

OxiCap® NLJ Series



Niobium Oxide Capacitors High CV Consumer Series



FEATURES

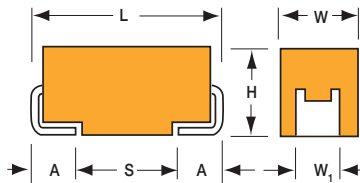
- High Volumetric efficiency
- Environmentally friendly
- 3xreflow 260°C compatible
- Consumer applications
- OxiCap® non-burn technology
- RoHS compliance
- Lead-free solution
- 6 case sizes available
- CV range: 22-150µF / 4-10V



Elektra Award
2005

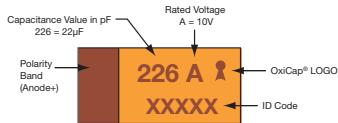
APPLICATIONS

- Consumer handhelds and entertainment

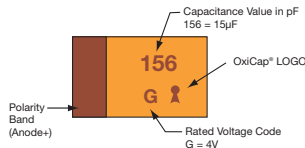


MARKING

F, S, T, W, X, Y CASE



P CASE



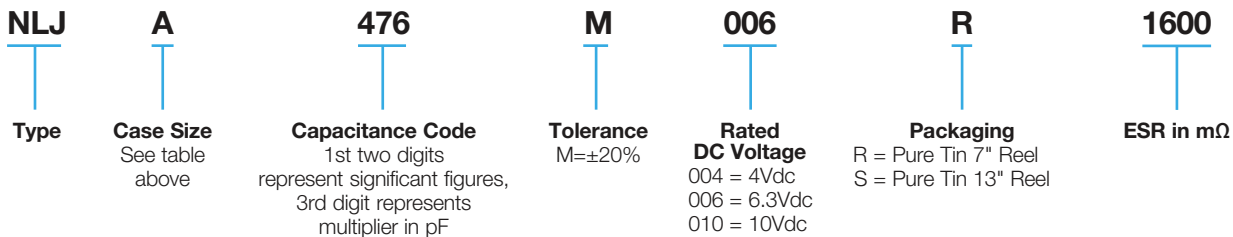
CASE DIMENSIONS: millimeters (inches)

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)

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

Under development

HOW TO ORDER



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	3.2	5
Category Voltage (V _C)	at 105°C:	1.3	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			



CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated Voltage DC to 40°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)*		

Released ratings, (ESR ratings in mOhms in parentheses)

Engineering samples - please contact AVX

*Ratings under development - subject to change

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.

RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	Rated Temperature (°C)	Category Voltage (V)	Category Temperature (°C)	Maximum Surge Current (A)	DCL Max. (µA)	ESR Max. @ 100kHz (mΩ)	100kHz RMS Current (mA)			MSL
										25°C	85°C	105°C	
4 Volt @ 85°C													
NLJP226M004#4000	P	22	4	85	1.3	105	0.4	8.8	4000	134	121	54	3
NLJB157M004#1500	B	150	4	85	1.3	105	1.0	60.0	1500	261	235	104	3
6.3 Volt @ 85°C													
NLJS226M006#1800	S	22	6.3	85	2	105	1.4	13.2	1800	208	187	83	3
NLJG336M006#2200	G	33	6.3	85	2	105	1.2	19.8	2200	195	176	78	3
NLJA476M006#1600	A	47	6.3	85	2	105	1.5	28.2	1600	237	213	98	3
NLJT476M006#1600	T	47	6.3	85	2	105	1.5	28.2	1600	245	220	98	3
NLJB107M006#1700	B	100	6.3	85	2	105	1.5	60.0	1700	245	220	98	3
10 Volt @ 85°C													
NLJA226M010#4000	A	22	10	85	3.3	105	1.1	22.0	4000	150	135	60	3
NLJG226M010#3000	G	22	10	85	3.3	105	1.4	22.0	3000	167	151	67	3
NLJA336M010#1700	A	33	10	85	3.3	105	2.3	33.0	1700	230	207	92	3
NLJB476M010#1000	B	47	10	85	3.3	105	3.4	47.0	1000	319	287	128	3

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

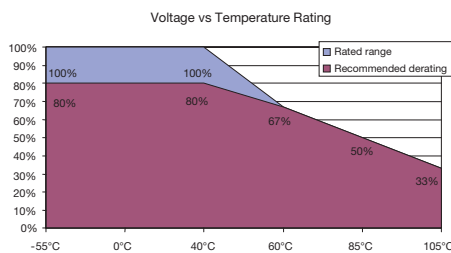
All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts. DCL is measured at rated voltage after 5 minutes.

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 257.

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

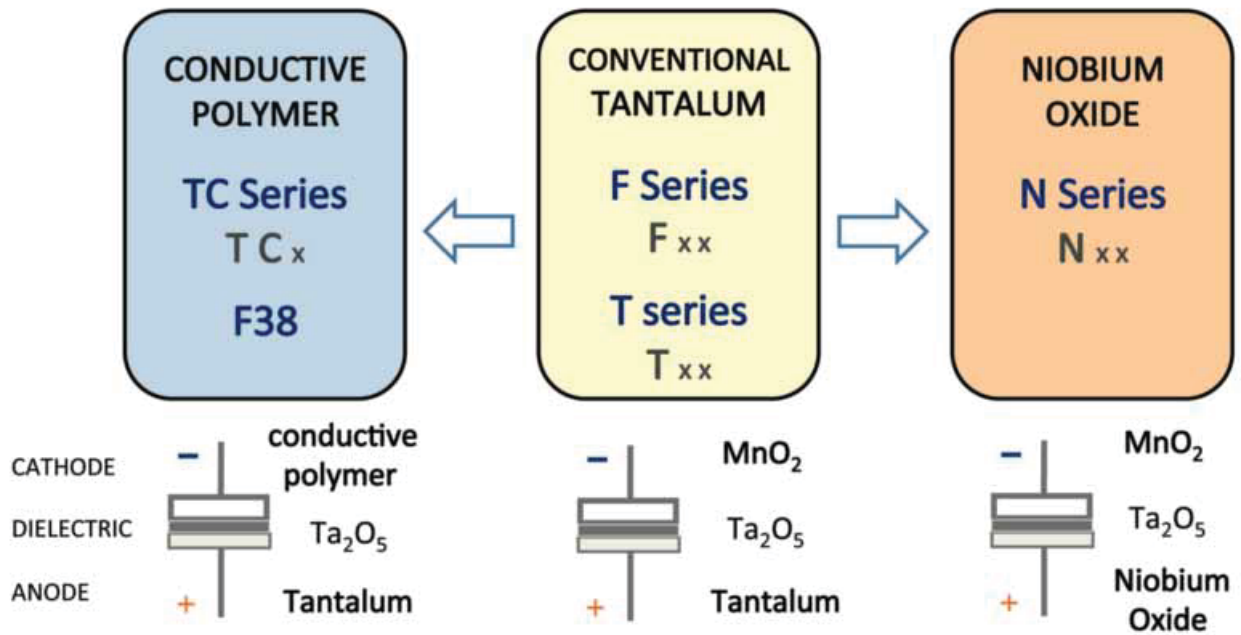


QUALIFICATION TABLE

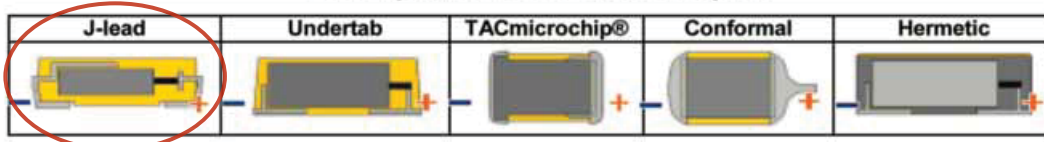
TEST	NLJ series (Temperature range -55°C to +105°C)										
	Condition			Characteristics							
Endurance	Determine after application of rated voltage for 2000 +48/-0 hours at 40±2°C and then leaving 1-2 hours at room temperature. Also determine of 85°C temperature, category voltage for 2000 +48/-0 hours and then leaving 1-2 hours at room temperature. Power supply impedance to be ≤0.1Ω/V.			Visual examination	no visible damage						
				DCL	2 x initial limit						
				ΔC/C	within ±10% of initial value						
				ESR	1.25 x initial limit						
Humidity	Determine after storage without applied voltage at 65±2°C and 90-95±2% relative humidity for 500hrs and then recovery 1-2 hours at room temperature.			Visual examination	no visible damage						
				DCL	2 x initial limit						
				ΔC/C	within ±10% of initial value						
				ESR	1.25 x initial limit						
Temperature Stability	Step	Temperature°C	Duration(min)		+20°C	-55°C	+20°C	+85°C	+105°C	+20°C	
	1	+20±2	15	DCL	2 x IL*	n/a	2 x IL**	10 x IL*	12.5 x IL*	2 x IL*	
	2	-55+0/-3	15		ΔC/C	n/a	+0/-20%	±5%	+20/-0%	+25/-0%	±5%
	3	+20±2	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*
	4	+85+3/-0	15								
	5	+105+3/-0	15								
	6	+20±2	15								
Surge Voltage	Test temperature: 40°C+3/0°C Test voltage: 1.3 x rated voltage Series protection resistance 1000±100Ω Discharge resistance: 1000Ω Number of cycles: 1000x Cycle duration: 6 min; 30 sec charge, 5 min 30 sec discharge			Visual examination	no visible damage						
				DCL	2 x initial limit						
				ΔC/C	within ±5% of initial value						
				ESR	1.25 x initial limit						

*Initial Limit

AVX SOLID ELECTROLYTIC CAPACITOR ROADMAP



Five Capacitor Construction Styles



SERIES LINE UP: NIOBIUM OXIDE OXICAP® CAPACITORS

