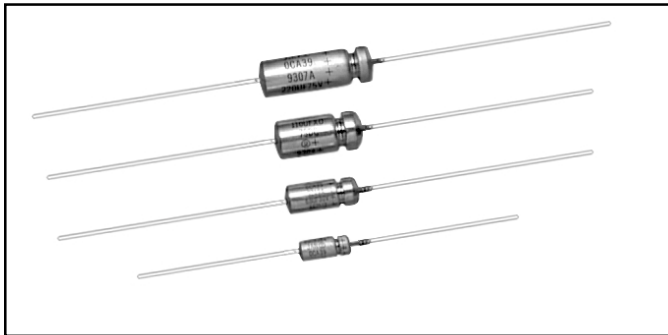


## Wet Tantalum Capacitors

*Gelled-Electrolyte Sintered Anode TANTALEX® Capacitors Hermetically-Sealed with True Glass-to-Tantalum Seal*



### FEATURES

Improved reliability through the use of a glass-to-tantalum true hermetic anode seal is the prime feature of the Type 138D gelled-electrolyte sintered anode TANTALEX® capacitor. This construction eliminates all internal lead welds while retaining the strength of internal lead-welded parts. Additionally, this construction offers outstanding resistance to thermal shock.

The military equivalent to the 138D is the CLR65 and CLR69 which are qualified to MIL-C-39006/9 and /21. Capacitors in accordance with military specifications should be ordered by their military part numbers. Following the life test:

1. DCL shall not exceed 125% of the original requirement.
2. The ESR shall not exceed 200% of the initial requirement.
3. Change in capacitance value shall not exceed the percentages below.
  - a) 6 WVDC Units: + 10% to - 25% of initial measurement.
  - b) 8 WVDC and 10 WVDC Units: + 10% to - 20% of initial measurement.
  - c) 15 WVDC Units: + 10% to - 15% of initial measurement.
  - d) 20 WVDC and above: ± 10% of initial measurement.

### PERFORMANCE CHARACTERISTICS

**Operating Temperature:** - 55°C to + 85°C and with voltage derating to two-thirds the + 85°C rating at + 125°C. Capable of + 175°C operation at reduced voltage. Use of Type 135D capacitors for high temperature applications is recommended.

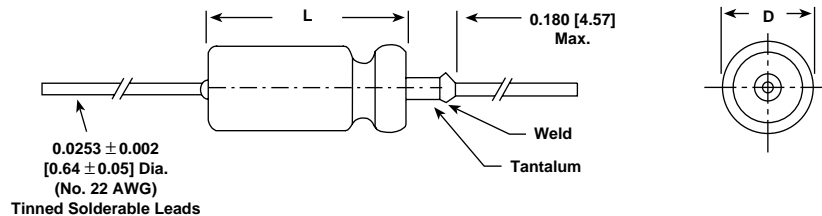
**Capacitance Tolerance:** At 120 Hz, + 25°C. ± 20% standard. ± 10%, ± 5% available as special.

DC Leakage Current (DCL Max.):

**At + 25°C, + 85°C and + 125°C:** Leakage current shall not exceed the values listed in the Standard Ratings Tables.

**Life Test:** Capacitors are capable of withstanding a 2000 hour life test at a temperature of + 85°C or + 125°C at the applicable rated DC working voltage.

### DIMENSIONS in inches [millimeters]



CASE CODE	BARE TUBE		WITH OUTER PLASTIC - FILM INSULATION		LEAD LENGTH	Max. WEIGHT (Ounces/Grams)
	D	L	D (Max.)	L (Max.)		
C	0.187 ± 0.015 [4.75 ± 0.38]	0.453 + 0.031 - 0.015 [11.51 + 0.79 - 0.38]	0.219 [5.56]	0.515 [13.08]	1.500 ± 0.250 [38.10 ± 6.35]	0.07 [2.0]
F	0.281 ± 0.015 [7.14 ± 0.38]	0.641 + 0.031 - 0.015 [16.28 + 0.79 - 0.38]	0.312 [7.92]	0.704 [17.88]	2.250 ± 0.250 [57.15 ± 6.35]	0.18 [5.1]
T	0.375 ± 0.015 [9.53 ± 0.38]	0.765 + 0.031 - 0.015 [19.43 + 0.79 - 0.38]	0.406 [10.31]	0.828 [21.03]	2.250 ± 0.250 [57.15 ± 6.35]	0.36 [10.2]
K	0.375 ± 0.015 [9.53 ± 0.38]	1.063 + 0.031 - 0.015 [27.00 + 0.79 - 0.38]	0.406 [10.31]	1.126 [28.60]	2.250 ± 0.250 [57.15 ± 6.35]	0.49 [13.9]



### ORDERING INFORMATION

138D	306	X0	006	C	2
MODEL	CAPACITANCE	CAPACITANCE TOLERANCE	DC VOLTAGE RATING AT +85°C	CASE CODE	STYLE NUMBER
	This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow.	X0 = ± 20% X9 = ± 10% X5 = ± 5% Special Order.	This is expressed in volts. To complete the three-digit block, zeros precede the voltage rating. A decimal point is indicated by an "R" (6R3 = 6.3 volts).	See Ratings and Case Codes Table.	0 = No outer tube. 2 = Outer plastic-film insulation.

**Packaging:** The use of formed plastic trays for packaging these axial lead components is standard. Tape and reel is not recommended due to the unit weight.

### STANDARD RATINGS

CAPACITANCE (μF)	CASE CODE	PART NUMBER*	Max. ESR @ +25°C (Ohms)	Max. IMP. @ -55°C (Ohms)	Max. DCL (μA) @		Max. CAPACITANCE CHANGE (%) @			Max. RMS RIPPLE 120 Hz (mA)
					+25°C	+85°C	-55°C	+85°C	+125°C	
<b>6 WVDC @ +85°C . . . 4 WVDC @ +125°C</b>										
30	C	138D306X0006C2	3.4	100	0.5	2	-40	+10.5	+12	140
68	C	138D686X0006C2	3.4	60	0.5	2	-40	+14	+16	160
140	F	138D147X0006F2	1.8	40	0.75	3	-40	+14	+16	330
270	F	138D277X0006F2	1.8	25	0.75	6.5	-44	+17.5	+20	330
330	T	138D337X0006T2	1.8	20	1.0	7.9	-44	+14	+16	410
560	T	138D567X0006T2	1.8	25	1.0	13	-64	+17.5	+20	410
1200	K	138D128X0006K2	0.9	20	1.2	14	-80	+25	+25	530
<b>8 WVDC @ +85°C . . . 5 WVDC @ +125°C</b>										
25	C	138D256X0008C2	3.4	100	0.5	2	-40	+10.5	+12	140
56	C	138D566X0008C2	3.4	59	0.5	2	-40	+14	+16	160
120	F	138D127X0008F2	1.8	48	0.75	4	-38	+14	+16	270
220	F	138D227X0008F2	1.8	30	0.75	7	-44	+17.5	+20	270
290	T	138D297X0008T2	1.8	24	1.0	9	-44	+14	+16	410
430	T	138D437X0008T2	1.8	25	1.0	14	-64	+17.5	+20	410
850	K	138D857X0008K2	0.9	22	2.0	16	-80	+25	+25	670
<b>10 WVDC @ +85°C . . . 7 WVDC @ +125°C</b>										
20	C	138D206X0010C2	3.4	175	0.5	2	-32	+10.5	+12	140
47	C	138D476X0010C2	3.4	100	0.5	2	-36	+14	+16	160
100	F	138D107X0010F2	1.8	60	0.75	4	-36	+14	+16	270
180	F	138D187X0010F2	1.8	40	0.75	7	-36	+14	+16	270
250	T	138D257X0010T2	1.8	30	1.0	10	-40	+14	+16	410
390	T	138D397X0010T2	1.8	25	1.0	16	-64	+17.5	+20	410
750	K	138D757X0010K2	0.9	23	2.0	16	-80	+25	+25	670
<b>15 WVDC @ +85°C . . . 10 WVDC @ +125°C</b>										
15	C	138D156X0015C2	3.4	155	0.5	2	-24	+10.5	+12	130
33	C	138D336X0015C2	3.4	90	0.5	2	-28	+14	+16	160
70	F	138D706X0015F2	2.6	75	0.75	4	-28	+14	+16	270
120	F	138D127X0015F2	1.8	50	0.75	7	-28	+17.5	+20	270
170	T	138D177X0015T2	1.8	35	1.5	10	-32	+14	+16	410
270	T	138D277X0015T2	1.8	30	1.5	16	-56	+17.5	+20	410
540	K	138D547X0015K2	1.0	23	2.5	24	-80	+25	+25	610
<b>20 WVDC @ +85°C . . . 13 WVDC @ +125°C</b>										
12	C	138D126X0020C2	3.4	190	0.5	2	-16	+10.5	+12	130
27	C	138D276X0020C2	3.4	100	0.5	2	-20	+11	+14	160
60	F	138D606X0020F2	2.6	60	0.75	4	-28	+13	+15	270
100	F	138D107X0020F2	1.8	50	0.75	7	-28	+13	+15	270
150	T	138D157X0020T2	1.8	35	1.5	10	-38	+13	+15	410
220	T	138D227X0020T2	1.8	30	1.5	16	-48	+13	+15	410
470	K	138D477X0020K2	1.0	20	2.5	24	-75	+25	+25	600



<b>STANDARD RATINGS</b>										
CAPACITANCE ( $\mu$ F)	CASE CODE	PART NUMBER*	Max. ESR @ + 25°C (Ohms)	Max. IMP. @ - 55°C (Ohms)	Max. DCL ( $\mu$ A) @		Max. CAPACITANCE CHANGE (%) @			Max. RMS RIPPLE 120 Hz (mA)
					+ 25°C	+ 85°C	- 55°C	+ 85°C	+ 125°C	
<b>25 WVDC @ + 85°C . . . 15 WVDC @ + 125°C</b>										
10	C	138D106X0025C2	3.4	220	0.5	2	- 16	+ 8	+ 9	130
22	C	138D226X0025C2	3.6	140	0.5	2	- 20	+ 10.5	+ 12	160
50	F	138D506X0025F2	2.6	70	0.75	5	- 28	+ 13	+ 15	270
100	F	138D107X0025F2	1.8	50	0.75	10	- 28	+ 13	+ 15	270
110	T	138D117X0025T2	1.8	42	1.5	12	- 38	+ 13	+ 15	410
180	T	138D187X0025T2	1.8	32	1.5	16	- 48	+ 13	+ 15	340
350	K	138D357X0025K2	1.0	24	2.5	28	- 70	+ 25	+ 25	580
<b>30 WVDC @ + 85°C . . . 20 WVDC @ + 125°C</b>										
8.0	C	138D805X0030C2	3.4	275	0.5	2	- 16	+ 8	+ 12	130
15	C	138D156X0030C2	3.6	175	0.5	2	- 20	+ 10.5	+ 12	160
40	F	138D406X0030F2	2.6	65	0.75	5	- 24	+ 10.5	+ 12	270
82	F	138D826X0030F2	2.6	60	0.75	8	- 24	+ 13	+ 15	270
100	T	138D107X0030T2	1.8	40	1.5	12	- 28	+ 10.5	+ 12	410
150	T	138D157X0030T2	1.8	35	1.5	16	- 48	+ 13	+ 15	340
300	K	138D307X0030K2	1.1	25	2.5	32	- 60	+ 25	+ 25	550
<b>35 WVDC @ + 85°C . . . 22 WVDC @ + 125°C</b>										
7	C	138D705X0035C2	4.2	275	0.5	2	- 14	+ 7	+ 9	130
15	C	138D156X0035C2	3.4	150	0.5	2	- 16	+ 10	+ 12	160
35	F	138D356X0035F2	2.6	75	0.75	5	- 22	+ 10.5	+ 12	270
68	F	138D686X0035F2	2.6	60	0.75	8	- 24	+ 12	+ 15	270
82	T	138D826X0035T2	1.8	43	1.5	12	- 24	+ 10.5	+ 12	410
120	T	138D127X0035T2	1.8	38	1.5	16	- 30	+ 13	+ 15	410
270	K	138D277X0035K2	1.4	23	2.5	32	- 45	+ 20	+ 25	500
<b>50 WVDC @ + 85°C . . . 30 WVDC @ + 125°C</b>										
5.0	C	138D505X0050C2	5.1	400	0.5	2	- 16	+ 5	+ 6	130
10	C	138D106X0050C2	3.4	250	0.5	2	- 24	+ 8	+ 9	160
25	F	138D256X0050F2	2.6	95	0.75	5	- 20	+ 10.5	+ 12	270
47	F	138D476X0050F2	2.6	70	0.75	9	- 28	+ 10.5	+ 15	270
60	T	138D606X0050T2	1.8	45	1.5	12	- 16	+ 10.5	+ 12	410
82	T	138D826X0050T2	1.8	45	1.5	16	- 32	+ 13	+ 15	410
160	K	138D167X0050K2	1.4	27	2.5	32	- 50	+ 25	+ 25	460
<b>60 WVDC @ + 85°C . . . 40 WVDC @ + 125°C</b>										
4.0	C	138D405X0060C2	6.8	550	0.5	2	- 16	+ 5	+ 6	110
8.2	C	138D825X0060C2	4.2	275	0.5	2	- 24	+ 8	+ 9	140
20	F	138D206X0060F2	2.6	105	0.75	5	- 16	+ 10.5	+ 12	270
39	F	138D396X0060F2	2.6	90	0.75	9	- 28	+ 10.5	+ 12	330
50	T	138D506X0060T2	1.8	50	1.5	12	- 16	+ 10.5	+ 12	410
68	T	138D686X0060T2	1.8	50	1.5	16	- 32	+ 10.5	+ 12	410
140	K	138D147X0060K2	1.6	28	2.5	32	- 40	+ 20	+ 20	430
<b>75 WVDC @ + 85°C . . . 50 WVDC @ + 125°C</b>										
3.5	C	138D355X0075C2	6.8	650	0.75	2	- 16	+ 5	+ 6	110
6.8	C	138D685X0075C2	4.2	300	0.75	2	- 20	+ 8	+ 9	140
15	F	138D156X0075F2	2.6	150	1.0	5	- 16	+ 8	+ 9	270
33	F	138D336X0075F2	2.6	90	1.0	10	- 24	+ 10.5	+ 15	270
40	T	138D406X0075T2	2.6	60	2.0	12	- 16	+ 10.5	+ 12	410
56	T	138D566X0075T2	2.6	60	2.0	17	- 28	+ 10.5	+ 15	410
110	K	138D117X0075K2	1.8	29	4.0	36	- 35	+ 20	+ 20	400

\*Part Numbers listed are for units with outer plastic-film insulation and a capacitance tolerance of  $\pm 20\%$ . For bare case units, substitute "0" for "2" at the end of the Part Number. For capacitors with  $\pm 10\%$  tolerance, change the digit following the letter "X" to "9".



STANDARD RATINGS										
CAPACITANCE ( $\mu$ F)	CASE CODE	PART NUMBER*	Max. ESR @ + 25°C (Ohms)	Max. IMP. @ - 55°C (Ohms)	Max. DCL ( $\mu$ A) @		Max. CAPACITANCE CHANGE (%) @			Max. RMS RIPPLE 120 Hz (mA)
					+ 25°C	+ 85°C	- 55°C	+ 85°C	+ 125°C	
<b>100 WVDC @ + 85°C . . . 70 WVDC @ + 125°C</b>										
2.5	C	138D255X0100C2	6.8	950	1.0	2	- 16	+ 7	+ 8	100
4.7	C	138D475X0100C2	5.1	500	1.0	2	- 16	+ 7	+ 8	130
11	F	138D116X0100F2	3.4	200	1.0	4	- 16	+ 7	+ 8	230
22	F	138D226X0100F2	2.6	100	1.0	9	- 16	+ 7	+ 8	230
30	T	138D306X0100T2	2.6	80	2.0	12	- 16	+ 7	+ 8	340
43	T	138D436X0100T2	2.6	70	2.0	17	- 20	+ 7	+ 8	340
86	K	138D866X0100K2	1.8	30	4.0	36	- 25	+ 15	+ 15	400
<b>125 WVDC @ + 85°C . . . 85 WVDC @ + 125°C</b>										
1.7	C	138D175X0125C2	6.8	1250	1.0	2	- 16	+ 7	+ 8	100
3.6	C	138D365X0125C2	6.0	600	1.0	2	- 16	+ 7	+ 8	110
9.0	F	138D905X0125F2	3.4	240	1.0	5	- 16	+ 7	+ 8	210
14	F	138D146X0125F2	2.6	167	1.0	7	- 16	+ 7	+ 8	210
18	T	138D186X0125T2	2.6	129	2.0	9	- 16	+ 7	+ 8	340
25	T	138D256X0125T2	2.6	93	2.0	13	- 16	+ 7	+ 8	340
56	K	138D566X0125K2	1.8	32	4.0	40	- 25	+ 15	+ 15	400
<b>150 WVDC @ + 85°C . . . 85 WVDC @ + 125°C</b>										
1.7	C	138D175X0150C2	6.8	1250	1.0	3	- 16	+ 7	+ 8	100
3.0	C	138D305X0150C2	6.0	710	1.0	3	- 16	+ 7	+ 8	110
6.8	F	138D685X0150F2	3.4	300	2.0	12	- 16	+ 7	+ 8	190
11	F	138D116X0150F2	3.4	200	2.0	12	- 16	+ 7	+ 8	190
14	T	138D146X0150T2	2.6	175	4.0	24	- 16	+ 7	+ 8	260
22	T	138D226X0150T2	2.6	110	4.0	24	- 16	+ 7	+ 8	260

EXTENDED RATINGS										
CAPACITANCE ( $\mu$ F)	CASE CODE	PART NUMBER*	Max. ESR @ + 25°C (Ohms)	Max. IMP. @ - 55°C (Ohms)	Max. DCL ( $\mu$ A) @		Max. CAPACITANCE CHANGE (%) @			Max. RMS RIPPLE 120 Hz (mA)
					+ 25°C	+ 85°C	- 55°C	+ 85°C	+ 125°C	
<b>6 WVDC @ + 85°C . . . 4 WVDC @ + 125°C</b>										
140	C	138D147X0006C2	3.0	40	0.5	9	- 58	+ 13	+ 16	160
200	C	138D207X0006C2	2.6	36	0.5	9	- 64	+ 13	+ 16	180
560	F	138D567X0006F2	2.2	20	1.5	14	- 80	+ 16	+ 20	300
820	F	138D827X0006F2	2.2	18	1.5	14	- 88	+ 16	+ 20	300
1000	T	138D108X0006T2	1.4	20	2.5	20	- 85	+ 20	+ 25	410
1500	T	138D158X0006T2	1.2	18	2.5	20	- 90	+ 20	+ 25	480
2200	K	138D228X0006K2	0.9	13	3.5	24	- 90	+ 25	+ 30	670
<b>8 WVDC @ + 85°C . . . 5 WVDC @ + 125°C</b>										
120	C	138D127X0008C2	3.0	50	0.5	9	- 54	+ 13	+ 16	160
180	C	138D187X0008C2	2.6	45	0.5	9	- 60	+ 13	+ 16	180
470	F	138D477X0008F2	2.2	25	1.5	14	- 75	+ 16	+ 20	300
680	F	138D687X0008F2	2.2	22	1.5	14	- 83	+ 16	+ 20	300
850	T	138D857X0008T2	1.4	20	2.5	20	- 85	+ 20	+ 25	410
1400	T	138D148X0008T2	1.2	18	2.5	20	- 88	+ 20	+ 25	480
1800	K	138D188X0008K2	0.9	14	3.5	25	- 90	+ 20	+ 30	670

\* Part Numbers listed are for units with outer plastic-film insulation and a capacitance tolerance of  $\pm 20\%$ . For bare case units, substitute "0" for "2" at the end of the Part Number. For capacitors with  $\pm 10\%$  tolerance, change the digit following the letter "X" to "9".



<b>EXTENDED RATINGS</b>										
CAPACITANCE ( $\mu$ F)	CASE CODE	PART NUMBER*	Max. ESR @ + 25°C (Ohms)	Max. IMP. @ - 55°C (Ohms)	Max. DCL ( $\mu$ A) @		Max. CAPACITANCE CHANGE (%) @			Max. RMS RIPPLE 120 Hz (mA)
					+ 25°C	+ 85°C	- 55°C	+ 85°C	+ 125°C	
<b>10 WVDC @ + 85°C . . . 7 WVDC @ + 125°C</b>										
100	C	138D107X0010C2	3.0	60	0.5	9	- 50	+ 13	+ 16	160
150	C	138D157X0010C2	2.6	54	0.5	9	- 55	+ 13	+ 16	180
390	F	138D397X0010F2	2.2	30	1.5	16	- 70	+ 16	+ 20	300
560	F	138D567X0010F2	2.2	27	1.5	16	- 77	+ 16	+ 20	300
750	T	138D757X0010T2	1.4	20	2.5	20	- 80	+ 20	+ 25	410
1200	T	138D128X0010T2	1.2	18	2.5	20	- 88	+ 20	+ 25	480
1500	K	138D158X0010K2	0.9	15	3.5	25	- 88	+ 25	+ 30	670
<b>15 WVDC @ + 85°C . . . 10 WVDC @ + 125°C</b>										
68	C	138D686X0015C2	3.4	80	0.5	9	- 40	+ 13	+ 16	140
100	C	138D107X0015C2	3.6	72	0.5	9	- 44	+ 13	+ 16	160
270	F	138D277X0015F2	2.2	35	1.5	16	- 60	+ 16	+ 20	300
390	F	138D397X0015F2	2.2	31	1.5	16	- 16	+ 16	+ 20	300
540	T	138D547X0015T2	1.6	25	3.0	24	- 70	+ 20	+ 25	440
820	T	138D827X0015T2	1.6	22	3.0	24	- 77	+ 20	+ 25	440
1000	K	138D108X0015K2	0.9	17	4.0	32	- 77	+ 25	+ 30	610
<b>20 WVDC @ + 85°C . . . 13 WVDC @ + 125°C</b>										
56	C	138D566X0020C2	3.4	90	0.5	9	- 38	+ 13	+ 16	140
82	C	138D826X0020C2	3.6	81	0.5	9	- 43	+ 13	+ 16	160
220	F	138D227X0020F2	2.2	35	1.5	16	- 60	+ 16	+ 20	300
330	F	138D337X0020F2	2.2	31	1.5	16	- 66	+ 16	+ 20	300
390	T	138D397X0020T2	1.6	25	3.0	24	- 65	+ 20	+ 25	440
680	T	138D687X0020T2	1.6	22	3.0	24	- 75	+ 20	+ 25	440
820	K	138D827X0020K2	0.9	18	4.0	32	- 75	+ 25	+ 30	610
<b>25 WVDC @ + 85°C . . . 15 WVDC @ + 125°C</b>										
47	C	138D476X0025C2	3.4	100	0.5	9	- 35	+ 12	+ 15	140
68	C	138D686X0025C2	3.6	90	0.5	9	- 40	+ 12	+ 15	160
180	F	138D187X0025F2	2.2	37	1.5	16	- 55	+ 13	+ 16	300
270	F	138D277X0025F2	2.2	33	1.5	16	- 62	+ 13	+ 16	300
350	T	138D357X0025T2	1.6	27	3.0	28	- 60	+ 20	+ 25	440
560	T	138D567X0025T2	1.6	24	3.0	28	- 72	+ 20	+ 25	440
680	K	138D687X0025K2	0.9	19	4.0	32	- 72	+ 25	+ 30	610
<b>30 WVDC @ + 85°C . . . 20 WVDC @ + 125°C</b>										
39	C	138D396X0030C2	3.4	110	0.5	9	- 32	+ 12	+ 15	140
56	C	138D566X0030C2	3.8	100	0.5	9	- 38	+ 12	+ 15	140
150	F	138D157X0030F2	2.2	40	1.5	16	- 50	+ 13	+ 16	300
220	F	138D227X0030F2	2.2	36	1.5	16	- 60	+ 13	+ 16	300
330	T	138D337X0030T2	1.6	28	3.0	32	- 50	+ 20	+ 25	440
470	T	138D477X0030T2	1.6	25	3.0	32	- 65	+ 20	+ 25	440
560	K	138D567X0030K2	0.9	20	4.0	36	- 65	+ 25	+ 30	590
<b>35 WVDC @ + 85°C . . . 22 WVDC @ + 125°C</b>										
33	C	138D336X0035C2	3.4	130	0.5	9	- 30	+ 10	+ 12	140
47	C	138D476X0035C2	3.8	115	0.5	9	- 35	+ 10	+ 12	140
120	F	138D127X0035F2	2.2	45	1.5	16	- 45	+ 13	+ 16	300
150	F	138D157X0035F2	2.2	41	1.5	16	- 52	+ 13	+ 16	300
220	T	138D227X0035T2	1.6	30	3.0	32	- 45	+ 20	+ 25	440
390	T	138D397X0035T2	1.6	27	3.0	32	- 58	+ 20	+ 25	440
470	K	138D477X0035K2	0.9	21	4.0	36	- 58	+ 25	+ 30	590

\*Part Numbers listed are for units with outer plastic-film insulation and a capacitance tolerance of  $\pm 20\%$ . For bare case units, substitute "0" for "2" at the end of the Part Number. For capacitors with  $\pm 10\%$  tolerance, change the digit following the letter "X" to "9".



### EXTENDED RATINGS

CAPACITANCE ( $\mu$ F)	CASE CODE	PART NUMBER*	Max. ESR @ + 25°C (Ohms)	Max. IMP. @ - 55°C (Ohms)	Max. DCL ( $\mu$ A) @		Max. CAPACITANCE CHANGE (%) @			Max. RMS RIPPLE 120 Hz (mA)
					+ 25°C	+ 85°C	- 55°C	+ 85°C	+ 125°C	
<b>50 WVDC @ + 85°C . . . 30 WVDC @ + 125°C</b>										
22	C	138D226X0050C2	3.4	150	1.0	9	- 24	+ 10	+ 12	140
33	C	138D336X0050C2	3.8	135	1.0	9	- 29	+ 10	+ 12	140
82	F	138D826X0050F2	2.2	55	2.0	24	- 35	+ 10	+ 15	300
120	F	138D127X0050F2	2.2	49	2.9	24	- 42	+ 12	+ 15	300
160	T	138D167X0050T2	1.8	32	3.0	32	- 35	+ 20	+ 25	420
270	T	138D277X0050T2	1.6	29	3.0	32	- 46	+ 20	+ 25	440
330	K	138D337X0050K2	1.0	22	4.0	36	- 46	+ 25	+ 30	550
<b>60 WVDC @ + 85°C . . . 40 WVDC @ + 125°C</b>										
18	C	138D186X0060C2	4.2	160	1.0	12	- 20	+ 10	+ 12	140
27	C	138D276X0060C2	3.8	144	1.0	12	- 24	+ 10	+ 12	140
68	F	138D686X0060F2	2.2	60	3.0	20	- 30	+ 12	+ 15	270
100	F	138D107X0060F2	2.2	54	3.0	20	- 36	+ 12	+ 15	300
140	T	138D147X0060T2	1.8	32	4.0	32	- 30	+ 16	+ 20	420
220	T	138D227X0060T2	1.6	29	4.0	32	- 40	+ 16	+ 20	440
270	K	138D277X0060K2	1.2	33	5.0	36	- 45	+ 20	+ 25	550
<b>75 WVDC @ + 85°C . . . 50 WVDC @ + 125°C</b>										
15	C	138D156X0075C2	4.2	175	1.0	12	- 16	+ 10	+ 12	140
22	C	138D226X0075C2	3.8	157	1.0	12	- 19	+ 10	+ 12	140
56	F	138D566X0075F2	2.2	70	3.0	24	- 25	+ 12	+ 15	270
82	F	138D826X0075F2	2.2	63	3.0	24	- 30	+ 12	+ 15	300
110	T	138D117X0075T2	1.8	33	4.0	36	- 25	+ 16	+ 20	420
180	T	138D187X0075T2	1.6	30	4.0	36	- 35	+ 16	+ 20	440
220	K	138D227X0075K2	1.4	24	5.0	40	- 40	+ 20	+ 25	450
<b>100 WVDC @ + 85°C . . . 70 WVDC @ + 125°C</b>										
8.2	C	138D825X0100C2	4.2	250	1.0	12	- 12	+ 10	+ 12	130
10	C	138D106X0100C2	4.2	200	1.0	12	- 17	+ 10	+ 12	130
33	F	138D336X0100F2	2.5	85	3.0	24	- 18	+ 12	+ 15	250
39	F	138D396X0100F2	2.5	80	3.0	24	- 20	+ 12	+ 15	250
56	T	138D566X0100T2	1.8	45	4.0	40	- 20	+ 14	+ 16	400
68	T	138D686X0100T2	1.8	40	4.0	40	- 30	+ 14	+ 16	400
120	K	138D127X0100K2	1.5	30	5.0	48	- 35	+ 15	+ 17	440
<b>125 WVDC @ + 85°C . . . 85 WVDC @ + 125°C</b>										
5.6	C	138D565X0125C2	4.2	375	1.5	12	- 10	+ 10	+ 12	130
6.8	C	138D685X0125C2	4.2	300	1.5	12	- 14	+ 10	+ 12	130
22	F	138D226X0125F2	2.9	95	3.0	24	- 14	+ 12	+ 15	250
27	F	138D276X0125F2	2.5	90	3.0	24	- 18	+ 12	+ 15	250
39	T	138D396X0125T2	1.8	60	4.0	40	- 16	+ 14	+ 16	400
47	T	138D476X0125T2	1.8	50	4.0	40	- 26	+ 14	+ 16	400
82	K	138D826X0125K2	1.5	32	5.0	48	- 30	+ 15	+ 17	440
<b>150 WVDC @ + 85°C . . . 100 WVDC @ + 125°C</b>										
5.6	C	138D565X0150C2	4.2	375	2.0	12	- 10	+ 10	+ 12	130
22	F	138D226X0150F2	2.5	95	4.0	24	- 14	+ 12	+ 15	250
39	T	138D396X0150T2	1.8	60	6.0	40	- 16	+ 14	+ 16	400

\*Part Numbers listed are for units with outer plastic-film insulation and a capacitance tolerance of  $\pm 20\%$ . For bare case units, substitute "0" for "2" at the end of the Part Number. For capacitors with  $\pm 10\%$  tolerance, change the digit following the letter "X" to "9".

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