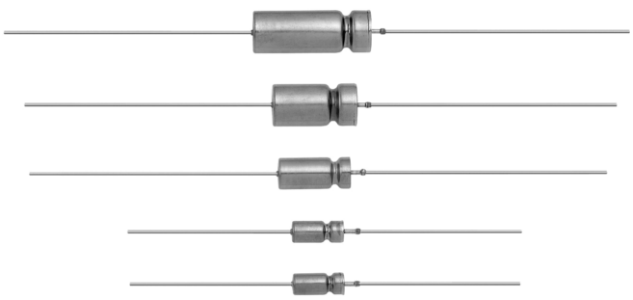
Wet Tantalum Capacitors Tantalum-Case with Glass-to-Tantalum Hermetic Seal for - 55 °C to + 200 °C Operation, Low ESR



FEATURES

- Military specification MIL-PRF-39006/30 and 39006/31. Model 136D capacitors are commercial equivalents of Military style CLR90 and CLR91.
- Capacitors to meet the MIL-specs must be ordered by M39006 part numbers shown in the relative specification.
- Terminations: standard tin/lead (SnPb), 100 % tin (RoHS compliant) available
- Standard and extended ratings
- Low ESR
- Compliant to RoHS directive 2002/95/EC

Pb-free Available

RoHS* COMPLIANT

PERFORMANCE CHARACTERISTICS

Operating Temperature: - 55 °C to + 85 °C.
(To + 200 °C with voltage derating.)

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

DC Leakage Current (DCL Max.): At + 25 °C and above: Leakage current shall not exceed the values listed in the Standard Ratings Tables.

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

Following life test:

1. DCL, measured at + 85 °C rated voltage, shall not be in excess of the original requirement.
2. The equivalent series resistance shall not exceed 150 % of the initial requirement.
3. Change in capacitance shall not exceed 10 % from the initial measurement.

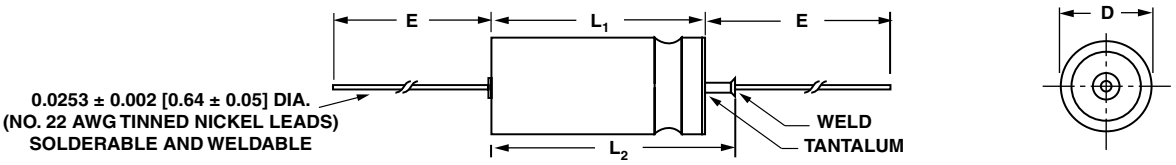
ORDERING INFORMATION

136D	306	X0	006	C	2	E3
MODEL	CAPACITANCE	CAPACITANCE TOLERANCE	DC VOLTAGE RATING AT + 85 °C	CASE CODE	STYLE NUMBER	RoHS COMPLIANT
	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 %	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 V)	See Ratings and Case Codes Table	Std. temperature (max. + 125 °C) 0 = No insulating sleeve 2 = Polyester insulation sleeve 3 = High temperature film insulation High temperature (max. + 200 °C) 6 = High temperature film insulation 8 = No insulating sleeve	E3 = 100 % tin termination (RoHS compliant design) Blank = SnPb termination (standard design)

Note
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.

* Pb containing terminations are not RoHS compliant, exemptions may apply

DIMENSIONS in inches [millimeters]



CASE CODE		D	L_1	L_2 (Max.)	E	WEIGHT (g) (Max.)
TYPE 135D	DCLR 79/81 EQUIV.					
C	T1	0.188 ± 0.016 [4.78 ± 0.41]	0.453 + 0.031 - 0.016 [11.51 + 0.79 - 0.41]	0.734 [18.64]	1.500 ± 0.250 [38.10 ± 6.35]	2.6
F	T2	0.281 ± 0.016 [7.14 ± 0.41]	0.641 + 0.031 - 0.016 [16.28 + 0.79 - 0.41]	0.922 [23.42]	2.250 ± 0.250 [57.15 ± 6.35]	6.2
T	T3	0.375 ± 0.016 [9.53 ± 0.41]	0.766 + 0.031 - 0.016 [19.46 + 0.79 - 0.41]	1.047 [26.59]	2.250 ± 0.250 [57.15 ± 6.35]	11.6
K	T4	0.375 ± 0.016 [9.53 ± 0.41]	1.062 + 0.031 - 0.016 [26.97 + 0.79 - 0.41]	1.343 [34.11]	2.250 ± 0.250 [57.15 ± 6.35]	17.7

Note

• For insulated parts, add 0.015" [0.38] to the diameter. The insulation shall lap over the ends of the capacitor body.

STANDARD RATINGS

CAPACITANCE (µF)	CASE CODE	PART NUMBER (1)	MAX. ESR at + 25 °C 120 Hz	MAX. IMP. at - 55 °C 120 Hz	MAX. DCL (µA) at + 25 °C	MAX. DCL (µA) at + 85 °C + 125 °C	MAX. CAPACITANCE CHANGE (%) at - 55 °C	MAX. CAPACITANCE CHANGE (%) at + 85 °C	MAX. CAPACITANCE CHANGE (%) at + 125 °C	MAX. RIPPLE 40 kHz I_{rms}
6 WVDC at + 85 °C . . . 4 WVDC at + 125 °C. . . 3.6 WVDC at + 200 °C										
30	C	136D306X0006C2	1.99	100	1.0	2.0	- 40	+ 10.5	+ 12	820
68	C	136D686X0006C2	1.58	60	1.0	2.0	- 40	+ 14	+ 16	960
140	F	136D147X0006F2	0.99	40	1.0	3.0	- 40	+ 14	+ 16	1200
270	F	136D277X0006F2	1.11	25	1.0	6.5	- 44	+ 17.5	+ 20	1375
330	T	136D337X0006T2	0.73	20	2.0	7.9	- 44	+ 14	+ 16	1800
560	T	136D567X0006T2	0.65	25	2.0	13.0	- 64	+ 17.5	+ 20	1900
1200	K	136D128X0006K2	0.50	20	3.0	14.0	- 80	+ 25	+ 25	2265
8 WVDC at + 85 °C . . . 5 WVDC at + 125 °C . . . 4.8 WVDC at + 200 °C										
25	C	136D256X0008C2	1.99	100	1.0	2.0	- 40	+ 10.5	+ 12	820
56	C	136D566X0008C2	1.66	59	1.0	2.0	- 40	+ 14	+ 16	900
120	F	136D127X0008F2	1.11	50	1.0	2.0	- 44	+ 17.5	+ 20	1230
220	F	136D227X0008F2	1.12	30	1.0	7.0	- 44	+ 17.5	+ 20	1370
290	T	136D297X0008T2	0.78	25	2.0	6.0	- 64	+ 17.5	+ 20	1770
430	T	136D437X0008T2	0.71	25	2.0	14.0	- 64	+ 17.5	+ 20	1825
850	K	136D857X0008K2	0.47	22	4.0	16.0	- 80	+ 25	+ 25	2330
10 WVDC at + 85 °C . . . 7 WVDC at + 125 °C . . . 6 WVDC at + 200 °C										
20	C	136D206X0010C2	1.99	175	1.0	2.0	- 32	+ 10.5	+ 12	820
47	C	136D476X0010C2	1.84	100	1.0	2.0	- 36	+ 14	+ 16	855
100	F	136D107X0010F2	0.99	60	1.0	4.0	- 36	+ 14	+ 16	1200
180	F	136D187X0010F2	1.11	40	1.0	7.0	- 36	+ 14	+ 16	1365
250	T	136D257X0010T2	0.80	30	2.0	10.0	- 40	+ 14	+ 16	1720
390	T	136D397X0010T2	0.75	25	2.0	16.0	- 64	+ 17.5	+ 20	1800
750	K	136D757X0010K2	0.44	23	4.0	16.0	- 80	+ 25	+ 25	2360
15 WVDC at + 85 °C . . . 10 WVDC at + 125 °C . . . 9 WVDC at + 200 °C										
15	C	136D156X0015C2	1.99	155	1.0	2.0	- 24	+ 10.5	+ 12	780
33	C	136D336X0015C2	1.66	90	1.0	2.0	- 28	+ 14	+ 16	820
70	F	136D706X0015F2	1.11	75	1.0	4.0	- 28	+ 14	+ 16	1150
120	F	136D127X0015F2	1.12	50	1.0	7.0	- 28	+ 17.5	+ 20	1450
170	T	136D177X0015T2	0.78	35	2.0	10.0	- 32	+ 14	+ 16	1480
270	T	136D277X0015T2	0.71	30	2.0	16.0	- 56	+ 17.5	+ 20	1740
540	K	136D547X0015K2	0.47	23	6.0	24.0	- 80	+ 25	+ 25	2330

Note

(1) Part Numbers listed are for units with ± 20 % capacitance tolerance insulated capacitors. For ± 10 % tolerance capacitors, change the digit following the letter "X" from "0" to "9"; for ± 5 %, change the digit following the letter "X" from "0" to "5". For capacitors without outer polyester-film insulation, change the last digit in the part number from "2" to "0". For capacitors with a high temperature insulating sleeve, change the last digit in the part number from "2" to "6". For RoHS compliant add "E3".

STANDARD RATINGS

CAPACITANCE (µF)	CASE CODE	PART NUMBER (1)	MAX. ESR at + 25 °C 120 Hz	MAX. IMP. at - 55 °C 120 Hz	MAX. DCL (µA) at + 25 °C	MAX. DCL (µA) at + 85 °C + 125 °C	MAX. CAPACITANCE CHANGE (%) at - 55 °C	MAX. CAPACITANCE CHANGE (%) at + 85 °C	MAX. CAPACITANCE CHANGE (%) at + 125 °C	MAX. RIPPLE 40 kHz rms
25 WVDC at + 85 °C . . . 15 WVDC at + 125 °C . . . 12 WVDC at + 200 °C										
10	C	136D106X0025C2	2.66	220	1.0	2.0	- 16	+ 8	+ 9	715
22	C	136D226X0025C2	1.99	140	1.0	2.0	- 20	+ 10.5	+ 12	800
50	F	136D506X0025F2	1.46	70	1.0	2.0	- 28	+ 13	+ 15	1130
100	F	136D107X0025F2	0.99	50	1.0	10.0	- 28	+ 13	+ 15	1435
120	T	136D127X0025T2	1.16	38	2.0	6.0	- 32	+ 13	+ 15	1450
180	T	136D187X0025T2	0.96	32	2.0	18.0	- 48	+ 13	+ 15	1525
350	K	136D357X0025K2	0.67	24	7.0	28.0	- 70	+ 25	+ 25	1970
30 WVDC at + 85 °C . . . 20 WVDC at + 125 °C . . . 18 WVDC at + 200 °C										
8	C	136D805X0030C2	3.32	275	1.0	2.0	- 16	+ 8	+ 12	640
15	C	136D156X0030C2	2.21	175	1.0	2.0	- 20	+ 10.5	+ 12	780
40	F	136D406X0030F2	1.66	65	1.0	5.0	- 24	+ 10.5	+ 12	1120
68	F	136D686X0030F2	1.27	60	1.0	8.0	- 24	+ 13	+ 15	1285
100	T	136D107X0030T2	1.13	40	2.0	12.0	- 28	+ 10.5	+ 12	1450
150	T	136D157X0030T2	1.02	35	2.0	18.0	- 48	+ 13	+ 15	1525
300	K	136D307X0030K2	0.69	25	8.0	32.0	- 60	+ 25	+ 25	1950
35 WVDC at + 85 °C . . . 22 WVDC at + 125 °C . . . 21 WVDC at + 200 °C										
15	C	136D156X0035C2	3.10	175	0.75	1.5	- 20	+ 10.5	+ 12	660
68	F	136D686X0035F2	1.45	60	1.0	2.0	- 24	+ 13	+ 15	1195
270	K	136D277X0035K2	0.70	26	3.0	12.0	- 58	+ 25	+ 25	1950
50 WVDC at + 85 °C . . . 30 WVDC at + 125 °C . . . 30 WVDC at + 200 °C										
5	C	136D505X0050C2	3.98	400	1.0	2.0	- 16	+ 5	+ 6	580
10	C	136D106X0050C2	2.66	250	1.0	2.0	- 24	+ 8	+ 9	715
25	F	136D256X0050F2	2.13	95	1.0	5.0	- 20	+ 10.5	+ 12	1005
47	F	136D476X0050F2	1.56	70	1.0	9.0	- 28	+ 13	+ 15	1155
60	T	136D606X0050T2	1.33	45	2.0	12.0	- 16	+ 10.5	+ 12	1335
82	T	136D826X0050T2	1.22	45	2.0	16.0	- 32	+ 13	+ 15	1400
160	K	136D167X0050K2	0.71	27	8.0	32.0	- 50	+ 25	+ 25	1900
60 WVDC at + 85 °C . . . 40 WVDC at + 125 °C . . . 36 WVDC at + 200 °C										
4	C	136D405X0060C2	4.65	550	1.0	2.0	- 16	+ 5	+ 6	525
8.2	C	136D825X0060C2	3.24	275	1.0	2.0	- 24	+ 8	+ 9	625
20	F	136D206X0060F2	2.32	105	1.0	5.0	- 16	+ 8	+ 12	930
39	F	136D396X0060F2	1.70	90	1.0	9.0	- 28	+ 10.5	+ 12	1110
50	T	136D506X0060T2	1.33	50	2.0	12.0	- 16	+ 10.5	+ 12	1330
68	T	136D686X0060T2	1.27	50	2.0	16.0	- 32	+ 10.5	+ 15	1365
140	K	136D147X0060K2	0.76	28	8.0	32.0	- 40	+ 20	+ 20	1850
75 WVDC at + 85 °C . . . 50 WVDC at + 125 °C . . . 45 WVDC at + 200 °C										
3.5	C	136D355X0075C2	4.74	650	1.0	2.0	- 16	+ 5	+ 6	525
6.8	C	136D685X0075C2	3.42	300	1.0	2.0	- 20	+ 8	+ 9	610
15	F	136D156X0075F2	2.66	150	1.0	5.0	- 16	+ 10.5	+ 9	890
33	F	136D336X0075F2	2.01	90	1.0	10.0	- 24	+ 10.5	+ 15	1000
40	T	136D406X0075T2	1.50	60	2.0	12.0	- 16	+ 10.5	+ 12	1250
56	T	136D566X0075T2	1.31	60	2.0	17.0	- 28	+ 10.5	+ 15	1335
110	K	136D117X0075K2	0.73	29	9.0	36 .0	- 35	+ 20	+ 20	1850
100 WVDC at + 85 °C . . . 65 WVDC at + 125 °C . . . 60 WVDC at + 200 °C										
2.5	C	136D255X0100C2	5.31	950	1.0	4.0	- 16	+ 8	+ 8	505
4.7	C	136D475X0100C2	4.24	500	1.0	2.0	- 16	+ 7	+ 8	565
11	F	136D116X0100F2	3.02	200	1.0	4.0	- 16	+ 7	+ 8	835
22	F	136D226X0100F2	2.26	100	1.0	9.0	- 16	+ 7	+ 8	965
25	T	136D256X0125T2	1.60	93	2.0	13.0	- 16	+ 7	+ 8	1200
30	T	136D306X0100T2	1.55	80	2.0	12.0	- 16	+ 8	+ 8	1240
43	T	136D436X0100T2	1.31	70	2.0	17.0	- 20	+ 8	+ 8	1335
56	K	136D566X0125K2	0.80	32	10.0	40.0	- 25	+ 15	+ 15	1800
86	K	136D866X0100K2	0.77	30	9.0	36.0	- 25	+ 15	+ 15	1800

Note

(1) Part Numbers listed are for units with ± 20 % capacitance tolerance insulated capacitors. For ± 10 % tolerance capacitors, change the digit following the letter "X" from "0" to "9"; for ± 5 %, change the digit following the letter "X" from "0" to "5". For capacitors without outer polyester-film insulation, change the last digit in the part number from "2" to "0". For capacitors with a high temperature insulating sleeve, change the last digit in the part number from "2" to "6". For RoHS compliant add "E3".

STANDARD RATINGS

CAPACITANCE (µF)	CASE CODE	PART NUMBER [1]	MAX. ESR at + 25 °C 120 Hz	MAX. IMP. at - 55 °C 120 Hz	MAX. DCL (µA) at + 25 °C	MAX. DCL (µA) at + 85 °C + 125 °C	MAX. CAPACITANCE CHANGE (%) at - 55 °C	MAX. CAPACITANCE CHANGE (%) at + 85 °C	MAX. CAPACITANCE CHANGE (%) at + 125 °C	MAX. RIPPLE 40 kHz rms
125 WVDC at + 85 °C . . . 85 WVDC at + 125 °C . . . 75 WVDC at + 200 °C										
1.7	C	136D175X0125C2	7.81	1250	1.0	2.0	- 16	+ 7	+ 8	415
3.6	C	136D365X0125C2	4.98	600	1.0	2.0	- 16	+ 7	+ 8	520
9	F	136D905X0125F2	3.69	240	1.0	5.0	- 16	+ 7	+ 8	755
14	F	136D146X0125F2	2.85	167	1.0	7.0	- 16	+ 7	+ 8	860
18	T	136D186X0125T2	1.85	129	2.0	9.0	- 16	+ 7	+ 8	1130
25	T	136D256X0125T2	1.59	93	2	13	- 16	+ 7	+ 8	1200
56	K	136D566X0125K2	0.77	32	10	40	- 25	+ 15	+ 15	1800

Note

[1] Part Numbers listed are for units with ± 20 % capacitance tolerance insulated capacitors. For ± 10 % tolerance capacitors, change the digit following the letter "X" from "0" to "9"; for ± 5 %, change the digit following the letter "X" from "0" to "5". For capacitors without outer polyester-film insulation, change the last digit in the part number from "2" to "0". For capacitors with a high temperature insulating sleeve, change the last digit in the part number from "2" to "6". For RoHS compliant add "E3".

EXTENDED RATINGS

CAPACITANCE (µF)	CASE CODE	PART NUMBER [1]	MAX. ESR at + 25 °C 120 Hz	MAX. IMP. at - 55 °C 120 Hz	MAX. DCL (µA) at + 25 °C	MAX. DCL (µA) at + 85 °C + 125 °C	MAX. CAPACITANCE CHANGE (%) at - 55 °C	MAX. CAPACITANCE CHANGE (%) at + 85 °C	MAX. CAPACITANCE CHANGE (%) at + 125 °C	MAX. RIPPLE 40 kHz rms
6 WVDC at + 85 °C . . . 4 WVDC at + 125 °C . . . 3.6 WVDC at + 200 °C										
220	C	136D227X0006C2	1.50	36	2	9	- 64	+ 13	+ 16	1000
560	F	136D567X0006F2	1.25	21	3	9	- 77	+ 16	+ 20	1500
820	F	136D827X0006F2	1.25	18	3	14	- 88	+ 16	+ 20	1500
1200	T	136D128X0006T2	0.75	18	5	18	- 88	+ 20	+ 25	1900
1500	T	136D158X0006T2	0.75	18	5	20	- 90	+ 20	+ 25	1900
2200	K	136D228X0006K2	0.50	13	6	24	- 90	+ 25	+ 30	2300
8 WVDC at + 85 °C . . . 5 WVDC at + 125 °C . . . 4.8 WVDC at + 200 °C										
180	C	136D187X0008C2	1.50	45	2	9	- 60	+ 13	+ 16	1000
680	F	136D687X0008F2	1.25	22	3	14	- 83	+ 16	+ 20	1500
1500	T	136D158X0008T2	0.75	18	5	20	- 90	+ 20	+ 25	1900
1800	K	136D188X0008K2	0.50	14	7	25	- 90	+ 25	+ 30	2300
10 WVDC at + 85 °C . . . 7 WVDC at + 125 °C . . . 6 WVDC at + 200 °C										
120	C	136D127X0010C2	1.60	54	2	6	- 40	+ 14	+ 16	900
150	C	136D157X0010C2	1.50	54	2	9	- 55	+ 13	+ 16	900
390	F	136D397X0010F2	1.25	27	3	9	- 66	+ 16	+ 20	1450
560	F	136D567X0010F2	1.25	27	3	16	- 77	+ 16	+ 20	1450
1200	T	136D128X0010T2	0.75	18	5	20	- 88	+ 20	+ 25	1850
1500	K	136D158X0010K2	0.50	15	7	25	- 88	+ 25	+ 30	2300
15 WVDC at + 85 °C . . . 10 WVDC at + 125 °C . . . 9 WVDC at + 200 °C										
82	C	136D826X0015C2	0.95	72	2	6	- 35	+ 12	+ 16	900
100	C	136D107X0015C2	0.95	72	2	9	- 44	+ 13	+ 16	900
270	F	136D277X0015F2	1.25	31	3	9	- 62	+ 16	+ 15	1450
390	F	136D397X0015F2	1.25	31	3	16	- 66	+ 16	+ 20	1450
680	T	136D687X0015T2	0.90	22	6	18	- 74	+ 20	+ 25	1800
820	T	136D827X0015T2	0.90	22	6	24	- 77	+ 20	+ 25	1800
1000	K	136D108X0015K2	0.60	17	8	32	- 77	+ 25	+ 30	2330
25 WVDC at + 85 °C . . . 15 WVDC at + 125 °C . . . 12 WVDC at + 200 °C										
47	C	136D476X0025C2	2.60	100	2	6	- 23	+ 12	+ 15	800
56	C	136D566X0025C2	2.15	90	2	6	- 25	+ 12	+ 15	850
68	C	136D686X0025C2	2.15	90	2	9	- 40	+ 12	+ 15	850
180	F	136D187X0025F2	1.35	33	3	9	- 54	+ 13	+ 15	1400
270	F	136D277X0025F2	1.35	33	3	16	- 62	+ 13	+ 16	1400
470	T	136D477X0025T2	0.90	24	6	18	- 65	+ 18	+ 25	1750
560	T	136D567X0025T2	0.90	24	7	28	- 72	+ 20	+ 25	1750
680	K	136D687X0025K2	0.60	19	8	32	- 72	+ 25	+ 30	2100

Note

[1] Part Numbers listed are for units with ± 20 % capacitance tolerance insulated capacitors. For ± 10 % tolerance capacitors, change the digit following the letter "X" from "0" to "9"; for ± 5 %, change the digit following the letter "X" from "0" to "5". For capacitors without outer polyester-film insulation, change the last digit in the part number from "2" to "0". For capacitors with a high temperature insulating sleeve, change the last digit in the part number from "2" to "6". For RoHS compliant add "E3".

EXTENDED RATINGS

CAPACITANCE (µF)	CASE CODE	PART NUMBER (1)	MAX. ESR at + 25 °C	MAX. IMP. at - 55 °C	MAX. DCL (µA)		MAX. CAPACITANCE CHANGE			MAX. RIPPLE 40 kHz
					+ 25 °C	+ 85 °C + 125 °C	- 55 °C	+ 85 °C	+ 125 °C	
30 WVDC at + 85 °C . . . 20 WVDC at + 125 °C. . . 18 WVDC at + 200 °C										
47	C	136D476X0030C2	2.60	100	2	6	- 23	+ 12	+ 15	800
56	C	136D566X0030C2	2.60	100	2	9	- 38	+ 12	+ 15	800
150	F	136D157X0030F2	1.25	36	3	9	- 42	+ 13	+ 15	1200
220	F	136D227X0030F2	1.25	36	3	16	- 60	+ 13	+ 16	1200
390	T	136D397X0030T2	0.90	25	6	18	- 55	+ 18	+ 25	1500
470	T	136D477X0030T2	0.90	25	8	32	- 65	+ 20	+ 25	1500
560	K	136D567X0030K2	0.65	20	9	36	- 65	+ 25	+ 30	2000
35 WVDC at + 85 °C . . . 22 WVDC at + 125 °C . . . 21 WVDC at + 200 °C										
39	C	136D396X0035C2	2.05	61	2	6	- 22	+ 12	+ 14	820
120	F	136D127X0035F2	1.25	31	3	10	- 40	+ 13	+ 15	1315
330	T	136D337X0035T2	0.90	20	6	18	- 50	+ 16	+ 25	1640
370	K	136D377X0035K2	0.65	15	9	36	- 60	+ 25	+ 30	2040
40 WVDC at + 85 °C . . . 25 WVDC at + 125 °C . . . 20 WVDC at + 200 °C										
39	C	136D396X0040C2	2.05	61	2	6	- 22	+ 12	+ 14	820
50 WVDC at + 85 °C . . . 30 WVDC at + 125 °C . . . 30 WVDC at + 200 °C										
33	C	136D336X0050C2	2.50	135	2	9	- 29	+ 10	+ 12	700
100	F	136D107X0050F2	1.40	49	4	12	- 36	+ 13	+ 15	1200
120	F	136D127X0050F2	1.25	49	4	24	- 42	+ 12	+ 15	1200
270	T	136D277X0050T2	1.00	30	8	32	- 46	+ 20	+ 25	1450
330	K	136D337X0050K2	0.75	30	9	36	- 46	+ 25	+ 30	1900
60 WVDC at + 85 °C . . . 40 WVDC at + 125 °C . . . 36 WVDC at + 200 °C										
18	C	136C186X0060C2	3.50	160	2	12	- 20	+ 7	+ 8	700
27	C	136D276X0060C2	2.51	144	3	12	- 24	+ 10	+ 12	700
82	F	136D826X0060F2	1.45	54	4	16	- 30	+ 15	+ 15	1100
100	F	136D107X0060F2	1.25	54	4	20	- 36	+ 12	+ 15	1100
220	T	136D227X0060T2	0.90	29	8	32	- 40	+ 16	+ 20	1400
270	K	136D277X0060K2	0.70	23	9	36	- 45	+ 20	+ 25	1850
330	K	136D337X0060K2	0.65	31	10	40	- 72	+ 25	+ 25	1850
63 WVDC at + 85 °C . . . 40 WVDC at + 125 °C . . . 31 WVDC at + 200 °C										
100	F	136D107X0063F2	1.25	54	2	12	- 36	+ 12	+ 15	1100
75 WVDC at + 85 °C . . . 50 WVDC at + 125 °C . . . 45 WVDC at + 200 °C										
12	C	136D126X0075C2	2.55	157	3	12	- 19	+ 10	+ 12	600
22	C	136D226X0075C2	2.57	157	3	12	- 19	+ 10	+ 12	600
68	F	136D686X0075F2	1.50	63	4	16	- 25	+ 12	+ 15	1000
82	F	136D826X0075F2	1.23	63	4	24	- 30	+ 12	+ 15	1000
180	T	136D187X0075T2	0.90	30	9	36	- 35	+ 16	+ 20	1300
220	K	136D227X0075K2	1.12	24	10	40	- 40	+ 20	+ 25	1800
300	K	136D307X0075K2	0.90	32	12	48	- 60	+ 22	+ 22	2000
100 WVDC at + 85 °C . . . 65 WVDC at + 125 °C . . . 60 WVDC at + 200 °C										
10	C	136D106X0100C2	2.99	200	3	12	- 17	+ 10	+ 12	800
39	F	136D396X0100F2	1.77	80	5	24	- 20	+ 12	+ 15	1300
68	T	136D686X0100T2	1.11	40	10	40	- 30	+ 14	+ 16	1600
120	K	136D127X0100K2	1.38	30	12	48	- 35	+ 15	+ 17	2000
125 WVDC at + 85 °C . . . 85 WVDC at + 125 °C . . . 75 WVDC at + 200 °C										
6.8	C	136D685X0125C2	5.86	300	3	12	- 14	+ 10	+ 12	700
27	F	136D276X0125F2	1.77	90	5	24	- 18	+ 12	+ 15	1200
47	T	136D476X0125T2	1.12	50	10	40	- 26	+ 14	+ 16	1500
68	K	136D686X0125K2	1.10	32	11	44	- 28	+ 15	+ 16	1850
82	K	136D826X0125K2	1.41	32	12	48	- 30	+ 15	+ 17	1900

Note

(1) Part Numbers listed are for units with ± 20 % capacitance tolerance insulated capacitors. For ± 10 % tolerance capacitors, change the digit following the letter “X” from “0” to “9”; for ± 5 %, change the digit following the letter “X" from “0” to “5”. For capacitors without outer polyester-film insulation, change the last digit in the part number from “2” to “0”. For capacitors with a high temperature insulating sleeve, change the last digit in the part number from “2” to “6”. For RoHS compliant add “E3”.

Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.