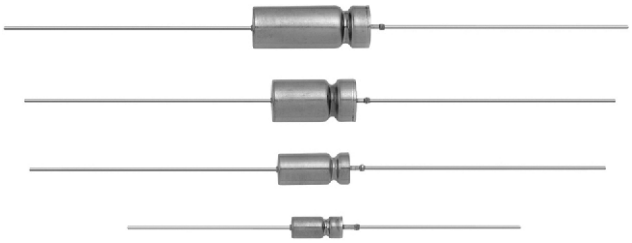
Wet Tantalum HI-TMP® Capacitors Tantalum Case with Glass-to-Tantalum Hermetic Seal for - 55 °C to + 200 °C Operation



FEATURES

- High capacitance
- Hermetically sealed, tantalum case
- + 200 °C high temperature
- Terminations: Axial, standard tin/lead (SnPb)
- 100 % tin (RoHS-compliant) available
- Mounting: Through-hole
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

Pb-free Available

RoHS* COMPLIANT

Note

* Lead (Pb)-containing terminations are not RoHS-compliant. Exemptions may apply.

APPLICATIONS

- Industrial
- Petroleum exploration
- High temperature/high stress environment

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 %

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 500 h life test at a temperature of + 200 °C at the applicable derated DC working voltage.

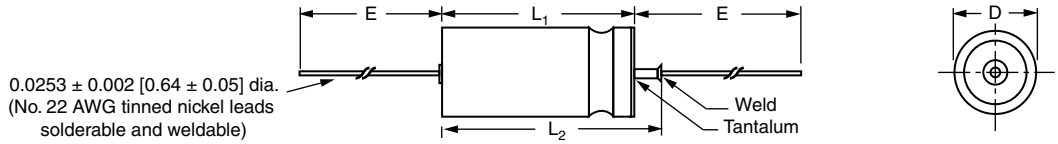
ORDERING INFORMATION

134D	227	X0	100	K	6	E3
TYPE	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 %	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	High temperature 8 = No outer insulating sleeve 6 = High temperature film insulation (above + 125 °C)	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 available due to the unit weight.

DIMENSIONS in inches [millimeters]



CASE CODE		D	L_1 (1)	L_2 (Max.)	E	WEIGHT (g) (Max.)
TYPE 134D	CLR 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

(1) For insulated parts, add 0.015 inches [0.38 mm] to the diameter. The insulation shall lap over the ends of the capacitor body.

For technical questions, contact: tantalum@vishay.com

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STANDARD RATINGS

CAPACITANCE AT 25 °C 120 Hz (µF)	CASE CODE	MAX. 120 Hz ESR (Ω)	MAX. DCL (µA) 25 °C	MAX. DCL (µA) 85 °C/ 125 °C	MAX. IMP., Z AT - 25 °C (Ω)	MAX. ΔCAP. AT - 25 °C (%)	TYP. IMP., Z AT - 55 °C (Ω)	TYP. ΔCAP. AT - 55 °C (%)	TYP. ΔCAP. (%) 85 °C	TYP. ΔCAP. (%) 125 °C	AC RIPPLE 85 °C 40 kHz (mA) RMS	PART NUMBER
50 V_{DC} AT 85 °C; 30 V_{DC} AT 125 °C; 30 V_{DC} AT 200 °C												
68	C	1.50	1	5	22	- 6	25	- 11	12	55	1400	134D686(1)050C(2)(3)
220	F	0.90	2	10	9	- 15	10	- 25	13	50	2300	134D227(1)050F(2)(3)
470	T	0.75	3	25	6	- 24	8	- 50	10	25	2650	134D477(1)050T(2)(3)
680	K	0.70	5	40	4	- 22	5	- 40	12	40	2900	134D687(1)050K(2)(3)
60 V_{DC} AT 85 °C; 40 V_{DC} AT 125 °C; 36 V_{DC} AT 200 °C												
47	C	2.00	1	5	34	- 8	40	- 20	8	12	1250	134D476(1)060C(2)(3)
150	F	1.10	2	10	13	- 11	15	- 25	10	30	2050	134D157(1)060F(2)(3)
390	T	0.90	3	25	7	- 27	10	- 50	10	25	2450	134D397(1)060T(2)(3)
560	K	0.80	5	40	5	- 21	6	- 40	12	40	2700	134D567(1)060K(2)(3)
75 V_{DC} AT 85 °C; 50 V_{DC} AT 125 °C; 45 V_{DC} AT 200 °C												
33	C	2.50	1	5	45	- 3.5	50	- 6	8	25	1100	134D336(1)075C(2)(3)
110	F	1.30	2	10	16	- 8	20	- 18	8	30	1900	134D117(1)075F(2)(3)
330	T	1.00	3	30	8	- 30	12	- 50	10	25	2300	134D337(1)075T(2)(3)
470	K	0.90	5	50	6	- 20	7	- 40	10	40	2550	134D477(1)075K(2)(3)
100 V_{DC} AT 85 °C; 65 V_{DC} AT 125 °C; 60 V_{DC} AT 200 °C												
15	C	3.50	1	5	95	- 2.5	100	- 4	8	25	950	134D156(1)100C(2)(3)
68	F	2.10	2	10	25	- 6	30	- 14	8	25	1500	134D686(1)100F(2)(3)
150	T	1.60	3	25	14	- 12	18	- 30	8	22	1800	134D157(1)100T(2)(3)
220	K	1.20	5	50	13	- 44	16	- 55	8	15	2200	134D227(1)100K(2)(3)
125 V_{DC} AT 85 °C; 85 V_{DC} AT 125 °C; 75 V_{DC} AT 200 °C												
10	C	5.50	1	5	145	- 2.5	150	- 4	8	20	750	134D106(1)125C(2)(3)
47	F	2.30	2	10	35	- 5	40	- 12	7	20	1450	134D476(1)125F(2)(3)
50	F	2.30	3	10	35	- 5	40	- 12	7	20	1450	134D506(1)125F(2)(3)
100	T	1.80	3	25	24	- 20	30	- 35	8	20	1700	134D107(1)125T(2)(3)
150	K	1.60	5	50	13	- 10	16	- 28	6	12	1900	134D157(1)125K(2)(3)

Note

- Part number definitions:
  (1) Capacitance tolerance: X9 = 10 %, X0 = 20 %
  (2) Style number: 8 = No film insulation, 6 = High temperature film isulation
  (3) Termination: Blank = Standard tin/lead, E3 = RoHS compliant 100 % tin

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EXTENDED RATINGS

CAPACITANCE AT 25 °C 120 Hz (µF)	CASE CODE	MAX. 120 Hz ESR (Ω)	MAX. DCL (µA) 25 °C	MAX. DCL (µA) 85 °C/ 125 °C	MAX. IMP, Z AT - 25 °C (Ω)	MAX. ΔCAP. AT - 25 °C (%)	TYP. IMP., Z AT - 55 °C (Ω)	TYP. ΔCAP. AT - 55 °C (%)	TYP. ΔCAP. (%) 85 °C	TYP. ΔCAP. (%) 125 °C	AC RIPPLE 85 °C 40 kHz (mA) RMS	PART NUMBER
50 V_{DC} AT 85 °C; 30 V_{DC} AT 125 °C; 30 V_{DC} AT 200 °C												
	C											
	F											
	T											
	K											
60 V_{DC} AT 85 °C; 40 V_{DC} AT 125 °C; 36 V_{DC} AT 200 °C												
	C											
	F											
	T											
1000	K	0.50	20	120	3	- 25	< 4.5	< - 55	< 12	< 15	3500	134D108(1)060K(2)(3)
75 V_{DC} AT 85 °C; 50 V_{DC} AT 125 °C; 45 V_{DC} AT 200 °C												
	C											
180	F	1.50	5	25			30	- 35	15	20	2000	134D187(1)075C(2)(3)
	T											
750	K	0.60	20	120	3	- 25	< 6.0	< - 60	< 10	< 15	3500	134D757(1)075K(2)(3)
100 V_{DC} AT 85 °C; 65 V_{DC} AT 125 °C; 60 V_{DC} AT 200 °C												
	C											
	F											
220	T	1.60	5	30	15	- 40	15	- 45	10	15	1800	134D227(1)100T(2)(3)
400	K	0.70	10	120	5	- 15	15	- 55	10	15	3250	134D407(1)100K(2)(3)
125 V_{DC} AT 85 °C; 85 V_{DC} AT 125 °C; 75 V_{DC} AT 200 °C												
	C											
	F											
	T											
	K											

Note

- Part number definitions:
  (1) Capacitance tolerance: X9 = 10 %, X0 = 20 %
  (2) Style number: 8 = No film insulation, 6 = High temperature film isulation
  (3) Termination: Blank = Standard tin/lead, E3 = RoHS compliant 100 % tin

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