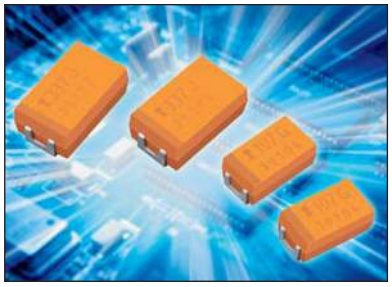
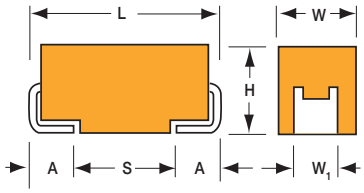
THE DATASHEET OF

NOJA476M004RWJ

OxiCap® NOJ Series

Standard and Low Profile Niobium Oxide Capacitors





FEATURES

- Non-burn safe technology
- Reliability level: 0.5%/1000 hours at 85ºC
- 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

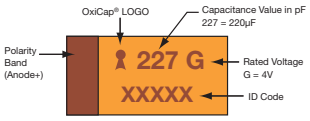
Elektra Award 2005

APPLICATIONS

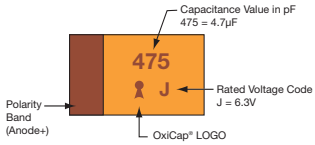
- Automotive, Avionics, Digital, FPGA, Industrial low voltage control circuits
- Downsized industrial and automotive DC/DC converters

MARKING

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



P CASE



STANDARD CASE DIMENSIONS: millimeters (inches)

Code	EIA Code	EIA Metric	L±0.20 (0.008)	W+0.20 (0.008) –0.10 (0.004)	H+0.20 (0.008) –0.10 (0.004)	W_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_1 dimension applies to the termination width for A dimensional area only.

LOW PROFILE CASE DIMENSIONS: millimeters (inches)

Code	EIA Code	EIA Metric	L±0.20 (0.008)	W+0.20 (0.008) –0.10 (0.004)	H Max	W_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	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					

OxiCap® NOJ Series

Standard and Low Profile Niobium Oxide Capacitors

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

Capacitance		Rated Voltage DC (V_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

OxiCap® NOJ Series

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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	0168	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.

QUALIFICATION TABLE

TEST	NOJ series (Temperature range -55ºC to +105ºC)		
	Condition	Characteristics	
Endurance	Apply rated voltage (Ur) at 85ºC and / or category voltage (Uc) at 105ºC for 2000 hours through a circuit impedance of ≤0.1Ω/V. Stabilize at room temperature for 1-2 hours before measuring.	Visual examination	no visible damage
		DCL	initial limit
		ΔC/C	within ±10% of initial value
		DF	initial limit
		ESR	1.25 x initial limit
Storage Life	Store at 105ºC, no voltage applied, for 2000 hours. Stabilize at room temperature for 1-2 hours before measuring.	Visual examination	no visible damage
		DCL	initial limit
		ΔC/C	within ±10% of initial value
		DF	initial limit
		ESR	1.25 x initial limit
Humidity	Store at 65ºC 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
		ΔC/C	within ±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°C relative humidity for 1000 hours. Stabilize at room temperature and humidity for 1-2 hours before measuring.	Visual examination	no visible damage
		DCL	2 x initial limit
		ΔC/C	within ±10% of initial value
		DF	1.2 x initial limit
		ESR	1.25 x initial limit

Temperature Stability

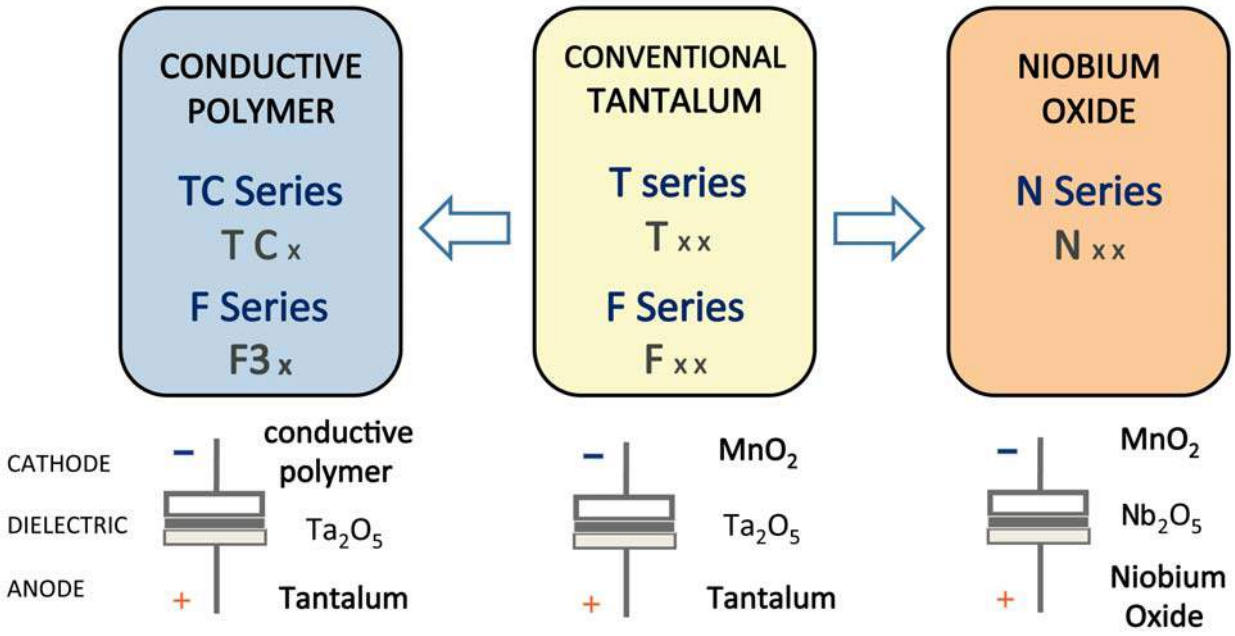
Step	Temperature°C	Duration(min)
1	+20	15
2	-55	15
3	+20	15
4	+85	15
5	+105	15
6	+20	15

	+20ºC	-55ºC	+20ºC	+85ºC	+105ºC	+20ºC
DCL	IL*	n/a	IL*	10 x IL*	12.5 x IL*	IL*
ΔC/C	n/a	+0/-10%	±5%	+10/-0%	+12/-0%	±5%
DF	IL*	1.5 x IL*	IL*	1.5 x IL*	2 x IL*	IL*
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*

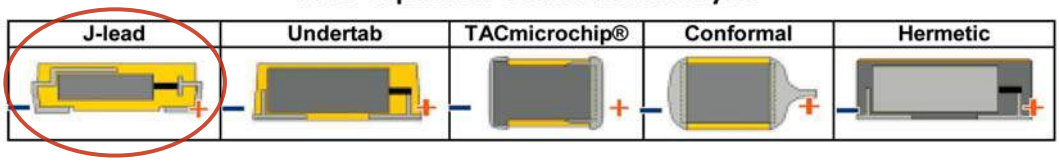
Surge Voltage	Apply 1.3x category voltage (Uc) at 105ºC for 1000 cycles of duration 6 min (30 sec charge, 5 min 30 sec discharge) through a charge / discharge resistance of 1000Ω	Visual examination	no visible damage
		DCL	initial limit
		ΔC/C	within ±5% of initial value
		DF	initial limit
		ESR	1.25 x initial limit
Mechanical Shock	MIL-STD-202, Method 213, Condition F	Visual examination	no visible damage
		DCL	initial limit
		ΔC/C	within ±5% of initial value
		DF	initial limit
		ESR	1.25 x initial limit
Vibration	MIL-STD-202, Method 204, Condition D	Visual examination	no visible damage
		DCL	initial limit
		ΔC/C	within ±5% of initial value
		DF	initial limit
		ESR	1.25 x initial limit

*Initial Limit

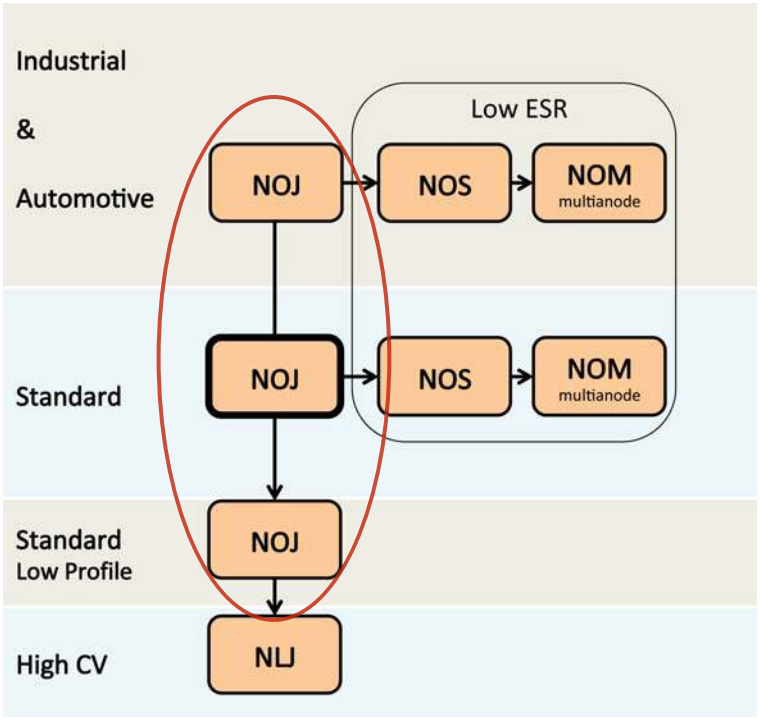
AVX SOLID ELECTROLYTIC CAPACITOR ROADMAP



Five Capacitor Construction Styles



SERIES LINE UP: NIOBIUM OXIDE OXICAP® CAPACITORS



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