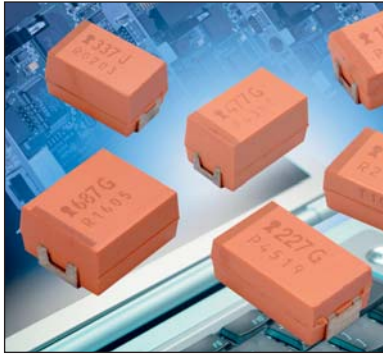


## Niobium Oxide Capacitor Weibull Grade



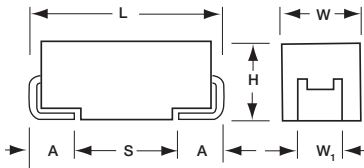
NBS, Niobium Oxide COTS+ Capacitors offer a non-burn solution for Military and Space applications. Niobium Oxide COTS+ Capacitors may be specified with failure rate grading to Weibull “B” or “C”

and surge current tested in accordance with MIL-PRF-55365 Rev. G options A or B.

### 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 <sub>1</sub> ±0.20 (0.008)	A+0.30 (0.012) -0.20 (0.008)	S Min.
A	3216	3.20 (0.126)	1.60 (0.063)	1.60 (0.063)	1.20 (0.047)	0.80 (0.031)	1.80 (0.071)
B	3528	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	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	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	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	7361	7.30 (0.287)	6.10 (0.240)	3.55 (0.140)	3.10 (0.120)	1.30 (0.051)	1.80 (0.071)

W<sub>1</sub> dimension applies to the termination width for A dimensional area only.



### CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated Voltage DC (V <sub>R</sub> ) 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)
4.7	475				
6.8	685				
10	106				A(1000,2000)
15	156			A(1500)	B(600)
22	226		A(900)	B(600)	B(600)
33	336			B(600)	B(600)/C(500)
47	476		B(500)	B(500)/C(300)	C(300)
68	686		C(200)	C(200)	C(75,200)
100	107	B(350)	C(150)	C(70,150)	C(150)/D(80,100)
150	157		C(65,150)	C(90,150)	D(50,70,100)
220	227	C(125)	C(80,125)	D(60,100)	D(60,100) E(80,100)
330	337		D(35,50,100)	D(55,100)/E(100)	E(80,100)
470	477		D(55,100)/E(100)	D(100) E(75,100)	V(75)
680	687		E(60)	V(75)	
1000	108		V(50)		
1500	158				

Available Ratings: ESR limits quoted in brackets (mOhms)

## Niobium Oxide Capacitor Weibull Grade

### HOW TO ORDER

NBS	E	227	*	006	C	□	#	@	0	^	++
Type	Case Size	Capacitance Code	Capacitance Tolerance	Voltage Code	Standard or Low ESR Range	Packaging	Inspection Level	Reliability Grade	Qualification Level	Termination Finish	Surge Test Option
		pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	M = ±20%	001 = 1.8Vdc 002 = 2.5Vdc 004 = 4Vdc 006 = 6.3Vdc	L = Low ESR	B = Bulk R = 7* T&R S = 13* T&R W = Waffle  See page 7 for additional packaging options.	S = Std. Conformance L = Group A D = DSCC DWG	Weibull: B = 0.1%/1000 hrs. 90% conf. C = 0.01%/1000 hrs. 90% conf.	0 = N/A	H = Solder Plated 0 = Fused Solder Plated 8 = Hot Solder Dipped 9 = Gold Plated 7 = Matte Sn (COTS-Plus only)	00 = None 23 = 10 Cycles, +25°C 24 = 10 Cycles, -55°C & +85°C 45 = 10 cycles, -55°C & +85°C before Weibull

Not RoHS Compliant



### TECHNICAL SPECIFICATIONS

Technical Data:	All technical data relate to an ambient temperature of +25°C is not stated				
Capacitance Range:	10 µF to 1000 µF				
Capacitance Tolerance:	±20%				
Leakage Current DCL:	0.02CV				
Rated Voltage (V <sub>R</sub> )	≤+85°C:	1.8	2.5	4	6.3
Category Voltage (V <sub>C</sub> )	≤+125°C:	0.9	1.3	2	3
Surge Voltage (V <sub>S</sub> )	≤+85°C:	2.3	3.3	5.2	8
	≤+125°C:	1.2	1.7	2.6	4
Temperature Range:	-55°C to +125°C				

## Niobium Oxide Capacitor Weibull Grade

### RATINGS & PART NUMBER REFERENCE

AVX Part Number	Case Size	Cap (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (mΩ) @100kHz	100kHz Ripple Current Rating (A)			100kHz Ripple Voltage Ratings (V)		
							25°C	85°C	125°C	25°C	85°C	125°C
<b>1.8 Volt @ 85°C (1.2 Volt @ 105°C, 0.9 Volt @ 125°C)</b>												
NBS B107M001 L □#00 ^ +	B	100	1.8	3.6	6	350	0.540	0.486	0.216	0.189	0.170	0.076
NBS C227M001 L □#00 ^ +	C	220	1.8	8.0	8	125	1.028	0.925	0.411	0.128	0.116	0.051
<b>2.5 Volt @ 85°C (1.7 Volt @ 105°C, 1.3 Volt @ 125°C)</b>												
NBS A226M002 L □#00 ^ +	A	22	2.5	1.1	6	900	0.316	0.285	0.126	0.285	0.256	0.114
NBS B476M002 L □#00 ^ +	B	47	2.5	2.4	6	500	0.452	0.406	0.181	0.226	0.203	0.090
NBS C686M002 L □#00 ^ +	C	68	2.5	3.4	6	200	0.812	0.731	0.325	0.162	0.146	0.065
NBS C107M002 L □#00 ^ +	C	100	2.5	5.0	6	150	0.938	0.844	0.375	0.141	0.127	0.056
NBS C157M002 L □#00 ^ +	C	150	2.5	7.5	6	65	1.425	1.283	0.570	0.093	0.083	0.037
NBS C157M002 C □#00 ^ +	C	150	2.5	7.5	6	150	0.938	0.844	0.375	0.141	0.127	0.056
NBS C227M002 L □#00 ^ +	C	220	2.5	11.0	8	80	1.285	1.156	0.514	0.103	0.092	0.041
NBS C227M002 C □#00 ^ +	C	220	2.5	11.0	8	125	1.028	0.925	0.411	0.128	0.116	0.051
NBS D337M002 L □#00 ^ +	D	330	2.5	16.5	10	35	2.268	2.041	0.907	0.079	0.071	0.032
NBS D337M002 L □#00 ^ +	D	330	2.5	16.5	10	50	1.897	1.708	0.759	0.095	0.085	0.038
NBS D337M002 C □#00 ^ +	D	330	2.5	16.5	10	100	1.342	1.207	0.537	0.134	0.121	0.054
NBS D477M002 L □#00 ^ +	D	470	2.5	23.5	12	55	1.809	1.628	0.724	0.099	0.090	0.040
NBS D477M002 C □#00 ^ +	D	470	2.5	23.5	12	100	1.342	1.207	0.537	0.134	0.121	0.054
NBS E477M002 L □#00 ^ +	E	470	2.5	23.5	10	100	1.407	1.266	0.563	0.141	0.127	0.056
NBS E687M002 L □#00 ^ +	E	680	2.5	34.0	14	60	1.817	1.635	0.727	0.109	0.098	0.044
NBS V108M002 L □#00 ^ +	V	1000	2.5	50.0	16	50	2.449	2.205	0.980	0.122	0.110	0.049
<b>4 Volt @ 85°C (2.7 Volt @ 105°C, 2 Volt @ 125°C)</b>												
NBS A156M004 L □#00 ^ +	A	15	4	1.2	6	1500	0.245	0.220	0.098	0.367	0.331	0.147
NBS B226M004 L □#00 ^ +	B	22	4	1.8	6	600	0.412	0.371	0.165	0.247	0.223	0.099
NBS B336M004 L □#00 ^ +	B	33	4	2.6	6	600	0.412	0.371	0.165	0.247	0.223	0.099
NBS B476M004 L □#00 ^ +	B	47	4	3.8	6	500	0.452	0.406	0.181	0.226	0.203	0.090
NBS C476M004 L □#00 ^ +	C	47	4	3.8	6	300	0.663	0.597	0.265	0.199	0.179	0.080
NBS C686M004 L □#00 ^ +	C	68	4	5.4	6	200	0.812	0.731	0.235	0.162	0.146	0.065
NBS C107M004 L □#00 ^ +	C	100	4	8.0	6	70	1.373	1.236	0.549	0.096	0.087	0.038
NBS C107M004 C □#00 ^ +	C	100	4	8.0	6	150	0.938	0.844	0.375	0.141	0.127	0.056
NBS C157M004 L □#00 ^ +	C	150	4	12.0	6	90	1.211	1.090	0.484	0.109	0.098	0.044
NBS C157M004 C □#00 ^ +	C	150	4	12.0	6	150	0.938	0.844	0.375	0.141	0.127	0.056
NBS D227M004 L □#00 ^ +	D	220	4	17.6	8	60	1.732	1.559	0.693	0.104	0.094	0.042
NBS D227M004 C □#00 ^ +	D	220	4	17.6	8	100	1.342	1.207	0.537	0.134	0.121	0.054
NBS D337M004 L □#00 ^ +	D	330	4	26.4	8	55	1.809	1.628	0.724	0.099	0.090	0.040
NBS D337M004 C □#00 ^ +	D	330	4	26.4	8	100	1.342	1.207	0.537	0.134	0.121	0.054
NBS E337M004 C □#00 ^ +	E	330	4	26.4	8	100	1.407	1.266	0.563	0.141	0.127	0.056
NBS D477M004 L □#00 ^ +	D	470	4	37.6	12	100	1.342	1.207	0.537	0.134	0.121	0.054
NBS E477M004 L □#00 ^ +	E	470	4	37.6	12	75	1.625	1.462	0.650	0.122	0.110	0.049
NBS E477M004 C □#00 ^ +	E	470	4	37.6	12	100	1.407	1.266	0.563	0.141	0.127	0.056
NBS V687M004 L □#00 ^ +	V	680	4	54.4	14	75	2.000	1.800	0.800	0.150	0.135	0.060
<b>6.3 Volt @ 85°C (4 Volt @ 105°C, 3 Volt @ 125°C)</b>												
NBS A106M006 L □#00 ^ +	A	10	6.3	1.2	6	1000	0.300	0.270	0.120	0.300	0.270	0.120
NBS A106M006 C □#00 ^ +	A	10	6.3	1.2	6	2000	0.212	0.191	0.085	0.424	0.382	0.170
NBS B156M006 L □#00 ^ +	B	15	6.3	1.8	6	600	0.412	0.371	0.165	0.247	0.223	0.099
NBS B226M006 L □#00 ^ +	B	22	6.3	2.6	6	600	0.412	0.371	0.165	0.247	0.223	0.099
NBS B336M006 L □#00 ^ +	B	33	6.3	4.0	6	600	0.412	0.371	0.165	0.247	0.223	0.099
NBS C336M006 L □#00 ^ +	C	33	6.3	4.0	6	500	0.514	0.462	0.206	0.257	0.231	0.103
NBS C476M006 L □#00 ^ +	C	47	6.3	5.7	6	300	0.663	0.597	0.265	0.199	0.179	0.080
NBS C686M006 L □#00 ^ +	C	68	6.3	8.2	6	75	1.327	1.194	0.531	0.099	0.090	0.040
NBS C686M006 C □#00 ^ +	C	68	6.3	8.2	6	200	0.812	0.731	0.325	0.162	0.146	0.065
NBS C107M006 L □#00 ^ +	C	100	6.3	12.0	8	150	0.938	0.844	0.375	0.141	0.127	0.056
NBS D107M006 L □#00 ^ +	D	100	6.3	12.0	6	80	1.500	1.350	0.600	0.120	0.108	0.048
NBS D107M006 C □#00 ^ +	D	100	6.3	12.0	6	100	1.342	1.207	0.537	0.134	0.121	0.054
NBS D157M006 L □#00 ^ +	D	150	6.3	18.0	6	70	1.604	1.443	0.641	0.112	0.101	0.045
NBS D157M006 L □#00 ^ +	D	150	6.3	18.0	6	50	1.897	1.708	0.759	0.095	0.085	0.038
NBS D157M006 C □#00 ^ +	D	150	6.3	18.0	6	100	1.342	1.207	0.537	0.134	0.121	0.054
NBS D227M006 L □#00 ^ +	D	220	6.3	26.4	8	60	1.732	1.559	0.693	0.104	0.094	0.042
NBS D227M006 C □#00 ^ +	D	220	6.3	26.4	8	100	1.342	1.207	0.537	0.134	0.121	0.054
NBS E227M006 L □#00 ^ +	E	220	6.3	26.4	12	80	1.573	1.416	0.629	0.126	0.113	0.050
NBS E227M006 C □#00 ^ +	E	220	6.3	26.4	12	100	1.407	1.266	0.563	0.141	0.127	0.056
NBS E337M006 L □#00 ^ +	E	330	6.3	39.6	12	80	1.573	1.416	0.629	0.126	0.113	0.050
NBS E337M006 C □#00 ^ +	E	330	6.3	39.6	12	100	1.407	1.266	0.563	0.141	0.127	0.056
NBS V477M006 L □#00 ^ +	V	470	6.3	56.4	14	75	2.000	1.800	0.800	0.150	0.135	0.060

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

NOTE: AVX reserves the rights to supply higher voltage rating in the same case size, to the same reliability standards.