

OxiCap[®] NOS Low ESR Series



Niobium Oxide Capacitor



FEATURES

- Low ESR NbO capacitors
- Non-burn safe technology
- Reliability level: 0.2%/1000 hrs.
- CV range: 10-1000µF / 1.8-8V
- 9 case sizes available
- IBM global approval received in 2004
- Elektra Award received in 2005
- Meets requirements of AEC-Q200
- -55 to +125°C operation temperature

APPLICATIONS

- Medium power DC/DC for transportation and automotive industry



LEAD-FREE
LEAD-FREE COMPATIBLE
COMPONENT



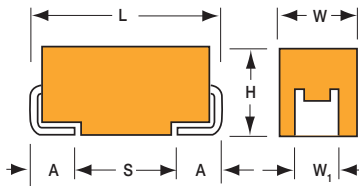
RoHS
COMPLIANT



NON-BURN
NON-SMOKE



Elektra Award
2005



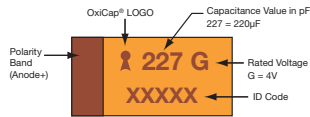
CASE DIMENSIONS: millimeters (inches)

| 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 ₁ ±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 (0.120) | 1.30 (0.051) | 4.40 (0.173) |
| W | 2312 | 6032-15 | 6.00 (0.236) | 3.20 (0.126) | 1.50 (0.059) max. | 2.20 (0.087) | 1.30 (0.051) | 2.90 (0.114) |
| X | 2917 | 7343-15 | 7.30 (0.287) | 4.30 (0.169) | 1.50 (0.059) max. | 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) max. | 2.40 (0.094) | 1.30 (0.051) | 4.40 (0.173) |

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

MARKING

A, B, C, D, E, V, W, X, Y CASE



HOW TO ORDER

| NOS | D | 107 | M | 006 | R | 0100 | - |
|-------------|-------------------------------------|--|----------------------------|---|---|------------------|---|
| Type | Case Size See table 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 008 = 8Vdc | Packaging R = Pure Tin 7" Reel S = Pure Tin 13" Reel | ESR in mΩ | Additional characters may be added for special requirements V = Dry pack Option (selected codes only) with exception of D, E, X, Y, V cases |

TECHNICAL SPECIFICATIONS

| | | | | | | | |
|------------------------------------|---|-----|-----|-----|-----|-----|--|
| Technical Data: | All technical data relate to an ambient temperature of +25°C is not stated | | | | | | |
| Capacitance Range: | 10 µF to 1000 µF | | | | | | |
| Capacitance Tolerance: | ±20% | | | | | | |
| Leakage Current DCL: | 0.02CV | | | | | | |
| Rated Voltage DC (V _R) | ≤ +85°C: | 1.8 | 2.5 | 4 | 6.3 | 8 | |
| Category Voltage (V _C) | ≤ +105°C: | 1.2 | 1.7 | 2.7 | 4 | 7 | |
| Category Voltage (V _C) | ≤ +125°C: | 0.9 | 1.3 | 2 | 3 | 4 | |
| Surge Voltage (V _S) | ≤ +85°C: | 2.3 | 3.3 | 5.2 | 8 | 10 | |
| Surge Voltage (V _S) | ≤ +105°C: | 1.6 | 2.2 | 3.4 | 5 | 8 | |
| Surge Voltage (V _S) | ≤ +125°C: | 1.2 | 1.7 | 2.6 | 4 | 5.3 | |
| Temperature Range: | -55°C to +125°C | | | | | | |
| Reliability: | 0.2% per 1000 hours at 85°C, V _R , 0.1Ω/V series impedance, 60% confidence level Meets requirements of AEC-Q200 | | | | | | |

OxiCap[®] NOS Low ESR Series



Niobium Oxide Capacitor

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) | 4.0V (G) | 6.3V (J) | 8V (P) |
| 10 | 106 | | | | A(800,1000,2000,2200) | A(2200) B(1000) |
| 15 | 156 | | | A(1500,2000) | B(600,2000) | B(1000) |
| 22 | 226 | | A(900,1900) | B(600,1900) | B(600,1900) | B(700,1800) C(500) |
| 33 | 336 | | B(1700) | B(600,1700) | B(600,1700) C(500) W(250,500) | C(500) |
| 47 | 476 | | B(500,1600) | B(500,1600) C(300,500) W(150,500) | B(500,800) C(300,500) | C(400) |
| 68 | 686 | | C(200,500) W(150,400) | C(200,500) | C(75,200,500) X(100,500) Y(100,500) | C(500) |
| 100 | 107 | B(350,1400) W(150,400) | C(150,400) | C(70,150,400) X(100,400) | C(150,400) D(80,100,400) Y(100,400) | D(400) |
| 150 | 157 | C(400) | C(65,150,400) X(100,400) | C(90,150,400) Y(100,400) | D(50,70,100,400) Y(100,400) | |
| 220 | 227 | C(125,400) X(100,400) | C(80,125,400) Y(100,400) | D(40,60,100,400) Y(100,400) | D(45,60,100,400) E(80,100,400) | |
| 330 | 337 | Y(100,300) | D(35,50,100,300) Y(100,300) | D(35,55,100,300) E(100) Y(150,300) | E(80,100,300) | |
| 470 | 477 | Y(100,300) | D(35,55,100,300) E(100,300) | D(100,300) E(75,100,300) | V(75,300) | |
| 680 | 687 | | E(60,300) | V(75,300) | | |
| 1000 | 108 | | V(50,300) | | | |

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® NOS Low ESR Series



Niobium Oxide Capacitor

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 (mΩ) | 100kHz RMS Current (A) | | | MSL |
|------------------------|-----------|------------------|-------------------|------------------------|----------------------|---------------------------|---------------|-------------|------------------------|------------------------|-------|-------|-----|
| | | | | | | | | | | 25°C | 85°C | 125°C | |
| 1.8 Volt @ 85°C | | | | | | | | | | | | | |
| NOSB107M001#0350 | B | 100 | 1.8 | 85 | 0.9 | 125 | 3.6 | 6 | 350 | 0.540 | 0.486 | 0.216 | 1 |
| NOSB107M001#1400 | B | 100 | 1.8 | 85 | 0.9 | 125 | 3.6 | 6 | 1400 | 0.270 | 0.243 | 0.108 | 1 |
| NOSW107M001#0150 | W | 100 | 1.8 | 85 | 0.9 | 125 | 3.6 | 6 | 150 | 0.849 | 0.764 | 0.339 | 1 |
| NOSW107M001#0400 | W | 100 | 1.8 | 85 | 0.9 | 125 | 3.6 | 6 | 400 | 0.520 | 0.468 | 0.208 | 1 |
| NOSC157M001#0400 | C | 150 | 1.8 | 85 | 0.9 | 125 | 5.4 | 8 | 400 | 0.574 | 0.517 | 0.230 | 1 |
| NOSC227M001#0125 | C | 220 | 1.8 | 85 | 0.9 | 125 | 8.0 | 8 | 125 | 1.028 | 0.925 | 0.411 | 1 |
| NOSC227M001#0400 | C | 220 | 1.8 | 85 | 0.9 | 125 | 8.0 | 8 | 400 | 0.574 | 0.517 | 0.230 | 1 |
| NOSX227M001#0100 | X | 220 | 1.8 | 85 | 0.9 | 125 | 8.0 | 8 | 100 | 1.095 | 0.986 | 0.438 | 3 |
| NOSX227M001#0400 | X | 220 | 1.8 | 85 | 0.9 | 125 | 8.0 | 8 | 400 | 0.548 | 0.493 | 0.219 | 3 |
| NOSY337M001#0100 | Y | 330 | 1.8 | 85 | 0.9 | 125 | 11.9 | 8 | 100 | 1.225 | 1.102 | 0.490 | 3 |
| NOSY337M001#0300 | Y | 330 | 1.8 | 85 | 0.9 | 125 | 11.9 | 8 | 300 | 0.707 | 0.636 | 0.283 | 3 |
| NOSY477M001#0100 | Y | 470 | 1.8 | 85 | 0.9 | 125 | 17.0 | 8 | 100 | 1.225 | 1.102 | 0.490 | 3 |
| NOSY477M001#0300 | Y | 470 | 1.8 | 85 | 0.9 | 125 | 17.0 | 8 | 300 | 0.707 | 0.636 | 0.283 | 3 |
| 2.5 Volt @ 85°C | | | | | | | | | | | | | |
| NOSA226M002#0900 | A | 22 | 2.5 | 85 | 1.3 | 125 | 1.1 | 6 | 900 | 0.316 | 0.285 | 0.126 | 1 |
| NOSA226M002#1900 | A | 22 | 2.5 | 85 | 1.3 | 125 | 1.1 | 6 | 1900 | 0.218 | 0.196 | 0.087 | 1 |
| NOSB336M002#1700 | B | 33 | 2.5 | 85 | 1.3 | 125 | 1.7 | 6 | 1700 | 0.245 | 0.220 | 0.098 | 1 |
| NOSB476M002#0500 | B | 47 | 2.5 | 85 | 1.3 | 125 | 2.4 | 6 | 500 | 0.452 | 0.406 | 0.181 | 1 |
| NOSB476M002#1600 | B | 47 | 2.5 | 85 | 1.3 | 125 | 2.4 | 6 | 1600 | 0.252 | 0.227 | 0.101 | 1 |
| NOSC686M002#0200 | C | 68 | 2.5 | 85 | 1.3 | 125 | 3.4 | 6 | 200 | 0.812 | 0.731 | 0.325 | 1 |
| NOSC686M002#0500 | C | 68 | 2.5 | 85 | 1.3 | 125 | 3.4 | 6 | 500 | 0.514 | 0.462 | 0.206 | 1 |
| NOSW686M002#0150 | W | 68 | 2.5 | 85 | 1.3 | 125 | 3.4 | 6 | 150 | 0.849 | 0.764 | 0.339 | 1 |
| NOSW686M002#0400 | W | 68 | 2.5 | 85 | 1.3 | 125 | 3.4 | 6 | 400 | 0.520 | 0.468 | 0.208 | 1 |
| NOSC107M002#0150 | C | 100 | 2.5 | 85 | 1.3 | 125 | 5.0 | 6 | 150 | 0.938 | 0.844 | 0.375 | 1 |
| NOSC107M002#0400 | C | 100 | 2.5 | 85 | 1.3 | 125 | 5.0 | 6 | 400 | 0.574 | 0.517 | 0.230 | 1 |
| NOSC157M002#0065 | C | 150 | 2.5 | 85 | 1.3 | 125 | 7.5 | 6 | 65 | 1.425 | 1.283 | 0.570 | 1 |
| NOSC157M002#0150 | C | 150 | 2.5 | 85 | 1.3 | 125 | 7.5 | 6 | 150 | 0.938 | 0.844 | 0.375 | 1 |
| NOSC157M002#0400 | C | 150 | 2.5 | 85 | 1.3 | 125 | 7.5 | 6 | 400 | 0.574 | 0.517 | 0.230 | 1 |
| NOSX157M002#0100 | X | 150 | 2.5 | 85 | 1.3 | 125 | 7.5 | 6 | 100 | 1.095 | 0.986 | 0.438 | 3 |
| NOSX157M002#0400 | X | 150 | 2.5 | 85 | 1.3 | 125 | 7.5 | 6 | 400 | 0.548 | 0.493 | 0.219 | 3 |
| NOSC227M002#0080 | C | 220 | 2.5 | 85 | 1.3 | 125 | 11.0 | 8 | 80 | 1.285 | 1.156 | 0.514 | 1 |
| NOSC227M002#0125 | C | 220 | 2.5 | 85 | 1.3 | 125 | 11.0 | 8 | 125 | 1.028 | 0.925 | 0.411 | 1 |
| NOSC227M002#0400 | C | 220 | 2.5 | 85 | 1.3 | 125 | 11.0 | 8 | 400 | 0.574 | 0.517 | 0.230 | 1 |
| NOSY227M002#0100 | Y | 220 | 2.5 | 85 | 1.3 | 125 | 11.0 | 8 | 100 | 1.225 | 1.102 | 0.490 | 3 |
| NOSY227M002#0400 | Y | 220 | 2.5 | 85 | 1.3 | 125 | 11.0 | 8 | 400 | 0.612 | 0.551 | 0.245 | 3 |
| NOSD337M002#0035 | D | 330 | 2.5 | 85 | 1.3 | 125 | 16.5 | 10 | 35 | 2.268 | 2.041 | 0.907 | 3 |
| NOSD337M002#0050 | D | 330 | 2.5 | 85 | 1.3 | 125 | 16.5 | 10 | 50 | 1.897 | 1.708 | 0.759 | 3 |
| NOSD337M002#0100 | D | 330 | 2.5 | 85 | 1.3 | 125 | 16.5 | 10 | 100 | 1.342 | 1.207 | 0.537 | 3 |
| NOSD337M002#0300 | D | 330 | 2.5 | 85 | 1.3 | 125 | 16.5 | 10 | 300 | 0.775 | 0.697 | 0.310 | 3 |
| NOSY337M002#0100 | Y | 330 | 2.5 | 85 | 1.3 | 125 | 16.5 | 10 | 100 | 1.225 | 1.102 | 0.490 | 3 |
| NOSY337M002#0300 | Y | 330 | 2.5 | 85 | 1.3 | 125 | 16.5 | 10 | 300 | 0.707 | 0.636 | 0.283 | 3 |
| NOSD477M002#0035 | D | 470 | 2.5 | 85 | 1.3 | 125 | 23.5 | 12 | 35 | 2.268 | 2.041 | 0.907 | 3 |
| NOSD477M002#0055 | D | 470 | 2.5 | 85 | 1.3 | 125 | 23.5 | 12 | 55 | 1.809 | 1.628 | 0.724 | 3 |
| NOSD477M002#0100 | D | 470 | 2.5 | 85 | 1.3 | 125 | 23.5 | 12 | 100 | 1.342 | 1.207 | 0.537 | 3 |
| NOSD477M002#0300 | D | 470 | 2.5 | 85 | 1.3 | 125 | 23.5 | 12 | 300 | 0.775 | 0.697 | 0.310 | 3 |
| NOSE477M002#0100 | E | 470 | 2.5 | 85 | 1.3 | 125 | 23.5 | 10 | 100 | 1.407 | 1.266 | 0.563 | 3 |
| NOSE477M002#0300 | E | 470 | 2.5 | 85 | 1.3 | 125 | 23.5 | 10 | 300 | 0.812 | 0.731 | 0.325 | 3 |
| NOSE687M002#0060 | E | 680 | 2.5 | 85 | 1.3 | 125 | 34.0 | 14 | 60 | 1.817 | 1.635 | 0.727 | 3 |
| NOSE687M002#0300 | E | 680 | 2.5 | 85 | 1.3 | 125 | 34.0 | 14 | 300 | 0.812 | 0.731 | 0.325 | 3 |
| NOSV108M002#0050 | V | 1000 | 2.5 | 85 | 1.3 | 125 | 50.0 | 16 | 50 | 2.449 | 2.205 | 0.980 | 3 |
| NOSV108M002#0300 | V | 1000 | 2.5 | 85 | 1.3 | 125 | 50.0 | 16 | 300 | 1.000 | 0.900 | 0.400 | 3 |
| 4 Volt @ 85°C | | | | | | | | | | | | | |
| NOSA156M004#1500 | A | 15 | 4 | 85 | 2 | 125 | 1.2 | 6 | 1500 | 0.245 | 0.220 | 0.098 | 1 |
| NOSA156M004#2000 | A | 15 | 4 | 85 | 2 | 125 | 1.2 | 6 | 2000 | 0.212 | 0.191 | 0.085 | 1 |
| NOSB226M004#0600 | B | 22 | 4 | 85 | 2 | 125 | 1.8 | 6 | 600 | 0.412 | 0.371 | 0.165 | 1 |
| NOSB226M004#1900 | B | 22 | 4 | 85 | 2 | 125 | 1.8 | 6 | 1900 | 0.232 | 0.209 | 0.093 | 1 |
| NOSB336M004#0600 | B | 33 | 4 | 85 | 2 | 125 | 2.6 | 6 | 600 | 0.412 | 0.371 | 0.165 | 1 |
| NOSB336M004#1700 | B | 33 | 4 | 85 | 2 | 125 | 2.6 | 6 | 1700 | 0.245 | 0.220 | 0.098 | 1 |
| NOSB476M004#0500 | B | 47 | 4 | 85 | 2 | 125 | 3.8 | 6 | 500 | 0.452 | 0.406 | 0.181 | 1 |
| NOSB476M004#1600 | B | 47 | 4 | 85 | 2 | 125 | 3.8 | 6 | 1600 | 0.252 | 0.227 | 0.101 | 1 |
| NOSC476M004#0300 | C | 47 | 4 | 85 | 2 | 125 | 3.8 | 6 | 300 | 0.663 | 0.597 | 0.265 | 1 |
| NOSC476M004#0500 | C | 47 | 4 | 85 | 2 | 125 | 3.8 | 6 | 500 | 0.514 | 0.462 | 0.206 | 1 |
| NOSW476M004#0150 | W | 47 | 4 | 85 | 2 | 125 | 3.8 | 6 | 150 | 0.849 | 0.764 | 0.339 | 1 |
| NOSW476M004#0500 | W | 47 | 4 | 85 | 2 | 125 | 3.8 | 6 | 500 | 0.465 | 0.418 | 0.186 | 1 |
| NOSC686M004#0200 | C | 68 | 4 | 85 | 2 | 125 | 5.4 | 6 | 200 | 0.812 | 0.731 | 0.325 | 1 |
| NOSC686M004#0500 | C | 68 | 4 | 85 | 2 | 125 | 5.4 | 6 | 500 | 0.514 | 0.462 | 0.206 | 1 |
| NOSC107M004#0070 | C | 100 | 4 | 85 | 2 | 125 | 8.0 | 6 | 70 | 1.373 | 1.236 | 0.549 | 1 |
| NOSC107M004#0150 | C | 100 | 4 | 85 | 2 | 125 | 8.0 | 6 | 150 | 0.938 | 0.844 | 0.375 | 1 |
| NOSC107M004#0400 | C | 100 | 4 | 85 | 2 | 125 | 8.0 | 6 | 400 | 0.574 | 0.517 | 0.230 | 1 |
| NOSX107M004#0100 | X | 100 | 4 | 85 | 2 | 125 | 8.0 | 6 | 100 | 1.095 | 0.986 | 0.438 | 3 |

OxiCap® NOS Low ESR Series



Niobium Oxide Capacitor

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 (mΩ) | 100kHz RMS Current (A) | | | MSL |
|------------------------|-----------|------------------|-------------------|------------------------|----------------------|---------------------------|---------------|-------------|------------------------|------------------------|-------|-------|-----|
| | | | | | | | | | | 25°C | 85°C | 125°C | |
| NOSX107M004#0400 | X | 100 | 4 | 85 | 2 | 125 | 8.0 | 6 | 400 | 0.548 | 0.493 | 0.219 | 3 |
| NOSC157M004#0090 | C | 150 | 4 | 85 | 2 | 125 | 12.0 | 6 | 90 | 1.211 | 1.090 | 0.484 | 1 |
| NOSC157M004#0150 | C | 150 | 4 | 85 | 2 | 125 | 12.0 | 6 | 150 | 0.938 | 0.844 | 0.375 | 1 |
| NOSC157M004#0400 | C | 150 | 4 | 85 | 2 | 125 | 12.0 | 6 | 400 | 0.574 | 0.517 | 0.230 | 1 |
| NOSY157M004#0100 | Y | 150 | 4 | 85 | 2 | 125 | 12.0 | 6 | 100 | 1.225 | 1.102 | 0.490 | 3 |
| NOSY157M004#0400 | Y | 150 | 4 | 85 | 2 | 125 | 12.0 | 6 | 400 | 0.612 | 0.551 | 0.245 | 3 |
| NOSD227M004#0040 | D | 220 | 4 | 85 | 2 | 125 | 17.6 | 8 | 40 | 2.121 | 1.909 | 0.849 | 3 |
| NOSD227M004#0060 | D | 220 | 4 | 85 | 2 | 125 | 17.6 | 8 | 60 | 1.732 | 1.559 | 0.693 | 3 |
| NOSD227M004#0100 | D | 220 | 4 | 85 | 2 | 125 | 17.6 | 8 | 100 | 1.342 | 1.207 | 0.537 | 3 |
| NOSD227M004#0400 | D | 220 | 4 | 85 | 2 | 125 | 17.6 | 8 | 400 | 0.671 | 0.604 | 0.268 | 3 |
| NOSY227M004#0100 | Y | 220 | 4 | 85 | 2 | 125 | 17.6 | 10 | 100 | 1.225 | 1.102 | 0.490 | 3 |
| NOSY227M004#0400 | Y | 220 | 4 | 85 | 2 | 125 | 17.6 | 10 | 400 | 0.612 | 0.551 | 0.245 | 3 |
| NOSD337M004#0035 | D | 330 | 4 | 85 | 2 | 125 | 26.4 | 8 | 35 | 2.268 | 2.041 | 0.907 | 3 |
| NOSD337M004#0055 | D | 330 | 4 | 85 | 2 | 125 | 26.4 | 8 | 55 | 1.809 | 1.628 | 0.724 | 3 |
| NOSD337M004#0100 | D | 330 | 4 | 85 | 2 | 125 | 26.4 | 8 | 100 | 1.342 | 1.207 | 0.537 | 3 |
| NOSD337M004#0300 | D | 330 | 4 | 85 | 2 | 125 | 26.4 | 8 | 300 | 0.775 | 0.697 | 0.310 | 3 |
| NOSE337M004#0100 | E | 330 | 4 | 85 | 2 | 125 | 26.4 | 8 | 100 | 1.407 | 1.266 | 0.563 | 3 |
| NOSY337M004#0150 | Y | 330 | 4 | 85 | 2 | 125 | 26.4 | 12 | 150 | 1.000 | 0.900 | 0.400 | 3 |
| NOSY337M004#0300 | Y | 330 | 4 | 85 | 2 | 125 | 26.4 | 12 | 300 | 0.707 | 0.636 | 0.283 | 3 |
| NOSD477M004#0100 | D | 470 | 4 | 85 | 2 | 125 | 37.6 | 12 | 100 | 1.342 | 1.207 | 0.537 | 3 |
| NOSD477M004#0300 | D | 470 | 4 | 85 | 2 | 125 | 37.6 | 12 | 300 | 0.775 | 0.697 | 0.310 | 3 |
| NOSE477M004#0075 | E | 470 | 4 | 85 | 2 | 125 | 37.6 | 12 | 75 | 1.625 | 1.462 | 0.650 | 3 |
| NOSE477M004#0100 | E | 470 | 4 | 85 | 2 | 125 | 37.6 | 12 | 100 | 1.407 | 1.266 | 0.563 | 3 |
| NOSE477M004#0300 | E | 470 | 4 | 85 | 2 | 125 | 37.6 | 12 | 300 | 0.812 | 0.731 | 0.325 | 3 |
| NOSV687M004#0075 | V | 680 | 4 | 85 | 2 | 125 | 54.4 | 14 | 75 | 2.000 | 1.800 | 0.800 | 3 |
| NOSV687M004#0300 | V | 680 | 4 | 85 | 2 | 125 | 54.4 | 14 | 300 | 1.000 | 0.900 | 0.400 | 3 |
| 6.3 Volt @ 85°C | | | | | | | | | | | | | |
| NOSA106M006#0800 | A | 10 | 6.3 | 85 | 3 | 125 | 1.2 | 6 | 800 | 0.335 | 0.302 | 0.134 | 1 |
| NOSA106M006#1000 | A | 10 | 6.3 | 85 | 3 | 125 | 1.2 | 6 | 1000 | 0.300 | 0.270 | 0.120 | 1 |
| NOSA106M006#2000 | A | 10 | 6.3 | 85 | 3 | 125 | 1.2 | 6 | 2000 | 0.212 | 0.191 | 0.085 | 1 |
| NOSA106M006#2200 | A | 10 | 6.3 | 85 | 3 | 125 | 1.2 | 6 | 2200 | 0.202 | 0.182 | 0.081 | 1 |
| NOSB156M006#0600 | B | 15 | 6.3 | 85 | 3 | 125 | 1.8 | 6 | 600 | 0.412 | 0.371 | 0.165 | 1 |
| NOSB156M006#2000 | B | 15 | 6.3 | 85 | 3 | 125 | 1.8 | 6 | 2000 | 0.226 | 0.203 | 0.090 | 1 |
| NOSB226M006#0600 | B | 22 | 6.3 | 85 | 3 | 125 | 2.6 | 6 | 600 | 0.412 | 0.371 | 0.165 | 1 |
| NOSB226M006#1900 | B | 22 | 6.3 | 85 | 3 | 125 | 2.6 | 6 | 1900 | 0.232 | 0.209 | 0.093 | 1 |
| NOSB336M006#0600 | B | 33 | 6.3 | 85 | 3 | 125 | 4.0 | 6 | 600 | 0.412 | 0.371 | 0.165 | 1 |
| NOSB336M006#1700 | B | 33 | 6.3 | 85 | 3 | 125 | 4.0 | 6 | 1700 | 0.245 | 0.220 | 0.098 | 1 |
| NOSC336M006#0500 | C | 33 | 6.3 | 85 | 3 | 125 | 4.0 | 6 | 500 | 0.514 | 0.462 | 0.206 | 1 |
| NOSW336M006#0250 | W | 33 | 6.3 | 85 | 3 | 125 | 4.0 | 6 | 250 | 0.657 | 0.592 | 0.263 | 1 |
| NOSW336M006#0500 | W | 33 | 6.3 | 85 | 3 | 125 | 4.0 | 6 | 500 | 0.465 | 0.418 | 0.186 | 1 |
| NOSB476M006#0500 | B | 47 | 6.3 | 85 | 3 | 125 | 5.6 | 6 | 500 | 0.452 | 0.406 | 0.181 | 1 |
| NOSB476M006#0800 | B | 47 | 6.3 | 85 | 3 | 125 | 5.6 | 6 | 800 | 0.357 | 0.321 | 0.143 | 1 |
| NOSC476M006#0300 | C | 47 | 6.3 | 85 | 3 | 125 | 5.7 | 6 | 300 | 0.663 | 0.597 | 0.265 | 1 |
| NOSC476M006#0500 | C | 47 | 6.3 | 85 | 3 | 125 | 5.7 | 6 | 500 | 0.514 | 0.462 | 0.206 | 1 |
| NOSC686M006#0075 | C | 68 | 6.3 | 85 | 3 | 125 | 8.2 | 6 | 75 | 1.327 | 1.194 | 0.531 | 1 |
| NOSC686M006#0200 | C | 68 | 6.3 | 85 | 3 | 125 | 8.2 | 6 | 200 | 0.812 | 0.731 | 0.325 | 1 |
| NOSC686M006#0500 | C | 68 | 6.3 | 85 | 3 | 125 | 8.2 | 6 | 500 | 0.514 | 0.462 | 0.206 | 1 |
| NOSX686M006#0100 | X | 68 | 6.3 | 85 | 3 | 125 | 8.2 | 6 | 100 | 1.095 | 0.986 | 0.438 | 3 |
| NOSX686M006#0500 | X | 68 | 6.3 | 85 | 3 | 125 | 8.2 | 6 | 500 | 0.490 | 0.441 | 0.196 | 3 |
| NOSY686M006#0100 | Y | 68 | 6.3 | 85 | 3 | 125 | 8.2 | 6 | 100 | 1.225 | 1.102 | 0.490 | 3 |
| NOSY686M006#0500 | Y | 68 | 6.3 | 85 | 3 | 125 | 8.2 | 6 | 500 | 0.548 | 0.493 | 0.219 | 3 |
| NOSC107M006#0150 | C | 100 | 6.3 | 85 | 3 | 125 | 12.0 | 8 | 150 | 0.938 | 0.844 | 0.375 | 1 |
| NOSC107M006#0400 | C | 100 | 6.3 | 85 | 3 | 125 | 12.0 | 8 | 400 | 0.574 | 0.517 | 0.230 | 1 |
| NOSD107M006#0080 | D | 100 | 6.3 | 85 | 3 | 125 | 12.0 | 6 | 80 | 1.500 | 1.350 | 0.600 | 3 |
| NOSD107M006#0100 | D | 100 | 6.3 | 85 | 3 | 125 | 12.0 | 6 | 100 | 1.342 | 1.207 | 0.537 | 3 |
| NOSD107M006#0400 | D | 100 | 6.3 | 85 | 3 | 125 | 12.0 | 6 | 400 | 0.671 | 0.604 | 0.268 | 3 |
| NOSY107M006#0100 | Y | 100 | 6.3 | 85 | 3 | 125 | 12.0 | 6 | 100 | 1.225 | 1.102 | 0.490 | 3 |
| NOSY107M006#0400 | Y | 100 | 6.3 | 85 | 3 | 125 | 12.0 | 6 | 400 | 0.612 | 0.551 | 0.245 | 3 |
| NOSD157M006#0050 | D | 150 | 6.3 | 85 | 3 | 125 | 18.0 | 6 | 50 | 1.897 | 1.708 | 0.759 | 3 |
| NOSD157M006#0070 | D | 150 | 6.3 | 85 | 3 | 125 | 18.0 | 6 | 70 | 1.604 | 1.443 | 0.641 | 3 |
| NOSD157M006#0100 | D | 150 | 6.3 | 85 | 3 | 125 | 18.0 | 6 | 100 | 1.342 | 1.207 | 0.537 | 3 |
| NOSD157M006#0400 | D | 150 | 6.3 | 85 | 3 | 125 | 18.0 | 6 | 400 | 0.671 | 0.604 | 0.268 | 3 |
| NOSY157M006#0100 | Y | 150 | 6.3 | 85 | 3 | 125 | 18.0 | 6 | 100 | 1.225 | 1.102 | 0.490 | 3 |
| NOSY157M006#0400 | Y | 150 | 6.3 | 85 | 3 | 125 | 18.0 | 6 | 400 | 0.612 | 0.551 | 0.245 | 3 |
| NOSD227M006#0045 | D | 220 | 6.3 | 85 | 3 | 125 | 26.4 | 8 | 45 | 2.000 | 1.800 | 0.800 | 3 |
| NOSD227M006#0060 | D | 220 | 6.3 | 85 | 3 | 125 | 26.4 | 8 | 60 | 1.732 | 1.559 | 0.693 | 3 |
| NOSD227M006#0100 | D | 220 | 6.3 | 85 | 3 | 125 | 26.4 | 8 | 100 | 1.342 | 1.207 | 0.537 | 3 |
| NOSD227M006#0400 | D | 220 | 6.3 | 85 | 3 | 125 | 26.4 | 8 | 400 | 0.671 | 0.604 | 0.268 | 3 |
| NOSE227M006#0080 | E | 220 | 6.3 | 85 | 3 | 125 | 26.4 | 12 | 80 | 1.573 | 1.416 | 0.629 | 3 |
| NOSE227M006#0100 | E | 220 | 6.3 | 85 | 3 | 125 | 26.4 | 12 | 100 | 1.407 | 1.266 | 0.563 | 3 |
| NOSE227M006#0400 | E | 220 | 6.3 | 85 | 3 | 125 | 26.4 | 12 | 400 | 0.704 | 0.633 | 0.281 | 3 |

OxiCap® NOS Low ESR Series



Niobium Oxide Capacitor

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 (mΩ) | 100kHz RMS Current (A) | | | MSL |
|----------------------|-----------|------------------|-------------------|------------------------|----------------------|---------------------------|---------------|-------------|------------------------|------------------------|-------|-------|-----|
| | | | | | | | | | | 25°C | 85°C | 125°C | |
| NOSE337M006#0080 | E | 330 | 6.3 | 85 | 3 | 125 | 39.6 | 12 | 80 | 1.573 | 1.416 | 0.629 | 3 |
| NOSE337M006#0100 | E | 330 | 6.3 | 85 | 3 | 125 | 39.6 | 12 | 100 | 1.407 | 1.266 | 0.563 | 3 |
| NOSE337M006#0300 | E | 330 | 6.3 | 85 | 3 | 125 | 39.6 | 12 | 300 | 0.812 | 0.731 | 0.325 | 3 |
| NOSV477M006#0075 | V | 470 | 6.3 | 85 | 3 | 125 | 56.4 | 14 | 75 | 2.000 | 1.800 | 0.800 | 3 |
| NOSV477M006#0300 | V | 470 | 6.3 | 85 | 3 | 125 | 56.4 | 14 | 300 | 1.000 | 0.900 | 0.400 | 3 |
| 8 Volt @ 85°C | | | | | | | | | | | | | |
| NOSA106M008#2200 | A | 10 | 8 | 85 | 4 | 125 | 1.6 | 10 | 2200 | 0.202 | 0.182 | 0.081 | 1 |
| NOSB106M008#1000 | B | 10 | 8 | 85 | 4 | 125 | 1.6 | 10 | 1000 | 0.319 | 0.287 | 0.128 | 1 |
| NOSB156M008#1000 | B | 15 | 8 | 85 | 4 | 125 | 2.4 | 10 | 1000 | 0.319 | 0.287 | 0.128 | 1 |
| NOSB226M008#0700 | B | 22 | 8 | 85 | 4 | 125 | 3.5 | 10 | 700 | 0.382 | 0.344 | 0.153 | 1 |
| NOSB226M008#1800 | B | 22 | 8 | 85 | 4 | 125 | 3.5 | 10 | 1800 | 0.238 | 0.214 | 0.095 | 1 |
| NOSC226M008#0500 | C | 22 | 8 | 85 | 4 | 125 | 3.5 | 10 | 500 | 0.514 | 0.462 | 0.206 | 1 |
| NOSC336M008#0500 | C | 33 | 8 | 85 | 4 | 125 | 5.3 | 10 | 500 | 0.514 | 0.462 | 0.206 | 1 |
| NOSC476M008#0400 | C | 47 | 8 | 85 | 4 | 125 | 7.5 | 10 | 400 | 0.574 | 0.517 | 0.230 | 1 |
| NOSC686M008#0500 | C | 68 | 8 | 85 | 4 | 125 | 11.0 | 16 | 500 | 0.514 | 0.462 | 0.206 | 1 |
| NOSD107M008#0400 | D | 100 | 8 | 85 | 4 | 125 | 16.0 | 16 | 400 | 0.671 | 0.604 | 0.268 | 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.

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

OxiCap[®] NOS Low ESR Series



Niobium Oxide Capacitor

QUALIFICATION TABLE

| TEST | NOS series (Temperature range -55°C to +125°C) | | | | | | | | | | |
|------------------------------|---|---------------|---------------|--------------------|------------------------------------|-----------|------------|------------|------------|------------|--|
| | Condition | | | Characteristics | | | | | | | |
| Endurance | Apply rated voltage (Ur) at 85°C and / or category voltage (Uc) at 125°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 125°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 | | | | | | |
| 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 | +125°C | +20°C | |
| | 1 | +20 | 15 | DCL | IL* | n/a | IL* | 12 x IL* | 15 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 | +125 | 15 | | | | | | | | |
| | 6 | +20 | 15 | | | | | | | | |
| Surge Voltage | Apply 1.3x category voltage (Uc) at 125°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 | | | | | | |

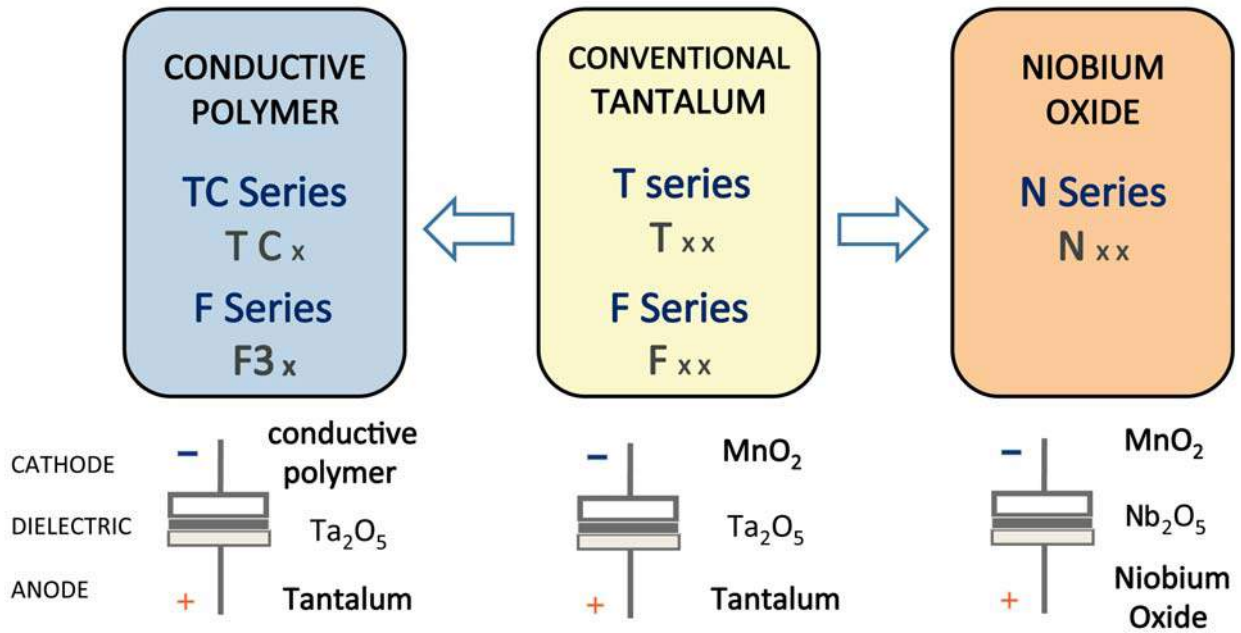
*Initial Limit

OxiCap® NOS Low ESR Series

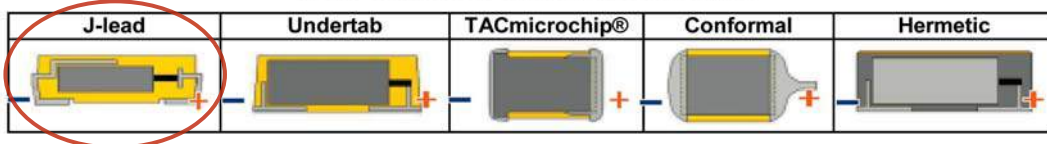


Niobium Oxide Capacitor

AVX SOLID ELECTROLYTIC CAPACITOR ROADMAP



Five Capacitor Construction Styles



SERIES LINE UP: NIOBIUM OXIDE OXICAP® CAPACITORS

