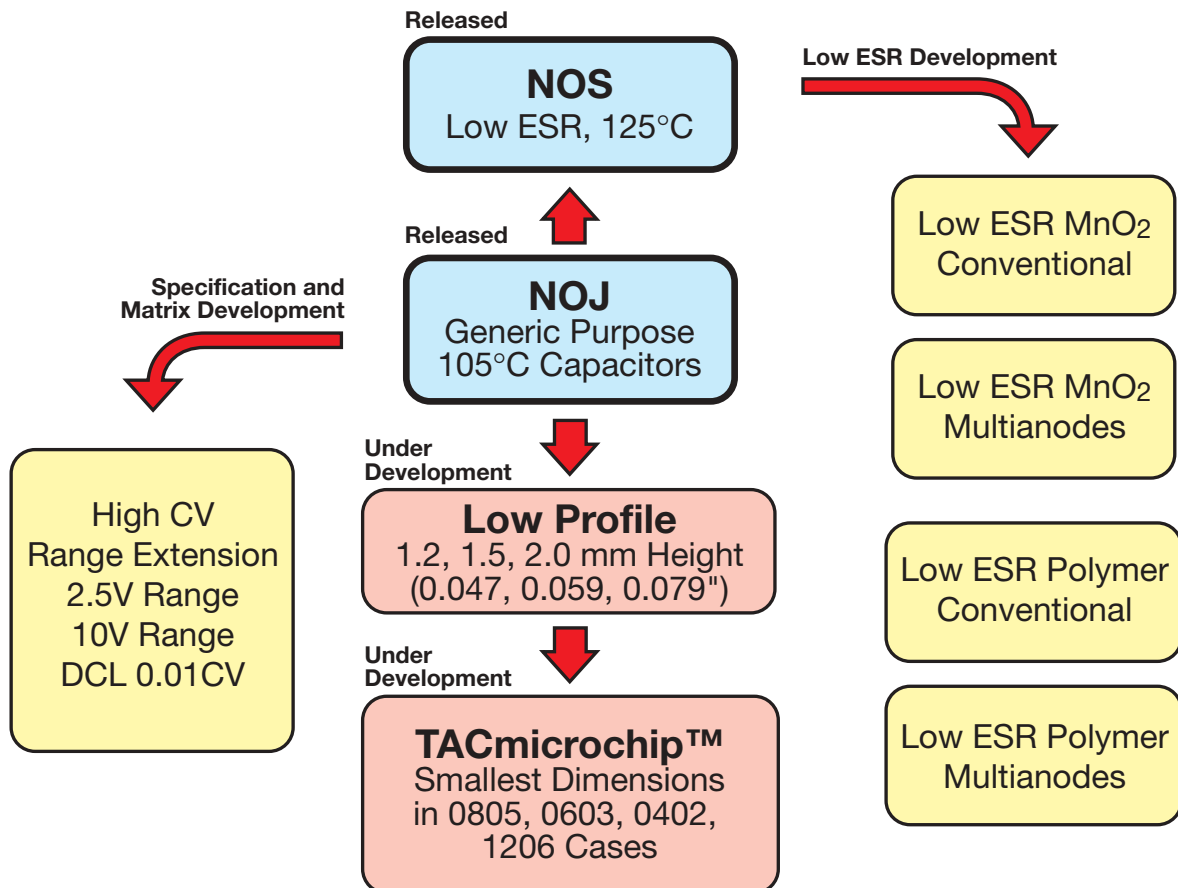


Section 2: Niobium Oxide Capacitors*

OxiCap™ NOJ Series and NOS Series

DEVELOPMENT ROADMAP

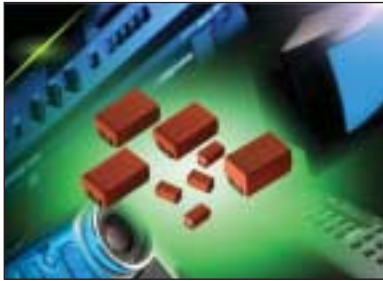


*Niobium Oxide Capacitors are manufactured and sold under patent license from Cabot Corporation, Boyertown, Pennsylvania U.S.A.

OxiCap™ NOJ Series



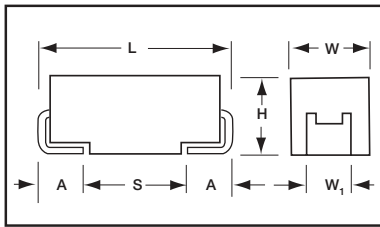
Niobium Oxide Capacitor



Cost versus Performance is a key requirement for consumer electronic products. A new solid electrolyte capacitor **OxiCap™** has been developed by AVX in standard EIA case sizes in order to meet this requirement as a higher performance alternative to aluminum and other SMT capacitor technologies currently on the market. The **OxiCap™ non-burn¹** technology is based on **NbO niobium oxide ceramic material** as the anodic material processed through

the same manufacturing process as tantalum capacitors. Nb₂O₅ dielectric in combination to self-healing MnO₂ cathode is a basis for a good reliability level **0.5%/1000 hrs.** within a temperature range up to **105°C** and rated voltage **<6V** (rail voltage <5V). Electrical parameters are similar to generic tantalum specifications. NbO and MnO₂ are widely available materials. The laser coded **orange molded body** gives total traceability.

CASE DIMENSIONS: millimeters (inches)



Code	EIA Code	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.
P*	2012-15	2.05 (0.081)	1.30 (0.051)	1.50 Max. (0.059)	1.20 (0.047)	0.50 (0.020)	0.85 (0.033)
A	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	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	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	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	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)
Y*	7343-20	7.30 (0.287)	4.30 (0.169)	2.00 Max (0.079)	2.40 (0.094)	1.30 (0.051)	4.40 (0.173)
V	7361-38	7.30 (0.287)	6.10 (0.240)	3.45 ±0.30 (0.136±0.012)	3.10 (0.120)	1.40 (0.055)	4.40 (0.173)
Z*	7361-45	7.30 (0.287)	6.10 (0.240)	4.30 (0.169)	3.10 (0.120)	1.40 (0.055)	4.40 (0.173)

W₁ dimension applies to the termination width for A dimensional area only. * -under development

HOW TO ORDER

NOJ

Type

D

Case Size

107

Capacitance Code
1st two digits represent significant figures, 3rd digit represents multiplier in pF

M

Capacitance Tolerance
M = ±20%

006

Rated DC Voltage
004 = 4Vdc
006 = 6.3Vdc

RWJ

Packaging
R = 7" Reel
S = 13" Reel

TECHNICAL SPECIFICATIONS

Technical Data:	All technical data relate to an ambient temperature of +25°C is not stated		
Capacitance Range:	10µF to 1000µF		
Capacitance Tolerance:	±20%		
Leakage Current DCL:	0.02CV		
Rated Voltage DC (V _R)	<+85°C:	4	6.3
Category Voltage (V _C)	<+105°C:	2.7	4.2
Surge Voltage (V _S)	<+85°C:	5.2	8
	<+105°C:	3.2	5
Temperature Range:	-55°C to +105°C		
Reliability:	0.5% per 1000 hours at 85°C, Vr, 0.1Ω/V series impedance, 60% confidence level		

¹ non-burn = 95% reduced ignition failure mode compare to conventional tantalum capacitor



OxiCap™ NOJ Series



Niobium Oxide Capacitor

CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

Capacitance Cap. (µF)	Rated Voltage DC (VR) to 85°C / 0.66 DC to 105°C		
	2.5V	4.0V	6.3V
4.7			
6.8			
10		P	A
15	P	A	B
22	A	B	B
33	B	B	C
47	B	B/C	C
68	C	C	C
100	C	C	C/D/Y
150	C	C/Y	D
220	C	D	D/E
330	D	D	E
470	D	E	V
680	E	V	Z
1000	V	Z	
1500	Z		

Developmental Ratings - subject to change

Z case = 4.5mm height V

Available Ratings



LEAD-FREE

LEAD-FREE COMPATIBLE
COMPONENT



HALOGEN-FREE COMPOUNDS

ENVIRONMENTAL FRIENDLY
COMPONENT

RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (Ω) @100kHz
4 Volt @ 85°C (2.7 Volt @ 105°C)						
NOJA156*004#	A	15	4	1.2	6	4
NOJB226*004#	B	22	4	1.8	6	2.5
NOJB336*004#	B	33	4	2.6	6	2.8
NOJC476*004#	C	47	4	3.8	6	1.8
NOJC686*004#	C	68	4	5.4	6	1.6
NOJC107*004#	C	100	4	8	6	1.3
NOJC157*004#	C	150	4	12	6	1.3
NOJD227*004#	D	220	4	17.6	8	0.9
NOJD337*004#	D	330	4	26.4	8	0.9
NOJE477*004#	E	470	4	37.6	12	0.9
6.3 Volt @ 85°C (4.2 Volt @ 105°C)						
NOJA106*006#	A	10	6.3	1.2	6	4
NOJB156*006#	B	15	6.3	1.8	6	2.5
NOJB226*006#	B	22	6.3	2.64	6	2.5
NOJC336*006#	C	33	6.3	3.96	6	1.8
NOJC476*006#	C	47	6.3	5.64	6	1.6
NOJC686*006#	C	68	6.3	8.16	6	1.5
NOJD107*006#	D	100	6.3	12.0	6	0.9
NOJD157*006#	D	150	6.3	18.0	6	0.9
NOJE227*006#	E	220	6.3	26.4	12	0.9
NOJE337*006#	E	330	6.3	39.6	12	0.9

Available Ratings