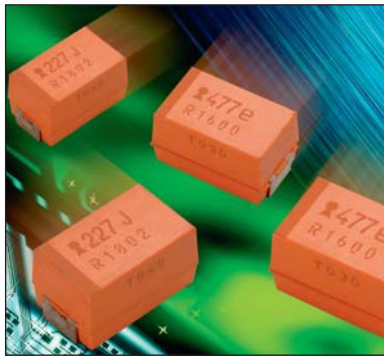


OxiCap® NOM Low ESR Multianodes



Niobium Oxide Capacitor



FEATURES

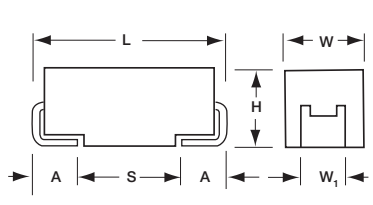
- Multi-anode construction
- Super low ESR
- Non-burn safe technology
- CV range: 220-680 μ F / 1.8-6.3V
- IBM global approval received in 2004
- Elektra award received in 2005

APPLICATIONS

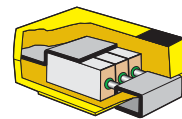
- High power low voltage industrial power supplies



Elektra Award
2005

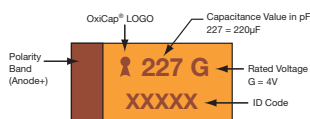


NOM MULTIANODE CONSTRUCTION



MARKING

E CASE



CASE DIMENSIONS: millimeters (inches)

Code	EIA Code	EIA Metric	L $\pm$ 0.20 (0.008)	W $\pm$ 0.20 (0.008) -0.10 (0.004)	H $\pm$ 0.20 (0.008) -0.10 (0.004)	W ₁ $\pm$ 0.20 (0.008)	A $\pm$ 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)

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

HOW TO ORDER

NOM

Type

E

Case Size
See table above

227

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

M

Tolerance
M $\pm$ 20%

006

Rated DC Voltage
001 = 1.8Vdc
002 = 2.5Vdc
004 = 4Vdc
006 = 6.3Vdc

R

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

0040

ESR in m Ω

TECHNICAL SPECIFICATIONS

Technical Data:

All technical data relate to an ambient temperature of +25°C is not stated

Capacitance Range: 220 μ F to 680 μ F

Capacitance Tolerance: $\pm$ 20%

Leakage Current DCL: 0.02CV

Rated Voltage DC (V_R) $\leq$ +85°C: 1.8 2.5 4 6.3

Category Voltage (V_C) $\leq$ +125°C: 0.9 1.3 2 3

Surge Voltage (V_S) $\leq$ +85°C: 2.3 3.3 5.2 8

Surge Voltage (V_S) $\leq$ +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, 0.1 Ω /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)	Rated Temperature (°C)	Category Voltage (V)	Category Temperature (°C)	DCL (μA) Max.	DF % Max.	ESR Max. (mΩ) @ 100kHz	MSL	100kHz RMS Current (A)			
											25°C	85°C	125°C	
1.8 Volt @ 85°C														
NOME687M001#0023	E	680	1.8	85	0.9	125	24.5	6	23	3	3.753	3.378	1.501	
2.5 Volt @ 85°C														
NOME477M002#0030	E	470	2.5	85	1.3	125	23.5	10	30	3	3.286	2.958	1.315	
NOME687M002#0023	E	680	2.5	85	1.3	125	34	6	23	3	3.753	3.378	1.501	
4 Volt @ 85°C														
NOME337M004#0035	E	330	4	85	2	125	26.4	8	35	3	3.043	2.738	1.217	
NOME477M004#0023	E	470	4	85	2	125	37.6	6	23	3	3.753	3.378	1.501	
NOME477M004#0030	E	470	4	85	2	125	37.6	6	30	3	3.286	2.958	1.315	
6.3 Volt @ 85°C														
NOME227M006#0040	E	220	6.3	85	3	125	26.4	12	40	3	2.846	2.561	1.138	
NOME337M006#0023	E	330	6.3	85	3	125	39.6	6	23	3	3.753	3.378	1.501	
NOME337M006#0035	E	330	6.3	85	3	125	39.6	6	35	3	3.043	2.738	1.217	

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 202.

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.



QUALIFICATION TABLE

TEST	NOM series (Temperature range -55°C to +125°C)									
	Condition			Characteristics						
Endurance	Determine after application of rated voltage for 2000 +48/-0 hours at 85±2°C and then leaving 1-2 hours at room temperature. Also determine of 125°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	initial limit					
				ΔC/C	within ±10% of initial value					
				DF	initial limit					
				ESR	1.25 x initial limit					
Storage Life	125°C, 0V, 2000h			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	Determine after storage without applied voltage at 65±2°C and 90-95% relative humidity for 500 hours and then recovery 1-2 hours at room temperature.			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	Determine after leaving for 1000 hours at 85±2°C, 85% relative humidity and rated voltage 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					
				DF	1.2 x initial limit					
				ESR	1.25 x initial limit					
Temperature Stability	Step	Temperature°C	Duration(min)		+20°C	-55°C	+20°C	+85°C	+125°C	+20°C
	1	+20±2	15	DCL	IL*	n/a	IL*	12 x IL*	15 x IL*	IL*
	2	-55+0/-3	15	ΔC/C	n/a	+0/-10%	±5%	+10/-0%	+12/-0%	±5%
	3	+20±2	15	DF	IL*	1.5 x IL*	IL*	1.5 x IL*	2 x IL*	IL*
	4	+85+3/-0	15							
	5	+125+3/-0	15							
	6	+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*
Surge Voltage	Test temperature: 125°C±3/0°C Test voltage: Category voltage at 125°C Surge voltage: 1.3 x category at 125°C 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	initial limit					
				ΔC/C	within ±5% of initial value					
				DF	initial limit					
				ESR	1.25 x initial limit					

*Initial Limit