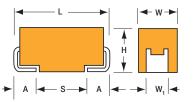
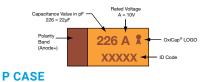
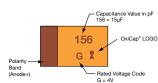
OxiCap[®] NLJ Series Niobium Oxide Capacitors High CV Consumer Series



MARKING

A, B, G, S, T CASE





FEATURES

- High Volumetric Efficiency
- Environmentally Friendly
- 3x Reflow 260°C Compatible
- 100% Surge Current Tested
- Consumer Applications
- OxiCap[®] Non-Burn Technology
- RoHS Compliance
- Lead-Free Solution
- 6 Case Sizes Available
- CV Range: 22-150µF / 4-10V

APPLICATIONS

Consumer Handhelds and Entertainment



LEAD-FREE COMPATIBLE COMPONENT

RoHS

COMPLIANT



KY<u>OCERa</u>

Elektra Award 2005

millimeters (inches)

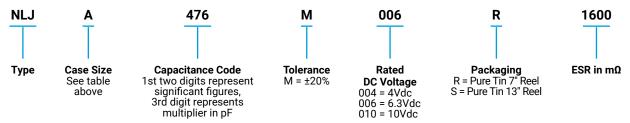


CASE DIMENSIONS:

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.
Α	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)
В	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)
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)
Р	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)
т	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_1 dimension applies to the termination width for A dimensional area only.

HOW TO ORDER



TECHNICAL SPECIFICATIONS

Technical Data:		All techr	nical data	relate to	an ambient temperature of +25°C
Capacitance Range:		22 µF to	150 µF		
Capacitance Tolerance:		±20%			
Leakage Current DCL:		0.1CV			
Rated Voltage (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 v	with cate	gory voltage
Reliability:			r 1000 ho 6 confide		$^{\circ}$ C, 0.5xV _R , 0.1 Ω /V series impedance

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CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

Сарас	itance	Rated Voltage DC to 40°C							
μF	Code	4V (G)	6.3V (J)	10V (A)					
22	226	P(4000)	S(1800)	A(4000)/G(3000)					
33	336		G(2200)	A(1700)					
47	476		A(1600)/T(1600)	B(1000)					
68	686								
100	107		B(1700)						
150	157	B(1500)							

Released ratings, (ESR ratings in mOhms in parentheses)

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

RATINGS & PART NUMBER REFERENCE

Part Number	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)			
										25°C	85°C	105°C	MSL
4 Volt @ 85°C										·			
NLJP226M004#4000	P	22	4	85	1.3	105	0.4	8.8	4000	134	121	54	3
NLJB157M004#1500	В	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	Т	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 V	olt @ 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	В	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 $\pm 25^{\circ}$ 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.

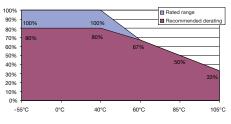
ESR allowed to move up to 1.25 times catalogue limit post mounting

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

For typical weight and composition see page 259.

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

Voltage vs Temperature Rating



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OxiCap® NLJ Series Niobium Oxide Capacitors High CV Consumer Series



QUALIFICATION TABLE

TEST	NLJ series (Temperature range -55°C to +105°C)										
IESI		Condition	Characteristics								
		ge (Ur) at 40°C and /	Visual examination	no visible damage							
		5°C for 2000 hours th	DCL	2 x initial	2 x initial limit						
Endurance		$1\Omega/V$. Stabilize at roc	ΔC/C	within ±1	within ±10% of initial value						
	for 1-2 hours befo	ore measuring.	ESR	1.25 x initial limit							
	Store at 65°C and	d 90-95% relative hum	Visual examination	no visible damage							
		plied voltage. Stabiliz	DCL		2 x initial limit						
Humidity	temperature and	, humidity for 1-2 hour	ΔC/C	within ±10% of initial value							
	measuring.	-		ESR	1.25 x ini	tial limit					
	Step	Temperature°C +20	Duration(min) 15	_	+20°C	-55°C	+20°C	+85°C	+105°C	+20°C	
Temperature	1 2	-55	15	DCL	2 x IL*	n/a	2 x IL**	10 x IL*	12.5 x IL*	2xIL*	
Stability	3	+20 +85	15 15		n/a	+0/-20%	±5%	+20/-0%	+25/-0%	±5%	
-	5	+105	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	
	6	+20	15			-	1.20 X IL	1.20 AIL	1.20 X IL	1.20 AIL	
	Apply 1 3x rated y	voltage (Ur) at 40°C f	or 1000 cycles of	Visual examination	no visible damage						
Surge		0 sec charge, 5 min 3	DCL	2 x initial limit							
Voltage		/ discharge resistan	ΔC/C	within ±5% of initial value							
		-		ESR	1.25 x initial limit						
			Visual examination	no visible damage							
Mechanical			DCL	initial limit							
Shock	MIL-STD-202, Me	thod 213, Condition (ΔC/C	within ±5% of initial value							
SHOCK			DF	initial lim	initial limit						
			ESR	initial limit							
			Visual examination	no visible damage							
				DCL	initial limit						
Vibration	MIL-STD-202, Me	thod 204, Condition [C	ΔC/C	within ±5% of initial value						
				DF	initial lim	initial limit					
				ESR	initial lim	nit					

*Initial Limit

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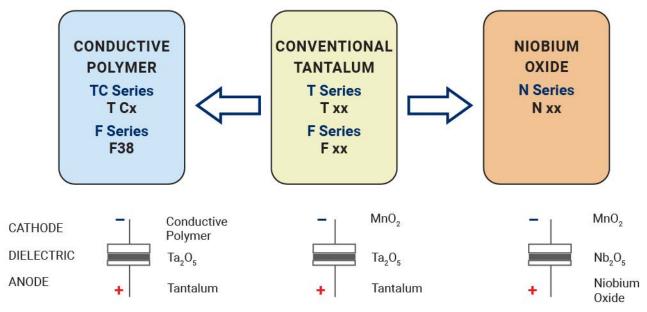
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OxiCap® NLJ Series

Niobium Oxide Capacitors High CV Consumer Series



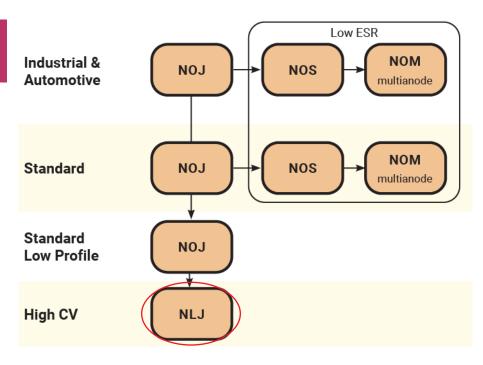
SOLID ELECTROLYTIC CAPACITOR ROADMAP



FIVE CAPACITOR CONSTRUCTION STYLES



SERIES LINE UP : NIOBIUM OXIDE OxiCap® CAPACITORS



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