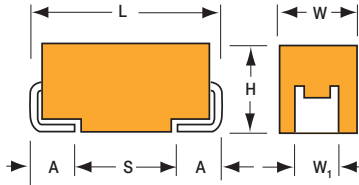
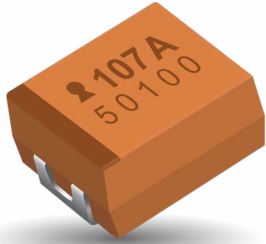


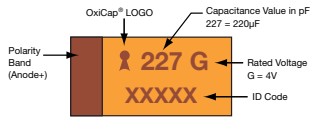
# OxiCap® NOJ Series

## Standard and Low Profile Niobium Oxide Capacitors

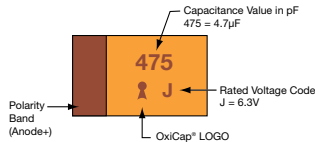


### MARKING

A, B, C, D, E, F, S, T, V, W, X, Y CASE



### P CASE



### FEATURES

- Non-Burn Safe Technology
- Reliability Level: 0.5%/1000 Hours at 85°C
- 100% Surge Current Tested
- 13 Case Sizes Available, Standard and Low Profile
- Environmentally Friendly, RoHS Compliant
- CV Range: 2.2-1000µF / 1.8-10V
- Elektra Component of the Year Award, 2005

### APPLICATIONS

- Automotive, Avionics, Digital, FPGA, Industrial Low Voltage Control Circuits
- Downsized Industrial and Automotive DC/DC Converters



Elektra Award  
2005

### 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, ±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) |
| 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) |
| 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<sub>1</sub> dimension applies to the termination width for A dimensional area only.

### LOW PROFILE CASE DIMENSIONS:

millimeters (inches)

| Code | EIA Code | EIA Metric | L±0.20 (0.008) | W+0.20 (0.008) -0.10 (0.004) | H Max        | W, ±0.20 (0.008)        | A+0.30 (0.012) -0.20 (0.008) | S Min.       |
|------|----------|------------|----------------|------------------------------|--------------|-------------------------|------------------------------|--------------|
| F    | 2312     | 6032-20    | 6.00 (0.236)   | 3.20 (0.126)                 | 2.00 (0.079) | 2.20 (0.087)            | 1.30 (0.051)                 | 2.90 (0.114) |
| P    | 0805     | 2012-15    | 2.05 (0.081)   | 1.35 (0.053)                 | 1.50 (0.059) | 1.00±0.10 (0.039±0.004) | 0.80 (0.031)                 | 1.40 (0.055) |
| S    | 1206     | 3216-12    | 3.20 (0.126)   | 1.60 (0.063)                 | 1.20 (0.047) | 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) | 2.20 (0.087)            | 0.80 (0.031)                 | 1.40 (0.055) |
| W    | 2312     | 6032-15    | 6.00 (0.236)   | 3.20 (0.126)                 | 1.50 (0.059) | 2.20 (0.087)            | 1.30 (0.051)                 | 2.90 (0.114) |
| X    | 2917     | 7343-15    | 7.30 (0.287)   | 4.30 (0.169)                 | 1.50 (0.059) | 2.40 (0.094)            | 1.30 (0.051)                 | 4.40 (0.173) |
| Y    | 2917     | 7343-20    | 7.30 (0.287)   | 4.30 (0.169)                 | 2.00 (0.079) | 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.

Pad Stand-off is 0.1±0.1.

### HOW TO ORDER

**NOJ**  
Type

**D**  
Case Size  
See table above

**107**  
Capacitance Code  
1st two digits represent significant figures, 3rd digit represents multiplier in pF

**M**  
Tolerance  
M = ±20%

**006**  
Rated DC Voltage  
001 = 1.8Vdc  
002 = 2.5Vdc  
004 = 4Vdc  
006 = 6.3Vdc  
010 = 10Vdc

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

**WJ**  
Specification Suffix  
WJ = Standard  
WB = Low ESR

**-**  
Additional characters may be added for special requirements  
V = dry pack option (selected ratings only - dry pack is standard for all D, E, V, X, Y case size ratings)

### TECHNICAL SPECIFICATIONS

|                                    |                                                                                           |     |     |     |     |    |  |
|------------------------------------|-------------------------------------------------------------------------------------------|-----|-----|-----|-----|----|--|
| Technical Data:                    | All technical data relate to an ambient temperature of +25°C is not stated                |     |     |     |     |    |  |
| Capacitance Range:                 | 2.2 µF to 1000 µF                                                                         |     |     |     |     |    |  |
| Capacitance Tolerance:             | ±20%                                                                                      |     |     |     |     |    |  |
| Leakage Current DCL:               | 0.02CV or 1.0µA whichever is the greater                                                  |     |     |     |     |    |  |
| Rated Voltage (V <sub>R</sub> )    | ≤ +85°C:                                                                                  | 1.8 | 2.5 | 4   | 6.3 | 10 |  |
| Category Voltage (V <sub>C</sub> ) | ≤ +105°C:                                                                                 | 1.2 | 1.7 | 2.7 | 4   | 7  |  |
| Surge Voltage (V <sub>S</sub> )    | ≤ +85°C:                                                                                  | 2.3 | 3.3 | 5.2 | 8   | 13 |  |
| Surge Voltage (V <sub>S</sub> )    | ≤ +105°C:                                                                                 | 1.6 | 2.2 | 3.4 | 5   | 8  |  |
| Temperature Range:                 | -55°C to +105°C                                                                           |     |     |     |     |    |  |
| Reliability:                       | 0.5% per 1000 hours at 85°C, V <sub>R</sub> 0.1Ω/V series impedance, 60% confidence level |     |     |     |     |    |  |
|                                    | Meets requirements of AEC-Q200                                                            |     |     |     |     |    |  |

# OxiCap® NOJ Series

## Standard and Low Profile Niobium Oxide Capacitors



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

| Capacitance |      | Rated Voltage DC (V <sub>R</sub> ) to 85°C |          |            |              |            |
|-------------|------|--------------------------------------------|----------|------------|--------------|------------|
| μF          | Code | 1.8V (x)                                   | 2.5V (e) | 4V (G)     | 6.3V (J)     | 10V (A)    |
| 4.7         | 475  |                                            |          |            | A            | A          |
| 6.8         | 685  |                                            |          |            | A            | A          |
| 10          | 106  |                                            |          |            | A            | A/B        |
| 15          | 156  |                                            |          | A          | A/B          | A/B        |
| 22          | 226  |                                            | A        | A/B        | A/B          | B/C/B(700) |
| 33          | 336  |                                            | A/B      | A/B        | B/C/B(700)   | C          |
| 47          | 476  | A                                          | A/B      | A/B/C      | B/C          | C          |
| 68          | 686  | B                                          | B/C      | B/C        | B/C          | C          |
| 100         | 107  | B/C                                        | B/C      | B/C/B(250) | B/C/D/B(400) | D/D(150)   |
| 150         | 157  | C                                          | C        | C/D        | C/D          |            |
| 220         | 227  | C                                          | C        | C/D        | C/D/E        |            |
| 330         | 337  | C                                          | C/D      | D          | D/E          |            |
| 470         | 477  |                                            | D/E      | D/E        | E/V/E(75)    |            |
| 680         | 687  |                                            | E        | E/V        |              |            |
| 1000        | 108  |                                            | V        | V          |              |            |

### LOW PROFILE NIOBIUM OXIDE CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

| Capacitance |      | Rated Voltage DC (V <sub>R</sub> ) to 85°C |          |        |          |         |
|-------------|------|--------------------------------------------|----------|--------|----------|---------|
| μF          | Code | 1.8V (x)                                   | 2.5V (e) | 4V (G) | 6.3V (J) | 10V (A) |
| 1.0         | 105  |                                            |          |        |          |         |
| 1.5         | 155  |                                            |          |        |          |         |
| 2.2         | 225  |                                            |          |        |          | P       |
| 3.3         | 335  |                                            |          |        |          | P       |
| 4.7         | 475  |                                            |          |        | P/S      | T       |
| 6.8         | 685  |                                            |          | P/S    | P/S/T    | T       |
| 10          | 106  |                                            | P/S      | P/S/T  | P/T      | T       |
| 15          | 156  | P/S                                        | P/S/T    | P/T    |          |         |
| 22          | 226  | P/S/T                                      | P/T      | T      | T        |         |
| 33          | 336  | T                                          | T        | T      | W        |         |
| 47          | 476  | T                                          | T        | W      | W        |         |
| 68          | 686  |                                            | W        | W      | X/Y      |         |
| 100         | 107  | W                                          | W        | W/X    | F/Y      |         |
| 150         | 157  |                                            | X        | Y      | F/Y      |         |
| 220         | 227  | X                                          | Y        | F/Y    | Y        |         |
| 330         | 337  | Y                                          | Y        | Y      |          |         |
| 470         | 477  | Y                                          |          |        |          |         |

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

### RATINGS & PART NUMBER REFERENCE

| Part Number     | Case Size | Capacitance (µF) | Rated Voltage (V) | Rated Temperature (°C) | Category Voltage (V) | Category Temperature (°C) | DCL Max. (µA) | DF Max. (%) | ESR Max. @ 100kHz (Ω) | 100kHz RMS Current (A) |       |       | MSL |
|-----------------|-----------|------------------|-------------------|------------------------|----------------------|---------------------------|---------------|-------------|-----------------------|------------------------|-------|-------|-----|
|                 |           |                  |                   |                        |                      |                           |               |             |                       | 25°C                   | 85°C  | 105°C |     |
| 1.8 Volt @ 85°C |           |                  |                   |                        |                      |                           |               |             |                       |                        |       |       |     |
| NOJP156M001#WJ  | P         | 15               | 1.8               | 85                     | 1.2                  | 105                       | 1.0           | 10          | 4.1                   | 0.133                  | 0.119 | 0.053 | 1   |
| NOJS156M001#WJ  | S         | 15               | 1.8               | 85                     | 1.2                  | 105                       | 1.0           | 6           | 2                     | 0.197                  | 0.178 | 0.079 | 1   |
| NOJP226M001#WJ  | P         | 22               | 1.8               | 85                     | 1.2                  | 105                       | 1.0           | 10          | 3.8                   | 0.138                  | 0.124 | 0.055 | 1   |
| NOJS226M001#WJ  | S         | 22               | 1.8               | 85                     | 1.2                  | 105                       | 1.0           | 8           | 1.9                   | 0.203                  | 0.182 | 0.081 | 1   |
| NOJT226M001#WJ  | T         | 22               | 1.8               | 85                     | 1.2                  | 105                       | 1.0           | 6           | 1.8                   | 0.231                  | 0.208 | 0.092 | 1   |
| NOJT336M001#WJ  | T         | 33               | 1.8               | 85                     | 1.2                  | 105                       | 1.2           | 6           | 1.7                   | 0.238                  | 0.214 | 0.095 | 1   |
| NOJA476M001#WJ  | A         | 47               | 1.8               | 85                     | 1.2                  | 105                       | 1.7           | 8           | 1.6                   | 0.237                  | 0.213 | 0.095 | 1   |
| NOJB476M001#WJ  | B         | 47               | 1.8               | 85                     | 1.2                  | 105                       | 1.7           | 6           | 1.6                   | 0.252                  | 0.227 | 0.101 | 1   |
| NOJT476M001#WJ  | T         | 47               | 1.8               | 85                     | 1.2                  | 105                       | 1.7           | 10          | 1.6                   | 0.245                  | 0.220 | 0.098 | 1   |
| NOJB686M001#WJ  | B         | 68               | 1.8               | 85                     | 1.2                  | 105                       | 2.5           | 6           | 1.5                   | 0.261                  | 0.235 | 0.104 | 1   |
| NOJB107M001#WJ  | B         | 100              | 1.8               | 85                     | 1.2                  | 105                       | 3.6           | 6           | 1.4                   | 0.270                  | 0.243 | 0.108 | 1   |
| NOJC107M001#WJ  | C         | 100              | 1.8               | 85                     | 1.2                  | 105                       | 3.6           | 6           | 0.4                   | 0.574                  | 0.517 | 0.230 | 1   |
| NOJW107M001#WJ  | W         | 100              | 1.8               | 85                     | 1.2                  | 105                       | 3.6           | 6           | 0.4                   | 0.520                  | 0.468 | 0.208 | 1   |
| NOJC157M001#WJ  | C         | 150              | 1.8               | 85                     | 1.2                  | 105                       | 5.4           | 8           | 0.4                   | 0.574                  | 0.517 | 0.230 | 1   |
| NOJC227M001#WJ  | C         | 220              | 1.8               | 85                     | 1.2                  | 105                       | 8.0           | 8           | 0.4                   | 0.574                  | 0.517 | 0.230 | 1   |
| NOJX227M001#WJ  | X         | 220              | 1.8               | 85                     | 1.2                  | 105                       | 8.0           | 8           | 0.4                   | 0.548                  | 0.493 | 0.219 | 3   |
| NOJC337M001#WJ  | C         | 330              | 1.8               | 85                     | 1.2                  | 105                       | 11.9          | 8           | 0.3                   | 0.663                  | 0.597 | 0.265 | 1   |
| NOJY337M001#WJ  | Y         | 330              | 1.8               | 85                     | 1.2                  | 105                       | 11.9          | 8           | 0.3                   | 0.707                  | 0.636 | 0.283 | 3   |
| NOJY477M001#WJ  | Y         | 470              | 1.8               | 85                     | 1.2                  | 105                       | 17.0          | 8           | 0.3                   | 0.707                  | 0.636 | 0.283 | 3   |
| 2.5 Volt @ 85°C |           |                  |                   |                        |                      |                           |               |             |                       |                        |       |       |     |
| NOJP106M002#WJ  | P         | 10               | 2.5               | 85                     | 1.7                  | 105                       | 1.0           | 6           | 4.5                   | 0.126                  | 0.114 | 0.051 | 1   |
| NOJS106M002#WJ  | S         | 10               | 2.5               | 85                     | 1.7                  | 105                       | 1.0           | 6           | 2.2                   | 0.188                  | 0.169 | 0.075 | 1   |
| NOJP156M002#WJ  | P         | 15               | 2.5               | 85                     | 1.7                  | 105                       | 1.0           | 6           | 4                     | 0.134                  | 0.121 | 0.054 | 1   |
| NOJS156M002#WJ  | S         | 15               | 2.5               | 85                     | 1.7                  | 105                       | 1.0           | 8           | 2                     | 0.197                  | 0.178 | 0.079 | 1   |
| NOJT156M002#WJ  | T         | 15               | 2.5               | 85                     | 1.7                  | 105                       | 1.0           | 6           | 2                     | 0.219                  | 0.197 | 0.088 | 1   |
| NOJA226M002#WJ  | A         | 22               | 2.5               | 85                     | 1.7                  | 105                       | 1.1           | 6           | 1.9                   | 0.218                  | 0.196 | 0.087 | 1   |
| NOJP226M002#WJ  | P         | 22               | 2.5               | 85                     | 1.7                  | 105                       | 1.1           | 10          | 3.8                   | 0.138                  | 0.124 | 0.055 | 1   |
| NOJT226M002#WJ  | T         | 22               | 2.5               | 85                     | 1.7                  | 105                       | 1.1           | 6           | 1.9                   | 0.225                  | 0.202 | 0.090 | 1   |
| NOJA336M002#WJ  | A         | 33               | 2.5               | 85                     | 1.7                  | 105                       | 1.7           | 6           | 1.7                   | 0.230                  | 0.207 | 0.092 | 1   |
| NOJB336M002#WJ  | B         | 33               | 2.5               | 85                     | 1.7                  | 105                       | 1.7           | 6           | 1.7                   | 0.245                  | 0.220 | 0.098 | 1   |
| NOJT336M002#WJ  | T         | 33               | 2.5               | 85                     | 1.7                  | 105                       | 1.7           | 6           | 1.7                   | 0.238                  | 0.214 | 0.095 | 1   |
| NOJA476M002#WJ  | A         | 47               | 2.5               | 85                     | 1.7                  | 105                       | 2.4           | 8           | 1.6                   | 0.237                  | 0.213 | 0.095 | 1   |
| NOJB476M002#WJ  | B         | 47               | 2.5               | 85                     | 1.7                  | 105                       | 2.4           | 6           | 1.6                   | 0.252                  | 0.227 | 0.101 | 1   |
| NOJT476M002#WJ  | T         | 47               | 2.5               | 85                     | 1.7                  | 105                       | 2.4           | 10          | 1.6                   | 0.245                  | 0.220 | 0.098 | 1   |
| NOJB686M002#WJ  | B         | 68               | 2.5               | 85                     | 1.7                  | 105                       | 3.4           | 6           | 1.5                   | 0.261                  | 0.235 | 0.104 | 1   |
| NOJC686M002#WJ  | C         | 68               | 2.5               | 85                     | 1.7                  | 105                       | 3.4           | 6           | 0.5                   | 0.514                  | 0.462 | 0.206 | 1   |
| NOJW686M002#WJ  | W         | 68               | 2.5               | 85                     | 1.7                  | 105                       | 3.4           | 6           | 0.4                   | 0.520                  | 0.468 | 0.208 | 1   |
| NOJB107M002#WJ  | B         | 100              | 2.5               | 85                     | 1.7                  | 105                       | 5.0           | 6           | 1.4                   | 0.270                  | 0.243 | 0.108 | 1   |
| NOJC107M002#WJ  | C         | 100              | 2.5               | 85                     | 1.7                  | 105                       | 5.0           | 6           | 0.4                   | 0.574                  | 0.517 | 0.230 | 1   |
| NOJW107M002#WJ  | W         | 100              | 2.5               | 85                     | 1.7                  | 105                       | 5.0           | 6           | 0.4                   | 0.520                  | 0.468 | 0.208 | 1   |
| NOJC157M002#WJ  | C         | 150              | 2.5               | 85                     | 1.7                  | 105                       | 7.5           | 6           | 0.4                   | 0.574                  | 0.517 | 0.230 | 1   |
| NOJX157M002#WJ  | X         | 150              | 2.5               | 85                     | 1.7                  | 105                       | 7.5           | 6           | 0.4                   | 0.548                  | 0.493 | 0.219 | 3   |
| NOJC227M002#WJ  | C         | 220              | 2.5               | 85                     | 1.7                  | 105                       | 11.0          | 8           | 0.4                   | 0.574                  | 0.517 | 0.230 | 1   |
| NOJY227M002#WJ  | Y         | 220              | 2.5               | 85                     | 1.7                  | 105                       | 11.0          | 8           | 0.4                   | 0.612                  | 0.551 | 0.245 | 3   |
| NOJC337M002#WJ  | C         | 330              | 2.5               | 85                     | 1.7                  | 105                       | 16.5          | 10          | 0.3                   | 0.663                  | 0.597 | 0.265 | 1   |
| NOJD337M002#WJ  | D         | 330              | 2.5               | 85                     | 1.7                  | 105                       | 16.5          | 10          | 0.3                   | 0.775                  | 0.697 | 0.310 | 3   |
| NOJY337M002#WJ  | Y         | 330              | 2.5               | 85                     | 1.7                  | 105                       | 16.5          | 10          | 0.3                   | 0.707                  | 0.636 | 0.283 | 3   |
| NOJD477M002#WJ  | D         | 470              | 2.5               | 85                     | 1.7                  | 105                       | 23.5          | 12          | 0.3                   | 0.775                  | 0.697 | 0.310 | 3   |
| NOJE477M002#WJ  | E         | 470              | 2.5               | 85                     | 1.7                  | 105                       | 23.5          | 10          | 0.3                   | 0.812                  | 0.731 | 0.325 | 3   |
| NOJE687M002#WJ  | E         | 680              | 2.5               | 85                     | 1.7                  | 105                       | 34.0          | 14          | 0.3                   | 0.812                  | 0.731 | 0.325 | 3   |
| NOJV108M002#WJ  | V         | 1000             | 2.5               | 85                     | 1.7                  | 105                       | 50.0          | 16          | 0.3                   | 1.000                  | 0.900 | 0.400 | 3   |
| 4 Volt @ 85°C   |           |                  |                   |                        |                      |                           |               |             |                       |                        |       |       |     |
| NOJP685M004#WJ  | P         | 6.8              | 4                 | 85                     | 2.7                  | 105                       | 1.0           | 6           | 5.3                   | 0.117                  | 0.105 | 0.047 | 1   |
| NOJS685M004#WJ  | S         | 6.8              | 4                 | 85                     | 2.7                  | 105                       | 1.0           | 6           | 2.6                   | 0.173                  | 0.156 | 0.069 | 1   |
| NOJP106M004#WJ  | P         | 10               | 4                 | 85                     | 2.7                  | 105                       | 1.0           | 20          | 4.5                   | 0.126                  | 0.114 | 0.051 | 1   |
| NOJS106M004#WJ  | S         | 10               | 4                 | 85                     | 2.7                  | 105                       | 1.0           | 8           | 2.2                   | 0.188                  | 0.169 | 0.075 | 1   |
| NOJT106M004#WJ  | T         | 10               | 4                 | 85                     | 2.7                  | 105                       | 1.0           | 6           | 2.2                   | 0.209                  | 0.188 | 0.084 | 1   |
| NOJA156M004#WJ  | A         | 15               | 4                 | 85                     | 2.7                  | 105                       | 1.2           | 6           | 2                     | 0.212                  | 0.191 | 0.085 | 1   |
| NOJP156M004#WJ  | P         | 15               | 4                 | 85                     | 2.7                  | 105                       | 1.2           | 10          | 4.1                   | 0.133                  | 0.119 | 0.053 | 1   |
| NOJT156M004#WJ  | T         | 15               | 4                 | 85                     | 2.7                  | 105                       | 1.2           | 6           | 2                     | 0.219                  | 0.197 | 0.088 | 1   |
| NOJA226M004#WJ  | A         | 22               | 4                 | 85                     | 2.7                  | 105                       | 1.8           | 6           | 1.9                   | 0.218                  | 0.196 | 0.087 | 1   |
| NOJB226M004#WJ  | B         | 22               | 4                 | 85                     | 2.7                  | 105                       | 1.8           | 6           | 1.9                   | 0.232                  | 0.209 | 0.093 | 1   |
| NOJT226M004#WJ  | T         | 22               | 4                 | 85                     | 2.7                  | 105                       | 1.8           | 6           | 1.8                   | 0.231                  | 0.208 | 0.092 | 1   |
| NOJA336M004#WJ  | A         | 33               | 4                 | 85                     | 2.7                  | 105                       | 2.6           | 10          | 1.7                   | 0.230                  | 0.207 | 0.092 | 1   |
| NOJB336M004#WJ  | B         | 33               | 4                 | 85                     | 2.7                  | 105                       | 2.6           | 6           | 1.7                   | 0.245                  | 0.220 | 0.098 | 1   |
| NOJT336M004#WJ  | T         | 33               | 4                 | 85                     | 2.7                  | 105                       | 2.6           | 14          | 2                     | 0.219                  | 0.197 | 0.088 | 1   |
| NOJA476M004#WJ  | A         | 47               | 4                 | 85                     | 2.7                  | 105                       | 3.8           | 18          | 2.2                   | 0.202                  | 0.182 | 0.081 | 1   |
| NOJB476M004#WJ  | B         | 47               | 4                 | 85                     | 2.7                  | 105                       | 3.8           | 6           | 1.6                   | 0.252                  | 0.227 | 0.101 | 1   |
| NOJC476M004#WJ  | C         | 47               | 4                 | 85                     | 2.7                  | 105                       | 3.8           | 6           | 0.5                   | 0.514                  | 0.462 | 0.206 | 1   |
| NOJW476M004#WJ  | W         | 47               | 4                 | 85                     | 2.7                  | 105                       | 3.8           | 6           | 0.5                   | 0.465                  | 0.418 | 0.186 | 1   |

# OxiCap® NOJ Series

## Standard and Low Profile Niobium Oxide Capacitors



### RATINGS & PART NUMBER REFERENCE

| Part Number     | Case Size | Capacitance (µF) | Rated Voltage (V) | Rated Temperature (°C) | Category Voltage (V) | Category Temperature (°C) | DCL Max. (µA) | DF Max. (%) | ESR Max. @ 100kHz (Ω) | 100kHz RMS Current (A) |       |       | MSL |
|-----------------|-----------|------------------|-------------------|------------------------|----------------------|---------------------------|---------------|-------------|-----------------------|------------------------|-------|-------|-----|
|                 |           |                  |                   |                        |                      |                           |               |             |                       | 25°C                   | 85°C  | 105°C |     |
| NOJB686M004#WJ  | B         | 68               | 4                 | 85                     | 2.7                  | 105                       | 5.4           | 6           | 1.5                   | 0.261                  | 0.235 | 0.104 | 1   |
| NOJC686M004#WJ  | C         | 68               | 4                 | 85                     | 2.7                  | 105                       | 5.4           | 6           | 0.5                   | 0.514                  | 0.462 | 0.206 | 1   |
| NOJW686M004#WJ  | W         | 68               | 4                 | 85                     | 2.7                  | 105                       | 5.4           | 6           | 0.4                   | 0.520                  | 0.468 | 0.208 | 1   |
| NOJB107M004#WJ  | B         | 100              | 4                 | 85                     | 2.7                  | 105                       | 8.0           | 16          | 1.4                   | 0.270                  | 0.243 | 0.108 | 1   |
| NOJB107M004#WB  | B         | 100              | 4                 | 85                     | 2.7                  | 105                       | 8.0           | 16          | 0.25                  | 0.639                  | 0.575 | 0.255 | 3   |
| NOJC107M004#WJ  | C         | 100              | 4                 | 85                     | 2.7                  | 105                       | 8.0           | 6           | 0.4                   | 0.574                  | 0.517 | 0.230 | 1   |
| NOJW107M004#WJ  | W         | 100              | 4                 | 85                     | 2.7                  | 105                       | 8.0           | 8           | 0.4                   | 0.520                  | 0.468 | 0.208 | 1   |
| NOJX107M004#WJ  | X         | 100              | 4                 | 85                     | 2.7                  | 105                       | 8.0           | 6           | 0.4                   | 0.548                  | 0.493 | 0.219 | 3   |
| NOJC157M004#WJ  | C         | 150              | 4                 | 85                     | 2.7                  | 105                       | 12.0          | 6           | 0.4                   | 0.574                  | 0.517 | 0.230 | 1   |
| NOJD157M004#WJ  | D         | 150              | 4                 | 85                     | 2.7                  | 105                       | 12.0          | 6           | 0.3                   | 0.775                  | 0.697 | 0.310 | 3   |
| NOJY157M004#WJ  | Y         | 150              | 4                 | 85                     | 2.7                  | 105                       | 12.0          | 6           | 0.4                   | 0.612                  | 0.551 | 0.245 | 3   |
| NOJC227M004#WJ  | C         | 220              | 4                 | 85                     | 2.7                  | 105                       | 17.6          | 8           | 0.4                   | 0.574                  | 0.517 | 0.230 | 1   |
| NOJD227M004#WJ  | D         | 220              | 4                 | 85                     | 2.7                  | 105                       | 17.6          | 8           | 0.4                   | 0.671                  | 0.604 | 0.268 | 3   |
| NOJF227M004#WJ  | F         | 220              | 4                 | 85                     | 2.7                  | 105                       | 17.6          | 10          | 0.4                   | 0.548                  | 0.493 | 0.219 | 1   |
| NOJY227M004#WJ  | Y         | 220              | 4                 | 85                     | 2.7                  | 105                       | 17.6          | 10          | 0.4                   | 0.612                  | 0.551 | 0.245 | 3   |
| NOJD337M004#WJ  | D         | 330              | 4                 | 85                     | 2.7                  | 105                       | 26.4          | 8           | 0.3                   | 0.775                  | 0.697 | 0.310 | 3   |
| NOJY337M004#WJ  | Y         | 330              | 4                 | 85                     | 2.7                  | 105                       | 26.4          | 12          | 0.3                   | 0.707                  | 0.636 | 0.283 | 3   |
| NOJD477M004#WJ  | D         | 470              | 4                 | 85                     | 2.7                  | 105                       | 37.6          | 12          | 0.3                   | 0.775                  | 0.697 | 0.310 | 3   |
| NOJE477M004#WJ  | E         | 470              | 4                 | 85                     | 2.7                  | 105                       | 37.6          | 12          | 0.3                   | 0.812                  | 0.731 | 0.325 | 3   |
| NOJE687M004#WJ  | E         | 680              | 4                 | 85                     | 2.7                  | 105                       | 54.4          | 14          | 0.3                   | 0.812                  | 0.731 | 0.325 | 3   |
| NOJV687M004#WJ  | V         | 680              | 4                 | 85                     | 2.7                  | 105                       | 54.4          | 14          | 0.3                   | 1.000                  | 0.900 | 0.400 | 3   |
| NOJV108M004#WJ  | V         | 1000             | 4                 | 85                     | 2.7                  | 105                       | 80.0          | 18          | 0.3                   | 1.000                  | 0.900 | 0.400 | 3   |
| 6.3 Volt @ 85°C |           |                  |                   |                        |                      |                           |               |             |                       |                        |       |       |     |
| NOJA475M006#WJ  | A         | 4.7              | 6.3               | 85                     | 4                    | 105                       | 1.1           | 6           | 3.2                   | 0.168                  | 0.151 | 0.067 | 1   |
| NOJP475M006#WJ  | P         | 4.7              | 6.3               | 85                     | 4                    | 105                       | 1.0           | 6           | 6.1                   | 0.109                  | 0.098 | 0.043 | 1   |
| NOJS475M006#WJ  | S         | 4.7              | 6.3               | 85                     | 4                    | 105                       | 1.0           | 6           | 3.2                   | 0.156                  | 0.141 | 0.062 | 1   |
| NOJA685M006#WJ  | A         | 6.8              | 6.3               | 85                     | 4                    | 105                       | 1.1           | 6           | 2.6                   | 0.186                  | 0.167 | 0.074 | 1   |
| NOJP685M006#WJ  | P         | 6.8              | 6.3               | 85                     | 4                    | 105                       | 1.0           | 10          | 5.2                   | 0.118                  | 0.106 | 0.047 | 1   |
| NOJS685M006#WJ  | S         | 6.8              | 6.3               | 85                     | 4                    | 105                       | 1.0           | 8           | 2.7                   | 0.170                  | 0.153 | 0.068 | 1   |
| NOJT685M006#WJ  | T         | 6.8              | 6.3               | 85                     | 4                    | 105                       | 1.0           | 6           | 2.6                   | 0.192                  | 0.173 | 0.077 | 1   |
| NOJA106M006#WJ  | A         | 10               | 6.3               | 85                     | 4                    | 105                       | 1.2           | 6           | 2.2                   | 0.202                  | 0.182 | 0.081 | 1   |
| NOJP106M006#WJ  | P         | 10               | 6.3               | 85                     | 4                    | 105                       | 1.2           | 10          | 4.5                   | 0.126                  | 0.114 | 0.051 | 1   |
| NOJT106M006#WJ  | T         | 10               | 6.3               | 85                     | 4                    | 105                       | 1.2           | 6           | 2.2                   | 0.209                  | 0.188 | 0.084 | 1   |
| NOJA156M006#WJ  | A         | 15               | 6.3               | 85                     | 4                    | 105                       | 1.8           | 8           | 2                     | 0.212                  | 0.191 | 0.085 | 1   |
| NOJB156M006#WJ  | B         | 15               | 6.3               | 85                     | 4                    | 105                       | 1.8           | 6           | 2                     | 0.226                  | 0.203 | 0.090 | 1   |
| NOJA226M006#WJ  | A         | 22               | 6.3               | 85                     | 4                    | 105                       | 2.6           | 8           | 1.8                   | 0.224                  | 0.201 | 0.089 | 1   |
| NOJB226M006#WJ  | B         | 22               | 6.3               | 85                     | 4                    | 105                       | 2.6           | 6           | 1.9                   | 0.232                  | 0.209 | 0.093 | 1   |
| NOJT226M006#WJ  | T         | 22               | 6.3               | 85                     | 4                    | 105                       | 2.6           | 8           | 1.8                   | 0.231                  | 0.208 | 0.092 | 1   |
| NOJB336M006#WJ  | B         | 33               | 6.3               | 85                     | 4                    | 105                       | 4.0           | 6           | 1.7                   | 0.245                  | 0.220 | 0.098 | 1   |
| NOJB336M006#WB  | B         | 33               | 6.3               | 85                     | 4                    | 105                       | 4.0           | 6           | 0.7                   | 0.382                  | 0.344 | 0.153 | 3   |
| NOJC336M006#WJ  | C         | 33               | 6.3               | 85                     | 4                    | 105                       | 4.0           | 6           | 0.5                   | 0.514                  | 0.462 | 0.206 | 1   |
| NOJW336M006#WJ  | W         | 33               | 6.3               | 85                     | 4                    | 105                       | 4.0           | 6           | 0.5                   | 0.465                  | 0.418 | 0.186 | 1   |
| NOJB476M006#WJ  | B         | 47               | 6.3               | 85                     | 4                    | 105                       | 5.6           | 6           | 0.8                   | 0.357                  | 0.321 | 0.143 | 1   |
| NOJC476M006#WJ  | C         | 47               | 6.3               | 85                     | 4                    | 105                       | 5.7           | 6           | 0.5                   | 0.514                  | 0.462 | 0.206 | 1   |
| NOJW476M006#WJ  | W         | 47               | 6.3               | 85                     | 4                    | 105                       | 5.7           | 6           | 0.5                   | 0.465                  | 0.418 | 0.186 | 1   |
| NOJB686M006#WJ  | B         | 68               | 6.3               | 85                     | 4                    | 105                       | 8.2           | 20          | 1.5                   | 0.261                  | 0.235 | 0.104 | 1   |
| NOJC686M006#WJ  | C         | 68               | 6.3               | 85                     | 4                    | 105                       | 8.2           | 6           | 0.5                   | 0.514                  | 0.462 | 0.206 | 1   |
| NOJX686M006#WJ  | X         | 68               | 6.3               | 85                     | 4                    | 105                       | 8.2           | 6           | 0.5                   | 0.490                  | 0.441 | 0.196 | 3   |
| NOJY686M006#WJ  | Y         | 68               | 6.3               | 85                     | 4                    | 105                       | 8.2           | 6           | 0.5                   | 0.548                  | 0.493 | 0.219 | 3   |
| NOJB107M006#WJ  | B         | 100              | 6.3               | 85                     | 4                    | 105                       | 60.0          | 20          | 1.7                   | 0.245                  | 0.220 | 0.098 | 1   |
| NOJB107M006#WB  | B         | 100              | 6.3               | 85                     | 4                    | 105                       | 60.0          | 20          | 0.4                   | 0.505                  | 0.454 | 0.202 | 3   |
| NOJC107M006#WJ  | C         | 100              | 6.3               | 85                     | 4                    | 105                       | 12.0          | 8           | 0.4                   | 0.574                  | 0.517 | 0.230 | 1   |
| NOJD107M006#WJ  | D         | 100              | 6.3               | 85                     | 4                    | 105                       | 12.0          | 6           | 0.4                   | 0.671                  | 0.604 | 0.268 | 3   |
| NOJF107M006#WJ  | F         | 100              | 6.3               | 85                     | 4                    | 105                       | 12            | 8           | 0.4                   | 0.548                  | 0.493 | 0.219 | 1   |
| NOJY107M006#WJ  | Y         | 100              | 6.3               | 85                     | 4                    | 105                       | 12.0          | 6           | 0.4                   | 0.612                  | 0.551 | 0.245 | 3   |
| NOJC157M006#WJ  | C         | 150              | 6.3               | 85                     | 4                    | 105                       | 18.0          | 6           | 0.4                   | 0.574                  | 0.517 | 0.230 | 1   |
| NOJD157M006#WJ  | D         | 150              | 6.3               | 85                     | 4                    | 105                       | 18.0          | 6           | 0.4                   | 0.671                  | 0.604 | 0.268 | 3   |
| NOJF157M006#WJ  | F         | 150              | 6.3               | 85                     | 4                    | 105                       | 18.0          | 8           | 0.4                   | 0.548                  | 0.493 | 0.219 | 1   |
| NOJY157M006#WJ  | Y         | 150              | 6.3               | 85                     | 4                    | 105                       | 18.0          | 6           | 0.4                   | 0.612                  | 0.551 | 0.245 | 3   |
| NOJC227M006#WJ  | C         | 220              | 6.3               | 85                     | 4                    | 105                       | 26.4          | 14          | 0.4                   | 0.574                  | 0.517 | 0.230 | 1   |
| NOJD227M006#WJ  | D         | 220              | 6.3               | 85                     | 4                    | 105                       | 26.4          | 8           | 0.4                   | 0.671                  | 0.604 | 0.268 | 3   |
| NOJE227M006#WJ  | E         | 220              | 6.3               | 85                     | 4                    | 105                       | 26.4          | 12          | 0.4                   | 0.704                  | 0.633 | 0.281 | 3   |
| NOJY227M006#WJ  | Y         | 220              | 6.3               | 85                     | 4                    | 105                       | 26.4          | 10          | 0.4                   | 0.612                  | 0.551 | 0.245 | 3   |
| NOJD337M006#WJ  | D         | 330              | 6.3               | 85                     | 4                    | 105                       | 39.6          | 10          | 0.3                   | 0.775                  | 0.697 | 0.310 | 3   |
| NOJE337M006#WJ  | E         | 330              | 6.3               | 85                     | 4                    | 105                       | 39.6          | 12          | 0.3                   | 0.812                  | 0.731 | 0.325 | 3   |
| NOJE477M006#WJ  | E         | 470              | 6.3               | 85                     | 4                    | 105                       | 56.4          | 16          | 0.3                   | 0.812                  | 0.731 | 0.325 | 3   |
| NOJE477M006#WB  | E         | 470              | 6.3               | 85                     | 4                    | 105                       | 56.4          | 16          | 0.075                 | 1.625                  | 1.462 | 0.650 | 3   |
| NOJV477M006#WJ  | V         | 470              | 6.3               | 85                     | 4                    | 105                       | 56.4          | 14          | 0.3                   | 1.000                  | 0.900 | 0.400 | 3   |

# OxiCap® NOJ Series

## Standard and Low Profile Niobium Oxide Capacitors



### RATINGS & PART NUMBER REFERENCE

| Part Number    | Case Size | Capacitance (μF) | Rated Voltage (V) | Rated Temperature (°C) | Category Voltage (V) | Category Temperature (°C) | DCL Max. (μA) | DF Max. (%) | ESR Max. @ 100kHz (Ω) | 100kHz RMS Current (A) |       |       | MSL |
|----------------|-----------|------------------|-------------------|------------------------|----------------------|---------------------------|---------------|-------------|-----------------------|------------------------|-------|-------|-----|
|                |           |                  |                   |                        |                      |                           |               |             |                       | 25°C                   | 85°C  | 105°C |     |
| 10 Volt @ 85°C |           |                  |                   |                        |                      |                           |               |             |                       |                        |       |       |     |
| NOJP225M010#WJ | P         | 2.2              | 10                | 85                     | 7                    | 105                       | 1.0           | 8           | 8.3                   | 0.093                  | 0.084 | 0.037 | 1   |
| NOJP335M010#WJ | P         | 3.3              | 10                | 85                     | 7                    | 105                       | 1.0           | 8           | 7                     | 0.101                  | 0.091 | 0.041 | 1   |
| NOJA475M010#WJ | A         | 4.7              | 10                | 85                     | 7                    | 105                       | 1.0           | 6           | 3.1                   | 0.170                  | 0.153 | 0.068 | 1   |
| NOJT475M010#WJ | T         | 4.7              | 10                | 85                     | 7                    | 105                       | 1.0           | 6           | 3.1                   | 0.176                  | 0.158 | 0.070 | 1   |
| NOJA685M010#WJ | A         | 6.8              | 10                | 85                     | 7                    | 105                       | 1.4           | 6           | 2.6                   | 0.186                  | 0.167 | 0.074 | 1   |
| NOJT685M010#WJ | T         | 6.8              | 10                | 85                     | 7                    | 105                       | 1.4           | 6           | 2.6                   | 0.192                  | 0.173 | 0.077 | 1   |
| NOJA106M010#WJ | A         | 10               | 10                | 85                     | 7                    | 105                       | 2.0           | 6           | 2.2                   | 0.202                  | 0.182 | 0.081 | 1   |
| NOJB106M010#WJ | B         | 10               | 10                | 85                     | 7                    | 105                       | 2.0           | 6           | 1                     | 0.319                  | 0.287 | 0.128 | 1   |
| NOJT106M010#WJ | T         | 10               | 10                | 85                     | 7                    | 105                       | 2.0           | 6           | 2.2                   | 0.209                  | 0.188 | 0.084 | 1   |
| NOJA156M010#WJ | A         | 15               | 10                | 85                     | 7                    | 105                       | 3.0           | 6           | 2                     | 0.212                  | 0.191 | 0.085 | 1   |
| NOJB156M010#WJ | B         | 15               | 10                | 85                     | 7                    | 105                       | 3.0           | 6           | 2                     | 0.226                  | 0.203 | 0.090 | 1   |
| NOJB226M010#WJ | B         | 22               | 10                | 85                     | 7                    | 105                       | 4.4           | 6           | 1.8                   | 0.238                  | 0.214 | 0.095 | 1   |
| NOJB226M010#WB | B         | 22               | 10                | 85                     | 7                    | 105                       | 4.4           | 6           | 0.7                   | 0.382                  | 0.344 | 0.153 | 3   |
| NOJC226M010#WJ | C         | 22               | 10                | 85                     | 7                    | 105                       | 4.4           | 6           | 0.5                   | 0.514                  | 0.462 | 0.206 | 1   |
| NOJC336M010#WJ | C         | 33               | 10                | 85                     | 7                    | 105                       | 6.6           | 6           | 0.5                   | 0.514                  | 0.462 | 0.206 | 1   |
| NOJC476M010#WJ | C         | 47               | 10                | 85                     | 7                    | 105                       | 9.4           | 6           | 0.4                   | 0.574                  | 0.517 | 0.230 | 1   |
| NOJC686M010#WJ | C         | 68               | 10                | 85                     | 7                    | 105                       | 13.6          | 12          | 0.5                   | 0.514                  | 0.462 | 0.206 | 1   |
| NOJD107M010#WJ | D         | 100              | 10                | 85                     | 7                    | 105                       | 20.0          | 12          | 0.4                   | 0.671                  | 0.604 | 0.268 | 3   |
| NOJD107M010#WB | D         | 100              | 10                | 85                     | 7                    | 105                       | 20.0          | 12          | 0.15                  | 1.095                  | 0.986 | 0.438 | 3   |

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

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

DCL is measured at rated voltage after 5 minutes.

The EIA & CECC standards for capacitors allow an ESR movement to 1.25 times catalog limit post mounting.

For typical weight and composition see page 259.

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

### QUALIFICATION TABLE

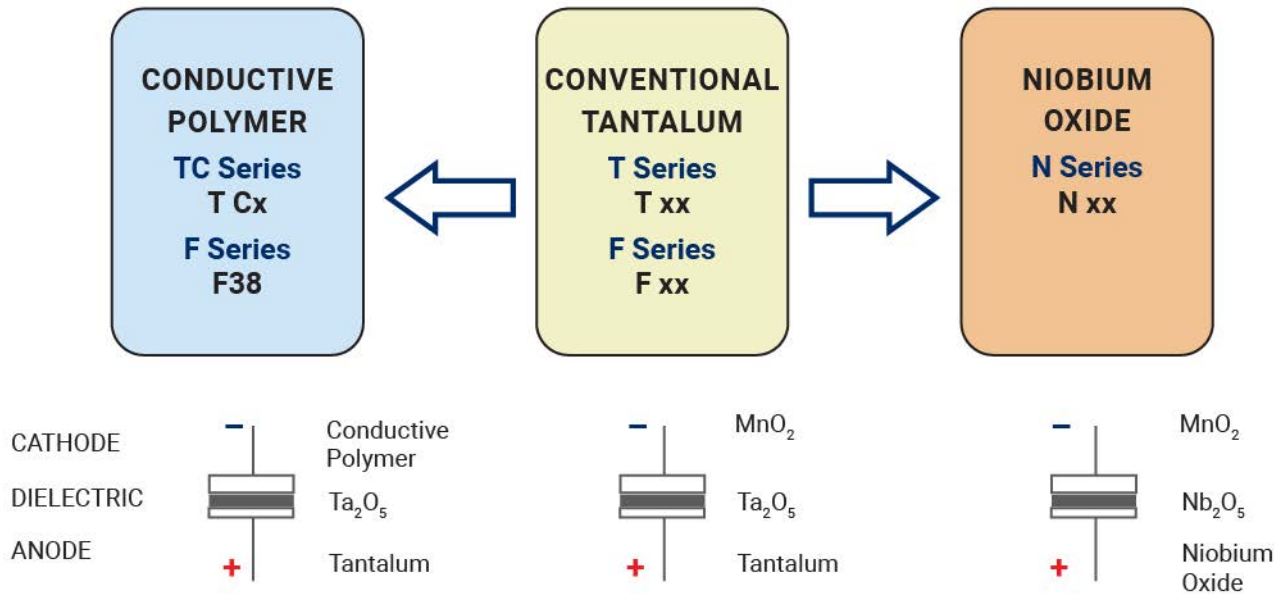
| TEST                         | NOJ series (Temperature range -55°C to +105°C)                                                                                                                                                            |               |               |                    |                                    |           |            |            |            |            |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|--------------------|------------------------------------|-----------|------------|------------|------------|------------|
|                              | Condition                                                                                                                                                                                                 |               |               | Characteristics    |                                    |           |            |            |            |            |
| <b>Endurance</b>             | Apply rated voltage (Ur) at 85°C and / or category voltage (Uc) at 105°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                | initial limit                      |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | $\Delta C/C$       | within $\pm 10\%$ of initial value |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | DF                 | initial limit                      |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | ESR                | 1.25 x initial limit               |           |            |            |            |            |
| <b>Storage Life</b>          | Store at 105°C, no voltage applied, for 2000 hours. Stabilize at room temperature for 1-2 hours before measuring.                                                                                         |               |               | Visual examination | no visible damage                  |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | DCL                | initial limit                      |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | $\Delta C/C$       | within $\pm 10\%$ of initial value |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | DF                 | initial limit                      |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | ESR                | 1.25 x initial limit               |           |            |            |            |            |
| <b>Humidity</b>              | Store at 65°C and 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                | 1.5 x initial limit                |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | $\Delta C/C$       | within $\pm 10\%$ of initial value |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | DF                 | 1.2 x initial limit                |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | ESR                | 1.25 x initial limit               |           |            |            |            |            |
| <b>Biased Humidity</b>       | Apply rated voltage (Ur) at 85°C, 85°C 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                  |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | $\Delta C/C$       | within $\pm 10\%$ of initial value |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | DF                 | 1.2 x initial limit                |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | ESR                | 1.25 x initial limit               |           |            |            |            |            |
| <b>Temperature Stability</b> | Step                                                                                                                                                                                                      | Temperature°C | Duration(min) |                    | +20°C                              | -55°C     | +20°C      | +85°C      | +105°C     | +20°C      |
|                              | 1                                                                                                                                                                                                         | +20           | 15            |                    |                                    |           |            |            |            |            |
|                              | 2                                                                                                                                                                                                         | -55           | 15            | DCL                | IL*                                | n/a       | IL*        | 10 x IL*   | 12.5 x IL* | IL*        |
|                              | 3                                                                                                                                                                                                         | +20           | 15            | $\Delta C/C$       | n/a                                | +0/-10%   | $\pm 5\%$  | +10/-0%    | +12/-0%    | $\pm 5\%$  |
|                              | 4                                                                                                                                                                                                         | +85           | 15            | DF                 | IL*                                | 1.5 x IL* | IL*        | 1.5 x IL*  | 2 x IL*    | IL*        |
|                              | 5                                                                                                                                                                                                         | +105          | 15            |                    |                                    |           |            |            |            |            |
|                              | 6                                                                                                                                                                                                         | +20           | 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* |
| <b>Surge Voltage</b>         | Apply 1.3x category voltage (Uc) at 105°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                | initial limit                      |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | $\Delta C/C$       | within $\pm 5\%$ of initial value  |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | DF                 | initial limit                      |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | ESR                | 1.25 x initial limit               |           |            |            |            |            |
| <b>Mechanical Shock</b>      | MIL-STD-202, Method 213, Condition F                                                                                                                                                                      |               |               | Visual examination | no visible damage                  |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | DCL                | initial limit                      |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | $\Delta C/C$       | within $\pm 5\%$ of initial value  |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | DF                 | initial limit                      |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | ESR                | 1.25 x initial limit               |           |            |            |            |            |
| <b>Vibration</b>             | MIL-STD-202, Method 204, Condition D                                                                                                                                                                      |               |               | Visual examination | no visible damage                  |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | DCL                | initial limit                      |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | $\Delta C/C$       | within $\pm 5\%$ of initial value  |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | DF                 | initial limit                      |           |            |            |            |            |
|                              |                                                                                                                                                                                                           |               |               | ESR                | 1.25 x initial limit               |           |            |            |            |            |

\*Initial Limit

# OxiCap® NOJ Series

## Standard and Low Profile Niobium Oxide Capacitors

### SOLID ELECTROLYTIC CAPACITOR ROADMAP



### FIVE CAPACITOR CONSTRUCTION STYLES



### SERIES LINE UP : NIOBIUM OXIDE OxiCap® CAPACITORS

