



**THE DATASHEET OF
NOJD107M010RWJ**



OxiCap® NOJ Series



Standard and Low Profile Niobium Oxide Capacitors



FEATURES

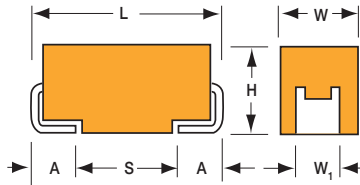
- Non-burn safe technology
- Reliability level: 0.5%/1000 hours at 85°C
- 13 case sizes available, standard and low profile
- Environmentally friendly, RoHS Compliant
- CV range: 2.2-1000µF / 1.8-10V
- Elektra Component of the Year Award, 2005



Elektra Award
2005

APPLICATIONS

- Automotive, Avionics, Digital, FPGA, Industrial low voltage control circuits
- Downsized industrial and automotive DC/DC converters



MARKING

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



P CASE



HOW TO ORDER

| | | | | | | | |
|-------------|--------------------------------------|--|----------------------------|--|---|--|--|
| NOJ | D | 107 | M | 006 | R | WJ | - |
| Type | Case Size See tables above | Capacitance Code 1st two digits represent significant figures, 3rd digit represents multiplier in pF | Tolerance M=±20% | Rated DC Voltage 001 = 1.8Vdc 002 = 2.5Vdc 004 = 4Vdc 006 = 6.3Vdc 010 = 10Vdc | Packaging R = Pure Tin 7" Reel S = Pure Tin 13" Reel | 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 DC (V _R) | ≤ +85°C: | 1.8 | 2.5 | 4 | 6.3 | 10 | |
| Category Voltage (V _C) | ≤ +105°C: | 1.2 | 1.7 | 2.7 | 4 | 7 | |
| Surge Voltage (V _S) | ≤ +85°C: | 2.3 | 3.3 | 5.2 | 8 | 13 | |
| Surge Voltage (V _S) | ≤ +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 _R , 0.1Ω/V series impedance, 60% confidence level Meets requirements of AEC-Q200 | | | | | | |

Standard and Low Profile Niobium Oxide Capacitors

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

| Capacitance | | Rated Voltage DC (V _R) 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 _R) 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. AVX reserves the right to supply higher voltage ratings in the same case size, to the same reliability standards

OxiCap® NOJ Series



Standard and Low Profile Niobium Oxide Capacitors

RATINGS & PART NUMBER REFERENCE

| AVX Part No. | 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 |

Standard and Low Profile Niobium Oxide Capacitors

RATINGS & PART NUMBER REFERENCE

| AVX Part No. | 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

| AVX Part No. | 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 274.

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

Standard and Low Profile Niobium Oxide Capacitors

QUALIFICATION TABLE

| TEST | NOJ series (Temperature range -55°C to +105°C) | | | | | | | | | | |
|------------------------------|---|---------------|---------------|--------------------|------------------------------------|-----------|------------|------------|------------|------------|--|
| | Condition | | | Characteristics | | | | | | | |
| Endurance | 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 | | | | | | |
| Storage Life | 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 | | | | | | |
| Humidity | 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 | | | | | | |
| 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 | | | | | | |
| | | | | $\Delta C/C$ | within $\pm 10\%$ 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 | +85°C | +105°C | +20°C | |
| | 1 | +20 | 15 | DCL | IL* | n/a | IL* | 10 x IL* | 12.5 x IL* | IL* | |
| | 2 | -55 | 15 | $\Delta C/C$ | n/a | +0/-10% | $\pm 5\%$ | +10/-0% | +12/-0% | $\pm 5\%$ | |
| | 3 | +20 | 15 | DF | IL* | 1.5 x IL* | IL* | 1.5 x IL* | 2 x IL* | IL* | |
| | 4 | +85 | 15 | ESR | 1.25 x IL* | 2.5 x IL* | 1.25 x IL* | 1.25 x IL* | 1.25 x IL* | 1.25 x IL* | |
| | 5 | +105 | 15 | | | | | | | | |
| | 6 | +20 | 15 | | | | | | | | |
| Surge Voltage | 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 Ω | | | 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 | | | | | | |
| Mechanical Shock | 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 | | | | | | |
| Vibration | MIL-STD-202, Method 204, Condition D | | | Visual examination | no visible damage | | | | | | |
| | | | | DCL | initial limit | | | | | | |
| | | | | $\Delta C/C$ | within $\pm 5\%$ of initial value | | | | | | |
| | | | | DF | initial limit | | | | | | |
| | | | | ESR | 1.25 x initial limit | | | | | | |

*Initial Limit

AVX SOLID ELECTROLYTE CAPACITOR ROADMAP



Five Capacitor Construction Styles



SERIES LINE UP: NIOBIUM OXIDE OXICAP® CAPACITORS



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