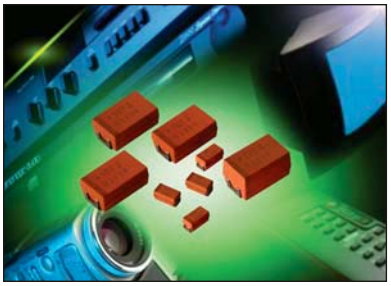
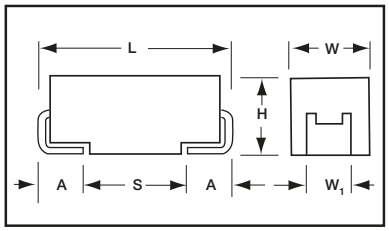
OxiCap® NOJ Series

Niobium Oxide Capacitor



- Non-burn safe technology
- Reliability level: 0.5%/1000 hrs.
- 6 case sizes available
- Environmentally friendly
- IBM global approval received in 2004
- Electra Award received in 2005
- CV range: 4.7-1000µF / 1.8-10V

Elektra Award 2005



For part marking see page 151

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)	W1 ±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_1 dimension applies to the termination width for A dimensional area only.

HOW TO ORDER

NOJ	D	107	M	006	R	WJ	–
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 010 = 10Vdc	**Packaging** R = Pure Tin 7" Reel S = Pure Tin 13" Reel	**Specification Suffix** WJ = Standard Suffix	**Additional characters may be added for special requirements** V = Dry pack Option (selected codes only) with exception of D, E, V cases

TECHNICAL SPECIFICATIONS

Technical Data:		All technical data relate to an ambient temperature of +25°C is not stated					
Capacitance Range:		4.7 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	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					

OxiCap® NOJ Series

Niobium Oxide Capacitor

CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated Voltage DC (V_R) to 85°C / 0.66 DC to 105°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	V
330	337	C	C/D	D	D/E	
470	477		D/E	D/E	E/V	
680	687		E	E/V		
1000	108		V	V		

Released codes

Engineering samples - please contact manufacturer

*Codes under development - subject to change

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

LEAD-FREE

LEAD-FREE COMPATIBLE COMPONENT

RoHS COMPLIANT

NON-BURN NON-SMOKE

OxiCap® NOJ Series

Niobium Oxide Capacitor

RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (Ω) @100kHz	MSL	100kHz RMS Current (A)			100kHz RMS Voltage (V)		
								25ºC	85ºC	105ºC	25ºC	85ºC	105ºC
1.8 Volt @ 85°C (1.2 Volt @ 105°C)													
NOJA476M001#WJ	A	47	1.8	1.7	8	1.6	1	0.237	0.213	0.095	0.379	0.342	0.152
NOJB476M001#WJ	B	47	1.8	1.7	6	1.6	1	0.252	0.227	0.101	0.404	0.364	0.162
NOJB686M001#WJ	B	68	1.8	2.5	6	1.5	1	0.261	0.235	0.104	0.391	0.352	0.156
NOJB107M001#WJ	B	100	1.8	3.6	6	1.4	1	0.270	0.243	0.108	0.378	0.340	0.151
NOJC107M001#WJ	C	100	1.8	3.6	6	0.4	1	0.574	0.517	0.230	0.230	0.207	0.092
NOJC157M001#WJ	C	150	1.8	5.4	8	0.4	1	0.574	0.517	0.230	0.230	0.207	0.092
NOJC227M001#WJ	C	220	1.8	8.0	8	0.4	1	0.574	0.517	0.230	0.230	0.207	0.092
NOJC337M001#WJ	C	330	1.8	11.9	8	0.3	1	0.663	0.597	0.265	0.199	0.179	0.080
2.5 Volt @ 85°C (1.7 Volt @ 105°C)													
NOJA226M002#WJ	A	22	2.5	1.1	6	1.9	1	0.218	0.196	0.087	0.414	0.372	0.165
NOJA336M002#WJ	A	33	2.5	1.7	6	1.7	1	0.230	0.207	0.092	0.391	0.352	0.156
NOJB336M002#WJ	B	33	2.5	1.7	6	1.7	1	0.245	0.220	0.098	0.416	0.375	0.167
NOJA476M002#WJ	A	47	2.5	2.4	8	1.6	1	0.237	0.213	0.095	0.379	0.342	0.152
NOJB476M002#WJ	B	47	2.5	2.4	6	1.6	1	0.252	0.227	0.101	0.404	0.364	0.162
NOJB686M002#WJ	B	68	2.5	3.4	6	1.5	1	0.261	0.235	0.104	0.391	0.352	0.156
NOJC686M002#WJ	C	68	2.5	3.4	6	0.5	1	0.514	0.462	0.206	0.257	0.231	0.103
NOJB107M002#WJ	B	100	2.5	5.0	6	1.4	1	0.270	0.243	0.108	0.378	0.340	0.151
NOJC107M002#WJ	C	100	2.5	5.0	6	0.4	1	0.574	0.517	0.230	0.230	0.207	0.092
NOJC157M002#WJ	C	150	2.5	7.5	6	0.4	1	0.574	0.517	0.230	0.230	0.207	0.092
NOJC227M002#WJ	C	220	2.5	11.0	8	0.4	1	0.574	0.517	0.230	0.230	0.207	0.092
NOJC337M002#WJ	C	330	2.5	16.5	10	0.3	1	0.663	0.597	0.265	0.199	0.179	0.080
NOJD337M002#WJ	D	330	2.5	16.5	10	0.3	3	0.775	0.697	0.310	0.232	0.209	0.093
NOJD477M002#WJ	D	470	2.5	23.5	12	0.3	3	0.775	0.697	0.310	0.323	0.209	0.093
NOJE477M002#WJ	E	470	2.5	23.5	10	0.3	3	0.812	0.731	0.325	0.244	0.219	0.097
NOJE687M002#WJ	E	680	2.5	34.0	14	0.3	3	0.812	0.731	0.325	0.244	0.219	0.097
NOJV108M002#WJ	V	1000	2.5	50.0	16	0.3	3	1.000	0.900	0.400	0.300	0.270	0.120
4 Volt @ 85°C (2.7 Volt @ 105°C)													
NOJA156M004#WJ	A	15	4	1.2	6	2	1	0.212	0.191	0.085	0.424	0.382	0.170
NOJA226M004#WJ	A	22	4	1.8	6	1.9	1	0.218	0.196	0.087	0.414	0.372	0.165
NOJB226M004#WJ	B	22	4	1.8	6	1.9	1	0.232	0.209	0.093	0.440	0.396	0.176
NOJA336M004#WJ	A	33	4	2.6	10	1.7	1	0.230	0.207	0.092	0.391	0.352	0.156
NOJB336M004#WJ	B	33	4	2.6	6	1.7	1	0.245	0.220	0.098	0.416	0.375	0.167
NOJA476M004#WJ	A	47	4	3.8	18	2.2	1	0.202	0.182	0.081	0.445	0.400	0.178
NOJB476M004#WJ	B	47	4	3.8	6	1.6	1	0.252	0.227	0.101	0.404	0.364	0.162
NOJC476M004#WJ	C	47	4	3.8	6	0.5	1	0.514	0.462	0.206	0.257	0.231	0.103
NOJB686M004#WJ	B	68	4	5.4	6	1.5	1	0.261	0.235	0.104	0.391	0.352	0.156
NOJC686M004#WJ	C	68	4	5.4	6	0.5	1	0.514	0.462	0.206	0.257	0.231	0.103
NOJB107M004#WJ	B	100	4	8.0	16	1.4	1	0.270	0.243	0.108	0.378	0.340	0.151
NOJB107M004#WB	B	100	4	8.0	16	0.25	3	0.639	0.575	0.255	0.160	0.144	0.064
NOJC107M004#WJ	C	100	4	8.0	6	0.4	1	0.574	0.517	0.230	0.230	0.207	0.092
NOJC157M004#WJ	C	150	4	12.0	6	0.4	1	0.574	0.517	0.230	0.230	0.207	0.092
NOJD157M004#WJ	D	150	4	12.0	6	0.3	3	0.775	0.697	0.310	0.232	0.209	0.093
NOJC227M004#WJ	C	220	4	17.6	8	0.4	1	0.574	0.517	0.230	0.230	0.207	0.092
NOJD227M004#WJ	D	220	4	17.6	8	0.4	3	0.671	0.604	0.268	0.268	0.241	0.107
NOJD337M004#WJ	D	330	4	26.4	8	0.3	3	0.775	0.697	0.310	0.232	0.209	0.093
NOJD477M004#WJ	D	470	4	37.6	12	0.3	3	0.775	0.697	0.310	0.232	0.209	0.093
NOJE477M004#WJ	E	470	4	37.6	12	0.3	3	0.812	0.731	0.325	0.244	0.219	0.097
NOJE687M004#WJ	E	680	4	54.4	14	0.3	3	0.812	0.731	0.325	0.244	0.219	0.097
NOJV687M004#WJ	V	680	4	54.4	14	0.3	3	1.000	0.900	0.400	0.300	0.270	0.120
NOJV108M004#WJ	V	1000	4	80.0	18	0.3	3	1.000	0.900	0.400	0.300	0.270	0.120
6.3 Volt @ 85°C (4 Volt @ 105°C)													
NOJA475M006#WJ	A	4.7	6.3	1.1	6	3.2	1	0168	0.151	0.067	0.537	0.483	0.215
NOJA685M006#WJ	A	6.8	6.3	1.1	6	2.6	1	0.186	0.167	0.074	0.484	0.435	0.193
NOJA106M006#WJ	A	10	6.3	1.2	6	2.2	1	0.202	0.182	0.081	0.445	0.400	0.178
NOJA156M006#WJ	A	15	6.3	1.8	8	2	1	0.212	0.191	0.085	0.424	0.382	0.170
NOJB156M006#WJ	B	15	6.3	1.8	6	2	1	0.226	0.203	0.090	0.452	0.406	0.181
NOJA226M006#WJ	A	22	6.3	2.6	8	1.8	1	0.224	0.201	0.089	0.402	0.362	0.161
NOJB226M006#WJ	B	22	6.3	2.6	6	1.9	1	0.232	0.209	0.093	0.440	0.396	0.176
NOJB336M006#WJ	B	33	6.3	4.0	6	1.7	1	0.245	0.220	0.098	0.416	0.375	0.167

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.

For typical weight and composition see page 144.

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

OxiCap® NOJ Series

Niobium Oxide Capacitor

RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (Ω) @100kHz	MSL	100kHz RMS Current (A)			100kHz RMS Voltage (V)		
								25ºC	85ºC	105ºC	25ºC	85ºC	105ºC
6.3 Volt @ 85°C (4 Volt @ 105°C)													
NOJB336M006#WB	B	33	6.3	4.0	6	0.7	3	0.382	0.344	0.153	0.267	0.240	0.107
NOJC336M006#WJ	C	33	6.3	4.0	6	0.5	1	0.514	0.462	0.206	0.257	0.231	0.103
NOJB476M006#WJ	B	47	6.3	5.6	6	0.8	1	0.357	0.321	0.143	0.286	0.257	0.114
NOJC476M006#WJ	C	47	6.3	5.7	6	0.5	1	0.514	0.462	0.206	0.257	0.231	0.103
NOJB686M006#WJ	B	68	6.3	8.2	20	1.5	1	0.261	0.235	0.104	0.391	0.352	0.156
NOJC686M006#WJ	C	68	6.3	8.2	6	0.5	1	0.514	0.462	0.206	0.257	0.231	0.103
NOJB107M006#WJ	B	100	6.3	60.0	20	1.7	1	0.245	0.220	0.098	0.416	0.375	0.167
NOJB107M006#WB	B	100	6.3	60.0	20	0.4	3	0.505	0.454	0.202	0.202	0.182	0.081
NOJC107M006#WJ	C	100	6.3	12.0	8	0.4	1	0.574	0.517	0.230	0.230	0.207	0.092
NOJD107M006#WJ	D	100	6.3	12.0	6	0.4	3	0.671	0.604	0.268	0.268	0.241	0.107
NOJC157M006#WJ	C	150	6.3	18.0	6	0.4	1	0.574	0.517	0.230	0.230	0.207	0.092
NOJD157M006#WJ	D	150	6.3	18.0	6	0.4	3	0.671	0.604	0.268	0.268	0.241	0.107
NOJC227M006#WJ	C	220	6.3	26.4	14	0.4	1	0.574	0.517	0.230	0.230	0.207	0.092
NOJD227M006#WJ	D	220	6.3	26.4	8	0.4	3	0.671	0.604	0.268	0.268	0.241	0.107
NOJE227M006#WJ	E	220	6.3	26.4	12	0.4	3	0.704	0.633	0.281	0.281	0.253	0.113
NOJD337M006#WJ	D	330	6.3	39.6	10	0.3	3	0.775	0.697	0.310	0.232	0.209	0.093
NOJE337M006#WJ	E	330	6.3	39.6	12	0.3	3	0.812	0.731	0.325	0.244	0.219	0.097
NOJE477M006#WJ	E	470	6.3	56.4	16	0.3	3	0.812	0.731	0.325	0.244	0.219	0.097
NOJV477M006#WJ	V	470	6.3	56.4	14	0.3	3	1.000	0.900	0.400	0.300	0.270	0.120
10 Volt @ 85°C (7 Volt @ 105°C)													
NOJA475M010#WJ	A	4.7	10	1.0	6	3.1	1	0.170	0.153	0.068	0.528	0.475	0.211
NOJA685M010#WJ	A	6.8	10	1.4	6	2.6	1	0.186	0.167	0.074	0.484	0.435	0.193
NOJA106M010#WJ	A	10	10	2.0	6	2.2	1	0.202	0.182	0.081	0.445	0.400	0.178
NOJB106M010#WJ	B	10	10	2.0	6	1	1	0.319	0.287	0.128	0.319	0.287	0.128
NOJA156M010#WJ	A	15	10	3.0	6	2	1	0.212	0.191	0.085	0.424	0.382	0.170
NOJB156M010#WJ	B	15	10	3.0	6	2	1	0.226	0.203	0.090	0.452	0.406	0.181
NOJB226M010#WJ	B	22	10	4.4	6	1.8	1	0.238	0.214	0.095	0.428	0.386	0.171
NOJB226M010#WB	B	22	10	4.4	6	0.7	3	0.382	0.344	0.153	0.267	0.240	0.107
NOJC226M010#WJ	C	22	10	4.4	6	0.5	1	0.514	0.462	0.206	0.257	0.231	0.103
NOJC336M010#WJ	C	33	10	6.6	6	0.5	1	0.514	0.462	0.206	0.257	0.231	0.103
NOJC476M010#WJ	C	47	10	9.4	6	0.4	1	0.574	0.517	0.230	0.230	0.207	0.092
NOJC686M010#WJ	C	68	10	13.6	12	0.5	1	0.514	0.462	0.206	0.257	0.231	0.103
NOJD107M010#WJ	D	100	10	20.0	12	0.4	3	0.671	0.604	0.268	0.268	0.241	0.107
NOJD107M010#WB	D	100	10	20.0	12	0.15	3	1.095	0.986	0.438	0.164	0.148	0.066
NOJV227M010#WJ	V	220	10	44.0	12	0.4	3	0.866	0.779	0.346	0.364	0.312	0.139

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.

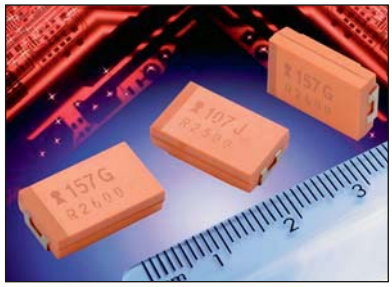
The EIA & CECC standards for capacitors allow an ESR movement to 1.25 times catalog limit post mounting.

For typical weight and composition see page 144.

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

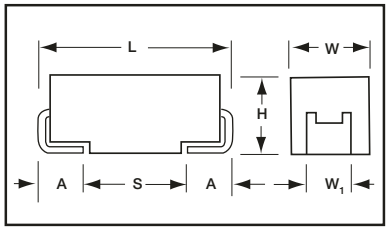
OxiCap® NOJ Series

Low Profile



- Non-burn safe technology
- Reliability level: 0.5%/1000 hrs.
- CV range: 2.2-470µF / 1.8-10V
- 7 case sizes in low profile available
- IBM global approval received in 2004
- Electra Award received in 2005

Elektra Award 2005



For part marking see page 151

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_1±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)	0.50 (0.020)	0.85 (0.033)
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_1 dimension applies to the termination width for A dimensional area only.
Pad Stand-off is 0.1±0.1.

HOW TO ORDER

NOJ	Y	107	M	006	R	WJ	–
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 010 = 10Vdc	**Packaging** R = Pure Tin 7" Reel S = Pure Tin 13" Reel	**Specification Suffix** WJ = Standard Suffix	**Additional characters may be added for special requirements** V = Dry pack Option (selected codes only) with exception of X, Y cases

TECHNICAL SPECIFICATIONS

Technical Data:		All technical data relate to an ambient temperature of +25°C is not stated					
Capacitance Range:		2.2 µF to 470 µF					
Capacitance Tolerance:		±20%					
Leakage Current DCL:		0.02CV					
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					

OxiCap® NOJ Series

Low Profile

CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated Voltage DC (V_R) to 85°C / 0.66 DC to 105°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 codes

Engineering samples - please contact manufacturer

*Codes under development - subject to change

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

LEAD-FREE

LEAD-FREE COMPATIBLE COMPONENT

RoHS COMPLIANT

NON-BURN NON-SMOKE

OxiCap® NOJ Series

Low Profile

RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (Ω) @100kHz	MSL	100kHz RMS Current (A)			100kHz RMS Voltage (V)		
								25ºC	85ºC	125ºC	25ºC	85ºC	125ºC
1.8 Volt @ 85°C (1.2 Volt @ 105°C)													
NOJP156M001#WJ	P	15	1.8	1.0	10	4.1	1	0.133	0.119	0.053	0.543	0.489	0.217
NOJS156M001#WJ	S	15	1.8	1.0	6	2	1	0.197	0.178	0.079	0.395	0.335	0.158
NOJP226M001#WJ	P	22	1.8	1.0	10	3.8	1	0.138	0.124	0.055	0.523	0.471	0.209
NOJS226M001#WJ	S	22	1.8	1.0	8	1.9	1	0.203	0.182	0.081	0.385	0.346	0.154
NOJT226M001#WJ	T	22	1.8	1.0	6	1.8	1	0.231	0.208	0.092	0.416	0.374	0.166
NOJT336M001#WJ	T	33	1.8	1.2	6	1.7	1	0.238	0.214	0.095	0.404	0.364	0.162
NOJT476M001#WJ	T	47	1.8	1.7	10	1.6	1	0.245	0.220	0.098	0.392	0.353	0.157
NOJW107M001#WJ	W	100	1.8	3.6	6	0.4	1	0.520	0.468	0.208	0.208	0.187	0.083
NOJX227M001#WJ	X	220	1.8	8.0	8	0.4	3	0.548	0.493	0.219	0.219	0.197	0.088
NOJY337M001#WJ	Y	330	1.8	11.9	8	0.3	3	0.707	0.636	0.283	0.212	0.191	0.085
NOJY477M001#WJ	Y	470	1.8	17.0	8	0.3	3	0.707	0.636	0.283	0.212	0.191	0.085
2.5 Volt @ 85°C (1.7 Volt @ 105°C)													
NOJP106M002#WJ	P	10	2.5	1.0	6	4.5	1	0.126	0.114	0.051	0.569	0.512	0.228
NOJS106M002#WJ	S	10	2.5	1.0	6	2.2	1	0.188	0.169	0.075	0.414	0.373	0.166
NOJP156M002#WJ	P	15	2.5	1.0	6	4	1	0.134	0.121	0.054	0.537	0.483	0.215
NOJS156M002#WJ	S	15	2.5	1.0	8	2	1	0.197	0.178	0.079	0.395	0.355	0.158
NOJT156M002#WJ	T	15	2.5	1.0	6	2	1	0.219	0.197	0.088	0.438	0.394	0.175
NOJP226M002#WJ	P	22	2.5	1.1	10	3.8	1	0.138	0.124	0.055	0.523	0.471	0.209
NOJT226M002#WJ	T	22	2.5	1.1	6	1.9	1	0.225	0.202	0.090	0.427	0.384	0.171
NOJT336M002#WJ	T	33	2.5	1.7	6	1.7	1	0.238	0.214	0.095	0.404	0.364	0.162
NOJT476M002#WJ	T	47	2.5	2.4	10	1.6	1	0.245	0.220	0.098	0.392	0.353	0.157
NOJW686M002#WJ	W	68	2.5	3.4	6	0.4	1	0.520	0.468	0.208	0.208	0.187	0.083
NOJW107M002#WJ	W	100	2.5	5.0	6	0.4	1	0.520	0.468	0.208	0.208	0.187	0.083
NOJX157M002#WJ	X	150	2.5	7.5	6	0.4	3	0.548	0.493	0.219	0.219	0.197	0.088
NOJY227M002#WJ	Y	220	2.5	11.0	8	0.4	3	0.612	0.551	0.245	0.245	0.220	0.098
NOJY337M002#WJ	Y	330	2.5	16.5	10	0.3	3	0.707	0.636	0.283	0.212	0.191	0.085
4 Volt @ 85°C (2.7 Volt @ 105°C)													
NOJP685M004#WJ	P	6.8	4	1.0	6	5.3	1	0.117	0.105	0.047	0.618	0.556	0.247
NOJS685M004#WJ	S	6.8	4	1.0	6	2.6	1	0.173	0.156	0.069	0.450	0.405	0.180
NOJP106M004#WJ	P	10	4	1.0	20	4.5	1	0.126	0.114	0.051	0.569	0.512	0.228
NOJS106M004#WJ	S	10	4	1.0	8	2.2	1	0.188	0.169	0.075	0.414	0.373	0.166
NOJT106M004#WJ	T	10	4	1.0	6	2.2	1	0.209	0.188	0.084	0.460	0.414	0.184
NOJP156M004#WJ	P	15	4	1.2	10	4.1	1	0.133	0.119	0.053	0.543	0.489	0.217
NOJT156M004#WJ	T	15	4	1.2	6	2	1	0.219	0.197	0.088	0.438	0.394	0.175
NOJT226M004#WJ	T	22	4	1.8	6	1.8	1	0.231	0.208	0.092	0.416	0.374	0.166
NOJT336M004#WJ	T	33	4	2.6	14	2	1	0.219	0.197	0.088	0.438	0.394	0.175
NOJW476M004#WJ	W	47	4	3.8	6	0.5	1	0.465	0.418	0.186	0.232	0.209	0.093
NOJW686M004#WJ	W	68	4	5.4	6	0.4	1	0.520	0.468	0.208	0.208	0.187	0.083
NOJW107M004#WJ	W	100	4	8.0	8	0.4	1	0.520	0.468	0.208	0.208	0.187	0.083
NOJX107M004#WJ	X	100	4	8.0	6	0.4	3	0.548	0.493	0.219	0.219	0.197	0.088
NOJY157M004#WJ	Y	150	4	12.0	6	0.4	3	0.612	0.551	0.245	0.245	0.220	0.098
NOJF227M004#WJ	F	220	4	17.6	10	0.4	1	0.548	0.493	0.219	0.219	0.197	0.088
NOJY227M004#WJ	Y	220	4	17.6	10	0.4	3	0.612	0.551	0.245	0.245	0.220	0.098
NOJY337M004#WJ	Y	330	4	26.4	12	0.3	3	0.707	0.636	0.283	0.212	0.191	0.085
6.3 Volt @ 85°C (4 Volt @ 105°C)													
NOJP475M006#WJ	P	4.7	6.3	1.0	6	6.1	1	0.109	0.098	0.043	0.663	0.596	0.265
NOJS475M006#WJ	S	4.7	6.3	1.0	6	3.2	1	0.156	0.141	0.062	0.500	0.450	0.200
NOJP685M006#WJ	P	6.8	6.3	1.0	10	5.2	1	0.118	0.106	0.047	0.612	0.551	0.245
NOJS685M006#WJ	S	6.8	6.3	1.0	8	2.7	1	0.170	0.153	0.068	0.459	0.413	0.184
NOJT685M006#WJ	T	6.8	6.3	1.0	6	2.6	1	0.192	0.173	0.077	0.500	0.450	0.200
NOJP106M006#WJ	P	10	6.3	1.2	10	4.5	1	0.126	0.114	0.051	0.569	0.512	0.228
NOJT106M006#WJ	T	10	6.3	1.2	6	2.2	1	0.209	0.188	0.084	0.460	0.414	0.184
NOJT226M006#WJ	T	22	6.3	2,6	8	1.8	1	0.231	0.208	0.092	0.416	0.374	0.166
NOJW336M006#WJ	W	33	6.3	4.0	6	0.5	1	0.465	0.418	0.186	0.232	0.209	0.093
NOJW476M006#WJ	W	47	6.3	5.7	6	0.5	1	0.465	0.418	0.186	0.232	0.209	0.093
NOJX686M006#WJ	X	68	6.3	8.2	6	0.5	3	0.490	0.441	0.196	0.245	0.220	0.098
NOJY686M006#WJ	Y	68	6.3	8.2	6	0.5	3	0.548	0.493	0.219	0.274	0.246	0.110
NOJF107M006#WJ	F	100	6.3	12	8	0.4	1	0.548	0.493	0.219	0.219	0.197	0.088
NOJY107M006#WJ	Y	100	6.3	12.0	6	0.4	3	0.612	0.551	0.245	0.245	0.220	0.098
NOJF157M006#WJ	F	150	6.3	18.0	8	0.4	1	0.548	0.493	0.219	0.219	0.197	0.088
NOJY157M006#WJ	Y	150	6.3	18.0	6	0.4	3	0.612	0.551	0.245	0.245	0.220	0.098
NOJY227M006#WJ	Y	220	6.3	26.4	10	0.4	3	0.612	0.551	0.245	0.245	0.220	0.098
10 Volt @ 85°C (7 Volt @ 105°C)													
NOJP225M010#WJ	P	2.2	10	1.0	8	8.3	1	0.093	0.084	0.037	0.773	0.696	0.309
NOJP335M010#WJ	P	3.3	10	1.0	8	7	1	0.101	0.091	0.041	0.710	0.639	0.284
NOJT475M010#WJ	T	4.7	10	1.0	6	3.1	1	0.176	0.158	0.070	0.546	0.491	0.218
NOJT685M010#WJ	T	6.8	10	1.4	6	2.6	1	0.192	0.173	0.077	0.500	0.450	0.200
NOJT106M010#WJ	T	10	10	2.0	6	2.2	1	0.209	0.188	0.084	0.460	0.414	0.184

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.

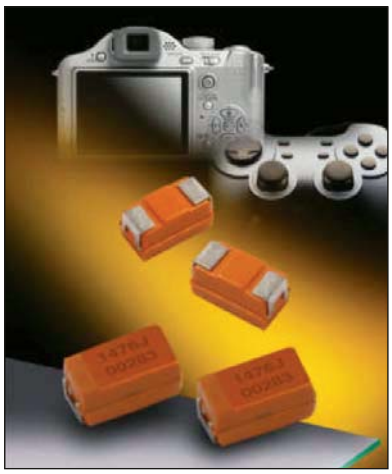
The EIA & CECC standards for capacitors allow an ESR movement to 1.25 times catalog limit post mounting.

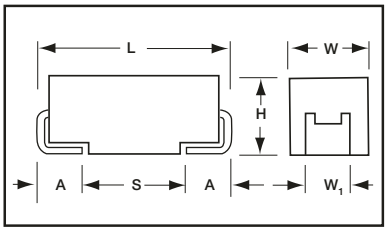
For typical weight and composition see page 144.

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

OxiCap® NLJ Series

Niobium Oxide Capacitors High CV Consumer Series





For part marking see page 151

- High Volumetric efficiency
- Environmentally friendly
- 3xreflow 260°C compatible
- Consumer applications
- OxiCap® non-burn technology
- RoHS compliance
- Lead-free solution
- 6 case sizes available
- CV range: 22-150µF / 4-10V

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)
G	1206	3216-15	3.20 (0.126)	1.60 (0.063)	1.50 (0.059) max	1.20 (0.047)	0.80 (0.031)	1.10 (0.043)
P	0805	2012-15	2.05 (0.081)	1.35 (0.053)	1.50 (0.059) max	1.00±0.10 (0.039±0.004)	0.50 (0.020)	0.85 (0.033)
S	1206	3216-12	3.20 (0.126)	1.60 (0.063)	1.20 (0.047) max	1.20 (0.047)	0.80 (0.031)	1.10 (0.043)
T	1210	3528-12	3.50 (0.138)	2.80 (0.110)	1.20 (0.047) max	2.20 (0.087)	0.80 (0.031)	1.40 (0.055)
W	2312	6032-15	6.00 (0.236)	3.20 (0.126)	1.50 (0.059) max	2.20 (0.087)	1.30 (0.051)	2.90 (0.114)
Y	2917	7343-20	7.30 (0.287)	4.30 (0.169)	2.00 (0.079) max	2.40 (0.094)	1.30 (0.051)	4.40 (0.173)

W_1 dimension applies to the termination width for A dimensional area only.

HOW TO ORDER

Under development

NLJ	A	476	M	006	R	1600
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** 004 = 4Vdc 006 = 6.3Vdc 010 = 10Vdc	**Packaging** R = Pure Tin 7" Reel S = Pure Tin 13" Reel	**ESR in mΩ**

TECHNICAL SPECIFICATIONS

Technical Data:		All technical data relate to an ambient temperature of +25°C			
Capacitance Range:		6.8 µF to 1000 µF			
Capacitance Tolerance:		±20%			
Leakage Current DCL:		0.1CV			
Rated Voltage DC (V_R)	-55°C ≤ +40°C:	4	6.3	10	
Category Voltage (V_C)	at 85°C:	2	3.15	5	
Category Voltage (V_C)	at 105°C:	1.32	2	3.3	
Temperature Range:		-55°C to +105°C with category voltage			
Reliability:		0.2% per 1000 hours at 85°C, 0.5xV_R, 0.1Ω/V series impedance with 60% confidence level			

OxiCap® NLJ Series

Niobium Oxide Capacitors High CV Consumer Series

CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated Voltage DC to 40°C / 0.5DC to 85°C / 0.33DC to 105°C		
µF	Code	4V (G)	6.3V (J)	10V (A)
6.8	685			K(4000)*/P(5000)*
10	106		K(4000)*	K(2200)*/P(6000)*
15	156	K(4000)*/P(4000)*	P(3500)*	L(2800)*/S(2000)*
22	226	P(4000)	L(2500)*/S(1800)	A(4000)/G(3000) L(2200)*
33	336	A(3000)*/S(1700)*	G(2200)/L(2500)*	A(1700)/T(1800)*
47	476	A(2600)*/G(2600)* L(1600)*	A(1600)/T(1600)	B(1000)/H(1000)* W(400)*
68	686	A(1500)*/T(1500)*	H(900)*	B(1400)*
100	107	H(900)*	B(1700)/W(600)*	C(1200)*/Y(1200)*
150	157	B(1500)/W(400)*		
220	227			D(1000)*
330	337		C(500)*/Y(500)*	
470	477	C(500)*/Y(500)*		
680	687		D(500)*	
1000	108	D(500)*		

Available Ratings, (ESR ratings in mOhms in brackets)

Engineering samples - please contact manufacturer

*Codes under development - subject to change

LEAD-FREE

LEAD-FREE COMPATIBLE COMPONENT

RoHS COMPLIANT

NON-BURN NON-SMOKE

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

RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	Maximum Surge Current (A)*	DCL (µA) Max.	ESR Max. (mΩ) @100kHz	MSL	100kHz Ripple Current (mA)			100kHz Ripple Voltage (mV)		
								25°C	85°C	105°C	25°C	85°C	105°C
4 Volt @ 85°C (1.32 Volt @ 105°C)													
NLJP226M004#4000	P	22	4	0.4	8.8	4000	3	134	121	54	537	483	215
NLJB157M004#1500	B	150	4	1.0	60.0	1500	3	261	235	104	391	352	156
NLJW157M004#0400	W	150	4	2.4	60.0	400	3	520	468	208	208	187	83
NLJC477M004#0500	C	470	4	2.1	188.0	500	3	514	462	206	257	231	103
NLJY477M004#0500	Y	470	4	2.1	188.0	500	3	548	493	219	274	246	110
NLJD108M004#0500	D	1000	4	2.1	400.0	500	3	600	540	240	300	270	120
6.3 Volt @ 85°C (2 Volt @ 105°C)													
NLJS226M006#1800	S	22	6.3	1.4	13.2	1800	3	208	187	83	375	337	150
NLJG336M006#2200	G	33	6.3	1.2	19.8	2200	3	195	176	78	430	387	172
NLJA476M006#1600	A	47	6.3	1.5	28.2	1600	3	237	213	98	379	342	152
NLJT476M006#1600	T	47	6.3	1.5	28.2	1600	3	245	220	98	392	353	157
NLJB107M006#1700	B	100	6.3	1.5	60.0	1700	3	245	220	98	416	375	167
NLJW107M006#0600	W	100	6.3	3.0	60.0	600	3	424	382	170	255	229	102
NLJC337M006#0500	C	330	6.3	3.3	198.0	500	3	514	462	206	257	231	103
NLJY337M006#0500	Y	330	6.3	3.3	198.0	500	3	548	493	219	274	246	110
NLJD687M006#0500	D	680	6.3	3.3	408.0	500	3	600	540	240	300	270	120
10 Volt @ 85°C (3.3 Volt @ 105°C)													
NLJA226M010#4000	A	22	10	1.1	22.0	4000	3	150	135	60	600	540	240
NLJG226M010#3000	G	22	10	1.4	22.0	3000	3	167	151	67	502	452	201
NLJA336M010#1700	A	33	10	2.3	33.0	1700	3	230	207	92	391	352	156
NLJB476M010#1000	B	47	10	3.4	47.0	1000	3	319	287	128	319	287	128
NLJW476M010#0400	W	47	10	5.9	47.0	400	3	520	468	208	208	187	83
NLJC107M010#1200	C	100	10	3.0	100.0	1200	3	332	298	133	398	358	159
NLJY107M010#1200	Y	100	10	3.0	100.0	1200	3	354	318	141	424	382	170
NLJD227M010#1000	D	220	10	3.4	220.0	1000	3	424	382	170	424	382	170

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

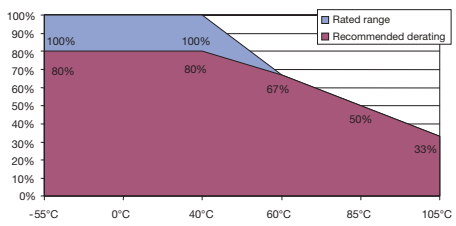
All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts. DCL is measured at rated voltage after 5 minutes.

ESR allowed to move up to 1.25 times catalogue limit post mounting
DCL allowed to move up to 2.00 times catalogue limit post mounting

For typical weight and composition see page 144.

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

Voltage vs Temperature Rating

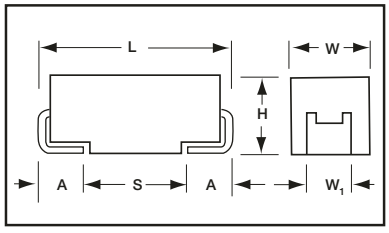


OxiCap® NOS Low ESR Series

Niobium Oxide Capacitor

- Low ESR Nb0 capacitors
- Non-burn safe technology
- Reliability level: 0.2%/1000 hrs.
- CV range: 10-1000µF / 1.8-6.3V
- 9 case sizes available
- IBM global approval received in 2004
- Electra Award received in 2005

Elektra Award 2005



For part marking see page 151

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)

W_1 dimension applies to the termination width for A dimensional area only.

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	**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	
Category Voltage (V_C)	≤ +125°C:	0.9	1.3	2	3	
Surge Voltage (V_S)	≤ +85°C:	2.3	3.3	5.2	8	
Surge Voltage (V_S)	≤ +125°C:	1.2	1.7	2.6	4	
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 / 0.66 DC to 105°C / 0.5 DC to 125°C			
µF	Code	1.8V (x)	2.5V (e)	4.0V (G)	6.3V (J)
4.7	475				
6.8	685				
10	106				A(800, 1000, 2000)
15	156			A(1500)	B(600)
22	226		A(900)	B(600)	B(600)
33	336			B(600)	B(600) C(500) W(250)
47	476		B(500)	B(500) C(300) W(150)	B(500) C(300)
68	686		C(200) W(150)	C(200)	C(75,200) X(100) Y(100)
100	107	B(350) W(150)	C(150)	C(70,150) X(100)	C(150) D(80,100) Y(100)
150	157		C(65,150) X(100)	C(90,150) Y(100)	D(50,70,100) Y(100)
220	227	C(125) X(100)	C(80,125) Y(100)	D(40,60,100) Y(100)	D(45,60,100) E(80,100)
330	337	Y(100)	D(35,50,100) Y(100)	D(35,55,100) E(100)/Y(150)	E(80,100)
470	477	Y(100)	D(35,55,100) E(100)	D(100) E(75,100)	E(75)/V(75)
680	687		E(60)	V(75)	
1000	108		V(50)		

Available Ratings, (ESR ratings in mOhms in brackets)

Engineering samples - please contact manufacturer

*Codes under development - subject to change

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

LEAD-FREE

LEAD-FREE COMPATIBLE COMPONENT

RoHS COMPLIANT

NON-BURN NON-SMOKE

OxiCap® NOS Low ESR Series

Niobium Oxide Capacitor

RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (mΩ) @100kHz	MSL	100kHz RMS Current (A)			100kHz RMS Voltage (V)		
								25ºC	85ºC	125ºC	25ºC	85ºC	125ºC
1.8 Volt @ 85°C (1.2 Volt @ 105°C, 0.9 Volt @ 125ºC)													
NOSB107M001#0350	B	100	1.8	3.6	6	350	1	0.540	0.486	0.216	0.189	0.170	0.076
NOSW107M001#0150	W	100	1.8	3.6	6	150	1	0.849	0.764	0.339	0.127	0.115	0.051
NOSC227M001#0125	C	220	1.8	8.0	8	125	1	1.028	0.925	0.411	0.128	0.116	0.051
NOSX227M001#0100	X	220	1.8	8.0	8	100	3	1.095	0.986	0.438	0.110	0.099	0.044
NOSY337M001#0100	Y	330	1.8	11.9	8	100	3	1.225	1.102	0.490	0.122	0.110	0.049
NOSY477M001#0100	Y	470	1.8	17.0	8	100	3	1.225	1.102	0.490	0.122	0.110	0.049
2.5 Volt @ 85°C (1.7 Volt @ 105°C, 1.3 Volt @ 125ºC)													
NOSA226M002#0900	A	22	2.5	1.1	6	900	1	0.316	0.285	0.126	0.285	0.256	0.114
NOSB476M002#0500	B	47	2.5	2.4	6	500	1	0.452	0.406	0.181	0.226	0.203	0.090
NOSC686M002#0200	C	68	2.5	3.4	6	200	1	0.812	0.731	0.325	0.162	0.146	0.065
NOSW686M002#0150	W	68	2.5	3.4	6	150	1	0.849	0.764	0.339	0.127	0.115	0.051
NOSC107M002#0150	C	100	2.5	5.0	6	150	1	0.938	0.844	0.375	0.141	0.127	0.056
NOSC157M002#0065	C	150	2.5	7.5	6	65	1	1.425	1.283	0.570	0.093	0.083	0.037
NOSC157M002#0150	C	150	2.5	7.5	6	150	1	0.938	0.844	0.375	0.141	0.127	0.056
NOSX157M002#0100	X	150	2.5	7.5	6	100	3	1.095	0.986	0.438	0.110	0.099	0.044
NOSC227M002#0080	C	220	2.5	11.0	8	80	1	1.285	1.156	0.514	0.103	0.092	0.041
NOSC227M002#0125	C	220	2.5	11.0	8	125	1	1.028	0.925	0.411	0.128	0.116	0.051
NOSY227M002#0100	Y	220	2.5	11.0	8	100	3	1.225	1.102	0.490	0.122	0.110	0.049
NOSD337M002#0035	D	330	2.5	16.5	10	35	3	2.268	2.041	0.907	0.079	0.071	0.032
NOSD337M002#0050	D	330	2.5	16.5	10	50	3	1.897	1.708	0.759	0.095	0.085	0.038
NOSD337M002#0100	D	330	2.5	16.5	10	100	3	1.342	1.207	0.537	0.134	0.121	0.054
NOSY337M002#0100	Y	330	2.5	16.5	10	100	3	1.225	1.102	0.490	0.122	0.110	0.049
NOSD477M002#0035	D	470	2.5	23.5	12	35	3	2.268	2.041	0.907	0.079	0.071	0.032
NOSD447M002#0055	D	470	2.5	23.5	12	55	3	1.809	1.628	0.724	0.099	0.090	0.040
NOSD447M002#0100	D	470	2.5	23.5	12	100	3	1.342	1.207	0.537	0.134	0.121	0.054
NOSE477M002#0100	E	470	2.5	23.5	10	100	3	1.407	1.266	0.563	0.141	0.127	0.056
NOSE687M002#0060	E	680	2.5	34.0	14	60	3	1.817	1.635	0.727	0.109	0.098	0.044
NOSV108M002#0050	V	1000	2.5	50.0	16	50	3	2.449	2.205	0.980	0.122	0.110	0.049
4 Volt @ 85°C (2.6 Volt @ 105°C, 2 Volt @ 125ºC)													
NOSA156M004#1500	A	15	4	1.2	6	1500	1	0.245	0.220	0.098	0.367	0.331	0.147
NOSB226M004#0600	B	22	4	1.8	6	600	1	0.412	0.371	0.165	0.247	0.223	0.099
NOSB336M004#0600	B	33	4	2.6	6	600	1	0.412	0.371	0.165	0.247	0.223	0.099
NOSB476M004#0500	B	47	4	3.8	6	500	1	0.452	0.406	0.181	0.226	0.203	0.090
NOSC476M004#0300	C	47	4	3.8	6	300	1	0.663	0.597	0.265	0.199	0.179	0.080
NOSW476M004#0150	W	47	4	3.8	6	150	1	0.849	0.764	0.339	0.127	0.115	0.051
NOSC686M004#0200	C	68	4	5.4	6	200	1	0.812	0.731	0.325	0.162	0.146	0.065
NOSC107M004#0070	C	100	4	8.0	6	70	1	1.373	1.236	0.549	0.096	0.087	0.038
NOSC107M004#0150	C	100	4	8.0	6	150	1	0.938	0.844	0.375	0.141	0.127	0.056
NOSX107M004#0100	X	100	4	8.0	6	100	3	1.095	0.986	0.438	0.110	0.099	0.044
NOSC157M004#0090	C	150	4	12.0	6	90	1	1.211	1.090	0.484	0.109	0.098	0.044
NOSC157M004#0150	C	150	4	12.0	6	150	1	0.938	0.844	0.375	0.141	0.127	0.056
NOSY157M004#0100	Y	150	4	12.0	6	100	3	1.225	1.102	0.490	0.122	0.110	0.049
NOSD227M004#0040	D	220	4	17.6	8	40	3	2.121	1.909	0.849	0.085	0.076	0.034
NOSD227M004#0060	D	220	4	17.6	8	60	3	1.732	1.559	0.693	0.104	0.094	0.042
NOSD227M004#0100	D	220	4	17.6	8	100	3	1.342	1.207	0.537	0.134	0.121	0.054
NOSY227M004#0100	Y	220	4	17.6	10	100	3	1.225	1.102	0.490	0.122	0.110	0.049
NOSD337M004#0035	D	330	4	26.4	8	35	3	2.268	2.041	0.907	0.079	0.071	0.032
NOSD337M004#0055	D	330	4	26.4	8	55	3	1.809	1.628	0.724	0.099	0.090	0.040
NOSD337M004#0100	D	330	4	26.4	8	100	3	1.342	1.207	0.537	0.134	0.121	0.054
NOSE337M004#0100	E	330	4	26.4	8	100	3	1.407	1.266	0.563	0.141	0.127	0.056
NOSY337M004#0150	Y	330	4	26.4	12	150	3	1.000	0.900	0.400	0.150	0.135	0.060
NOSD477M004#0100	D	470	4	37.6	12	100	3	1.342	1.207	0.537	0.134	0.121	0.054
NOSE477M004#0075	E	470	4	37.6	12	75	3	1.625	1.462	0.650	0.122	0.110	0.049
NOSE477M004#0100	E	470	4	37.6	12	100	3	1.407	1.266	0.563	0.141	0.127	0.056
NOSV687M004#0075	V	680	4	54.4	14	75	3	2.000	1.800	0.800	0.150	0.135	0.060

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.

ESR allowed to move, up to 1.25 times catalog limit post mounting.

For typical weight and composition see page 144.

NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part 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)	DCL (µA) Max.	DF % Max.	ESR Max. (mΩ) @100kHz	MSL	100kHz RMS Current (A)			100kHz RMS Voltage (V)		
								25ºC	85ºC	125ºC	25ºC	85ºC	125ºC
6.3 Volt @ 85°C (4 Volt @ 105°C, 3 Volt @ 125ºC)													
NOSA106M006#0800	A	10	6.3	1.2	6	800	1	0.335	0.302	0.134	0.268	0.241	0.107
NOSA106M006#1000	A	10	6.3	1.2	6	1000	1	0.300	0.270	0.120	0.300	0.270	0.120
NOSA106M006#2000	A	10	6.3	1.2	6	2000	1	0.212	0.191	0.085	0.424	0.382	0.170
NOSB156M006#0600	B	15	6.3	1.8	6	600	1	0.412	0.371	0.165	0.247	0.223	0.099
NOSB226M006#0600	B	22	6.3	2.6	6	600	1	0.412	0.371	0.165	0.247	0.223	0.099
NOSB336M006#0600	B	33	6.3	4.0	6	600	1	0.412	0.371	0.165	0.247	0.223	0.099
NOSC336M006#0500	C	33	6.3	4.0	6	500	1	0.514	0.462	0.206	0.257	0.231	0.103
NOSW336M006#0250	W	33	6.3	4.0	6	250	1	0.657	0.592	0.263	0.164	0.148	0.066
NOSB476M006#0500	B	47	6.3	5.6	6	500	1	0.452	0.406	0.181	0.226	0.203	0.090
NOSC476M006#0300	C	47	6.3	5.7	6	300	1	0.663	0.597	0.265	0.199	0.179	0.080
NOSC686M006#0075	C	68	6.3	8.2	6	75	1	1.327	1.194	0.531	0.099	0.090	0.040
NOSC686M006#0200	C	68	6.3	8.2	6	200	1	0.812	0.731	0.325	0.162	0.146	0.065
NOSX686M006#0100	X	68	6.3	8.2	6	100	3	1.095	0.986	0.438	0.110	0.099	0.044
NOSY686M006#0100	Y	68	6.3	8.2	6	100	3	1.225	1.102	0.490	0.122	0.110	0.049
NOSC107M006#0150	C	100	6.3	12.0	8	150	1	0.938	0.844	0.375	0.141	0.127	0.056
NOSD107M006#0080	D	100	6.3	12.0	6	80	3	1.500	1.350	0.600	0.120	0.108	0.048
NOSD107M006#0100	D	100	6.3	12.0	6	100	3	1.342	1.207	0.537	0.134	0.121	0.054
NOSY107M006#0100	Y	100	6.3	12.0	6	100	3	1.225	1.102	0.490	0.122	0.110	0.049
NOSD157M006#0050	D	150	6.3	18.0	6	50	3	1.897	1.708	0.759	0.095	0.085	0.038
NOSD157M006#0070	D	150	6.3	18.0	6	70	3	1.604	1.443	0.641	0.112	0.101	0.045
NOSD157M006#0100	D	150	6.3	18.0	6	100	3	1.342	1.207	0.537	0.134	0.121	0.054
NOSY157M006#0100	Y	150	6.3	18.0	6	100	3	1.225	1.102	0.490	0.122	0.110	0.049
NOSD227M006#0045	D	220	6.3	26.4	8	45	3	2.000	1.800	0.800	0.090	0.081	0.036
NOSD227M006#0060	D	220	6.3	26.4	8	60	3	1.732	1.559	0.693	0.104	0.094	0.042
NOSD227M006#0100	D	220	6.3	26.4	8	100	3	1.342	1.207	0.537	0.134	0.121	0.054
NOSE227M006#0080	E	220	6.3	26.4	12	80	3	1.573	1.416	0.629	0.126	0.113	0.050
NOSE227M006#0100	E	220	6.3	26.4	12	100	3	1.407	1.266	0.563	0.141	0.127	0.056
NOSE337M006#0080	E	330	6.3	39.6	12	80	3	1.573	1.416	0.629	0.126	0.113	0.050
NOSE337M006#0100	E	330	6.3	39.6	12	100	3	1.407	1.266	0.563	0.141	0.127	0.056
NOSE477M006#0075	E	470	6.3	56.4	16	75	3	1.625	1.462	0.650	0.122	0.110	0.049
NOSV477M006#0075	V	470	6.3	56.4	14	75	3	2.000	1.800	0.800	0.150	0.135	0.060

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.

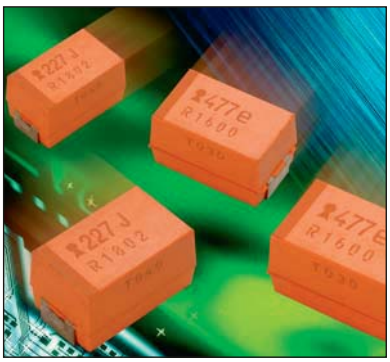
The EIA & CECC standards for low ESR Solid Tantalum Capacitors allow an ESR movement to 1.25 times catalogue limit post mounting.

For typical weight and composition see page 144.

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

OxiCap® NOM Low ESR Multianodes

Niobium Oxide Capacitor

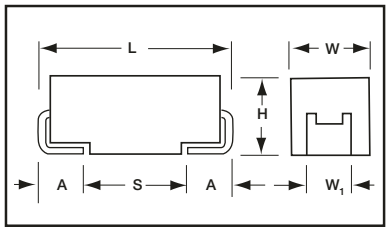


- Multi-anode construction
- Super low ESR
- Non-burn safe technology
- CV range: 220-680µF / 1.8-6.3V
- IBM global approval received in 2004
- Electra award received in 2005

LEAD-FREE
LEAD-FREE COMPATIBLE COMPONENT

RoHS COMPLIANT

Elektra Award 2005



For part marking see page 151

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.
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)
W_1 dimension applies to the termination width for A dimensional area only.								

HOW TO ORDER

NOM **E** **227** **M** **006** **R** **0040**

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

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

ESR in mΩ

TECHNICAL SPECIFICATIONS

Technical Data:		All technical data relate to an ambient temperature of +25°C is not stated				
Capacitance Range:		220 µF to 680 µF				
Capacitance Tolerance:		±20%				
Leakage Current DCL:		0.02CV				
Rated Voltage DC (V_R)	≤ +85°C:	1.8	2.5	4	6.3	
Category Voltage (V_C)	≤ +125°C:	0.9	1.3	2	3	
Surge Voltage (V_S)	≤ +85°C:	2.3	3.3	5.2	8	
Surge Voltage (V_S)	≤ +125°C:	1.2	1.7	2.6	4	
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® NOM Low ESR Multianodes

Niobium Oxide Capacitor

CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated Voltage DC (V_R) to 85°C / 0.66 DC to 105°C / 0.5 DC to 125°C			
µF	Code	1.8V (x)	2.5V (e)	4.0V (G)	6.3V (J)
220	227				E(40)
330	337			E(35)	E(23,35)
470	477		E(30)	E(23,30)	
680	687	E(23)	E(23)		

Available Ratings, (ESR ratings in mOhms in brackets)

Engineering samples - please contact manufacturer

*Codes under development - subject to change

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

LEAD-FREE

LEAD-FREE COMPATIBLE COMPONENT

RoHS COMPLIANT

NON-BURN NON-SMOKE

RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (mΩ) @100kHz	MSL	100kHz RMS Current (A)			100kHz RMS Voltage (V)		
								25°C	85°C	125°C	25°C	85°C	125°C
1.8 Volt @ 85°C (1.2 Volt @ 105°C / 0.9 Volt @ 125°C)													
NOME687M001#0023	E	680	1.8	24.5	6	23	3	3.753	3.378	1.501	0.086	0.078	0.035
2.5 Volt @ 85°C (1.7 Volt @ 105°C / 1.3 Volt @ 125°C)													
NOME477M002#0030	E	470	2.5	23.5	10	30	3	3.286	2.958	1.315	0.099	0.089	0.039
NOME687M002#0023	E	680	2.5	34	6	23	3	3.753	3.378	1.501	0.086	0.078	0.035
4 Volt @ 85°C (2.6 Volt @ 105°C / 2 Volt @ 125°C)													
NOME337M004#0035	E	330	4	26.4	8	35	3	3.043	2.738	1.217	0.106	0.096	0.043
NOME477M004#0023	E	470	4	37.6	6	23	3	3.753	3.378	1.501	0.086	0.078	0.035
NOME477M004#0030	E	470	4	37.6	6	30	3	3.286	2.958	1.315	0.099	0.089	0.039
6.3 Volt @ 85°C (4 Volt @ 105°C / 3 Volt @ 125°C)													
NOME227M006#0040	E	220	6.3	26.4	12	40	3	2.846	2.561	1.138	0.114	0.102	0.046
NOME337M006#0023	E	330	6.3	39.6	6	23	3	3.753	3.378	1.501	0.086	0.078	0.035
NOME337M006#0035	E	330	6.3	39.6	6	35	3	3.043	2.738	1.217	0.106	0.096	0.043

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.

ESR allowed to move up to 125 times catalog limit post mounting.

For typical weight and composition see page 144.

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