

## Wet Tantalum Capacitors, High Energy, Ultra High Capacitance, -55 °C to +125 °C Operation



### KEY BENEFITS

- High energy, very high capacitance design
- All tantalum, hermetically sealed case
- Utilizes Vishay's proven SuperTan® technology
- Terminations: radial leaded

### APPLICATIONS

- Avionics
- Military
- Space

### RESOURCES

- Datasheet: HE5 - [www.vishay.com/doc?42104](http://www.vishay.com/doc?42104)
- For technical questions contact [tantalum@vishay.com](mailto:tantalum@vishay.com)
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
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A **WORLD OF**  
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# WET TANTALUM CAPACITORS

HE5

## Wet Tantalum Capacitors, High Energy, Ultra High Capacitance, -55 °C to +125 °C Operation

### PERFORMANCE CHARACTERISTICS

**Operating Temperature:**

-55 °C to +85 °C (to +125 °C with voltage derating)

**Capacitance Tolerance:**

at 120 Hz, +25 °C ± 20 % standard  
± 10 % available as special

Contact marketing for availability of 10 % tolerance

**DC Leakage Current (DCL Max.):**

at +25 °C: 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 at the applicable rated DC working voltage.

STANDARD RATINGS				
CAPACITANCE (µF)	CASE CODE	PART NUMBER	MAX. ESR AT +25 °C, 1 kHz (Ω)	MAX. DCL AT +25 °C (µA)
<b>25 V<sub>DC</sub> AT +85 °C; 15 V<sub>DC</sub> AT +125 °C</b>				
18 000	A	HE5A183(1)025(2)(3)(4)(5)	0.050	150
24 000	A	HE5A243(1)025(2)(3)(4)(5)	0.060	150
36 000	B	HE5B363(1)025(2)(3)(4)(5)	0.045	200
48 000	B	HE5B483(1)025(2)(3)(4)(5)	0.045	200
54 000	C	HE5C543(1)025(2)(3)(4)(5)	0.035	300
72 000	C	HE5C723(1)025(2)(3)(4)(5)	0.035	350
<b>50 V<sub>DC</sub> AT +85 °C; 30 V<sub>DC</sub> AT +125 °C</b>				
8000	A	HE5A802(1)050(2)(3)(4)(5)	0.075	170
16 000	B	HE5B163(1)050(2)(3)(4)(5)	0.045	270
24 000	C	HE5C243(1)050(2)(3)(4)(5)	0.035	400
<b>63 V<sub>DC</sub> AT +85 °C; 40 V<sub>DC</sub> AT +125 °C</b>				
4000	A	HE5A402(1)063(2)(3)(4)(5)	0.100	170
8000	B	HE5B802(1)063(2)(3)(4)(5)	0.055	270
12 000	C	HE5C123(1)063(2)(3)(4)(5)	0.035	400
<b>80 V<sub>DC</sub> AT +85 °C; 50 V<sub>DC</sub> AT +125 °C</b>				
3000	A	HE5A302(1)080(2)(3)(4)(5)	0.100	200
6000	B	HE5B602(1)080(2)(3)(4)(5)	0.065	350
9000	C	HE5C902(1)080(2)(3)(4)(5)	0.040	500
<b>100 V<sub>DC</sub> AT +85 °C; 65 V<sub>DC</sub> AT +125 °C</b>				
1900	A	HE5A192(1)100(2)(3)(4)(5)	0.085	200
3800	B	HE5B382(1)100(2)(3)(4)(5)	0.065	350
5700	C	HE5C572(1)100(2)(3)(4)(5)	0.050	500
<b>125 V<sub>DC</sub> AT +85 °C; 85 V<sub>DC</sub> AT +125 °C</b>				
1100	A	HE5A112(1)125(2)(3)(4)(5)	0.100	200
2200	B	HE5B222(1)125(2)(3)(4)(5)	0.085	350
3300	C	HE5C332(1)125(2)(3)(4)(5)	0.075	500

**Note**

- Part number definitions:
  - Standard capacitance tolerance is 20 % or "M". Contact marketing for availability of 10 % or "K"
  - Standard termination is "B" (tin / lead) or "D" (tin / lead with mounting lugs). RoHS-compliant is "A" (100 % tin) or "C" (100 % tin with mounting lugs)
  - Standard reliability is "Z" or non-established reliability
  - Standard temperature range is "S" or -55 °C to +125 °C
  - Standard ESR is "S"

ORDERING INFORMATION								
HE5 TYPE	C CASE CODE	543 CAPACITANCE	K CAPACITANCE TOLERANCE	025 DC VOLTAGE RATING AT +85 °C	B TERMINATION	Z RELIABILITY LEVEL	S TEMPERATURE	S ESR
	See Ratings and Case Codes table	This is expressed in microfarads. The first two digits are the significant figures. The third is the number of zeros to follow.	K = 10 % (1) M = 20 %	This is expressed in V. To complete the three-digit block, zeros precede the voltage rating. A decimal point is indicated by an "R" (6R3 = 6.3 V)	A = 100 % tin (RoHS-compliant) B = tin / lead C = 100 % tin (RoHS-compliant) with mounting lugs D = tin / lead with mounting lugs	Z = non-ER	S = standard (-55 °C to +85 °C)	S = standard

**Note**

- Contact marketing for availability of 10 % tolerance