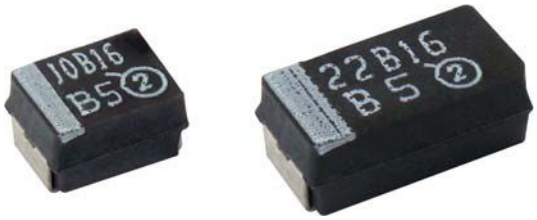
Solid Tantalum Surface Mount Capacitors
TANTAMOUNT® Molded Case, High Temperature - 175 °C



FEATURES

- Operating temperature up to 175 °C with 50 % voltage derating
- RoHS compliant terminations available: Matte tin (all cases)
- Standard EIA 535BAAC case sizes
- 100 % surge current tested
- AEC-Q200 qualified
- Compliant to RoHS Directive 2002/95/EC

AUTOMOTIVE GRADE

Pb-free Available

RoHS* COMPLIANT

Note

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

PERFORMANCE/ELECTRICAL CHARACTERISTICS

www.vishay.com/doc?40088

Operating Temperature: - 55 °C to + 175 °C

Capacitance Range: 10 µF to 47 µF

Capacitance Tolerance: ± 10 %, ± 20 %

Voltage Rating: 6.3 V_{DC} to 16 V_{DC}

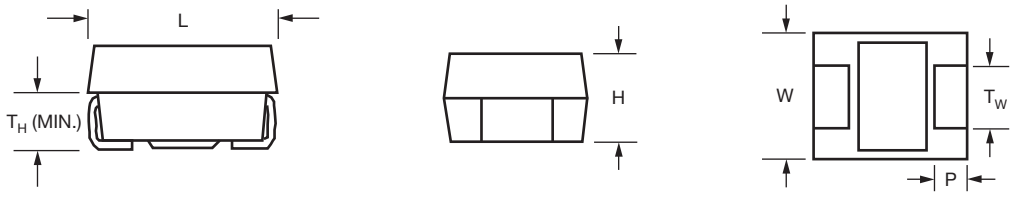
ORDERING INFORMATION

TH4	C	226	K	016	C	1000
TYPE	CASE CODE	CAPACITANCE	CAPACITANCE TOLERANCE	DC VOLTAGE RATING AT + 85 °C	TERMINATION AND PACKAGING	ESR
	See Ratings and Case Codes table	This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow	K = ± 10 % 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)	C: Matte tin/7" (178 mm) reels D: Matte tin/13" (330 mm) reels	Maximum 100 kHz ESR 0500 = 500 mΩ 5000 = 5.0 Ω 10R0 = 10.0 Ω

Note

- We reserve the right to supply higher voltage ratings and tighter capacitance tolerance capacitors in the same case size. Voltage substitutions will be marked with the higher voltage rating.

DIMENSIONS in inches [millimeters]

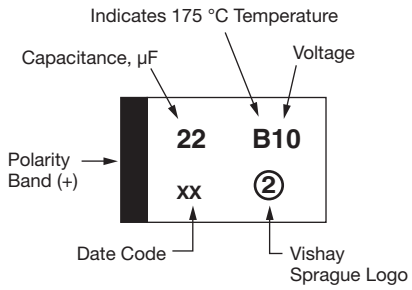


CASE CODE	EIA SIZE	L	W	H	P	T_W	T_H (MIN.)
B	3528-21	0.138 ± 0.008 [3.5 ± 0.20]	0.110 ± 0.008 [2.8 ± 0.20]	0.075 ± 0.008 [1.9 ± 0.20]	0.031 ± 0.012 [0.80 ± 0.30]	0.087 ± 0.004 [2.2 ± 0.10]	0.028 [0.70]
C	6032-28	0.236 ± 0.012 [6.0 ± 0.30]	0.126 ± 0.012 [3.2 ± 0.30]	0.098 ± 0.012 [2.5 ± 0.30]	0.051 ± 0.012 [1.3 ± 0.30]	0.087 ± 0.004 [2.2 ± 0.10]	0.039 [1.0]

RATINGS AND CASE CODES

µF	6.3 V	10 V	16 V
10	B (1.8)	B (1.8)	B (2.0)
22	B (1.5)	B (1.6) C (1.4)	B (1.9) C (1.4)
47	C (0.8)	C (0.5)	C (0.8)

MARKING



Marking
Capacitor marking includes an anode (+) polarity band, capacitance in microfarads and the voltage rating.
The Vishay Sprague® trademark is included if space permits. Capacitors rated at 6.3 V are marked 6 V.
A manufacturing date code is marked on all capacitors.
Call the factory for further explanation.

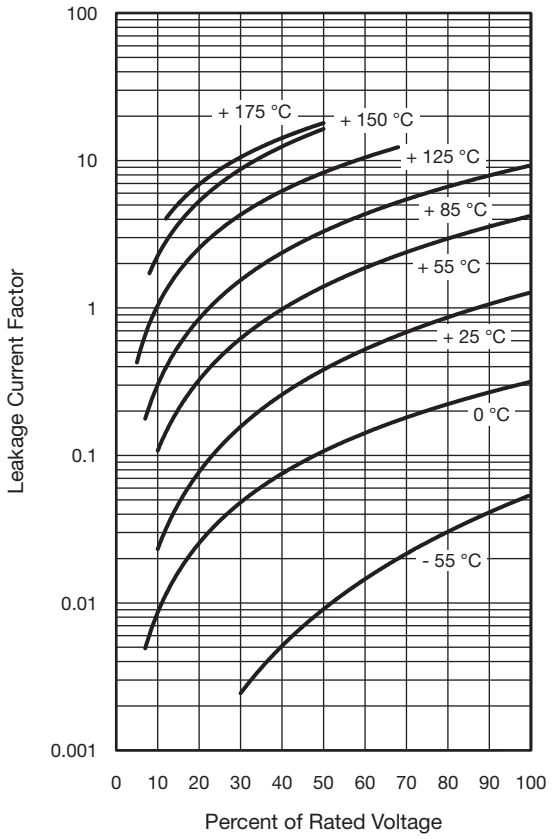
STANDARD RATINGS

CAPACITANCE (µF)	CASE CODE	PART NUMBER	MAX. DC LEAKAGE AT + 25 °C (µA)	MAX. DF AT + 25 °C 120 Hz (%)	MAX. ESR AT + 25 °C 100 kHz (Ω)	MAX. RIPPLE AT + 25 °C 100 kHz I_{RMS} (A)
6.3 V_{DC} AT + 85 °C; 3 V_{DC} AT 175 °C						
10	B	TH4B106(1)6R3(2)1800	0.6	6.0	1.800	0.22
22	B	TH4B226(1)6R3(2)1500	1.4	6.0	1.500	0.24
47	C	TH4C476(1)6R3(2)0800	3.0	6.0	0.800	0.37
10 V_{DC} AT + 85 °C; 5 V_{DC} AT 175 °C						
10	B	TH4B106(1)010(2)1800	1.0	4.5	1.800	0.22
22	B	TH4B226(1)010(2)1600	2.2	6.0	1.600	0.23
22	C	TH4C226(1)010(2)1400	2.2	6.0	1.400	0.28
47	C	TH4C476(1)010(2)0500	4.7	4.5	0.500	0.47
16 V_{DC} AT + 85 °C; 8 V_{DC} AT + 175 °C						
10	B	TH4B106(1)016(2)2000	1.6	6.0	2.000	0.21
22	B	TH4B226(1)016(2)1900	3.5	6.0	1.900	0.21
22	C	TH4C226(1)016(2)1400	3.5	6.0	1.400	0.28
47	C	TH4C476(1)016(2)0800	7.5	6.0	0.800	0.37

Note

- Part number definitions:
  (1) Capacitance tolerance: K, M
  (2) Termination and packaging: C, D

TYPICAL LEAKAGE CURRENT FACTOR



Note

- **At + 25 °C**, the leakage current shall not exceed the value listed in the Standard Ratings table.
  At + 85 °C, the leakage current shall not exceed 10 times the value listed in the Standard Ratings table.
  At + 125 °C, the leakage current shall not exceed 12 times the value listed in the Standard Ratings table.
  At + 150 °C, the leakage current shall not exceed 15 times the value listed in the Standard Ratings table.
  At + 175 °C, the leakage current shall not exceed 18 times the value listed in the Standard Ratings table.

RECOMMENDED VOLTAGE DERATING GUIDELINES (for temperature below + 85 °C)

STANDARD CONDITIONS. FOR EXAMPLE: OUTPUT FILTERS	
Capacitor Voltage Rating	**Operating Voltage**
6.3	3.6
10	6
16	10
SEVERE CONDITIONS. FOR EXAMPLE: INPUT FILTERS	
Capacitor Voltage Rating	**Operating Voltage**
6.3	3.3
10	5
16	8

Note

- For temperatures above + 85 °C the same voltage derating ratio is recommended, but with respect to category voltage.
  Up to + 85 °C: Category voltage = Rated voltage
  At + 125 °C: Category voltage = 2/3 of rated voltage
  At 150 °C/175 °C: Category voltage = 1/2 of rated voltage

POWER DISSIPATION	
CASE CODE	MAXIMUM PERMISSIBLE POWER DISSIPATION AT + 25 °C (W) IN FREE AIR
B	0.085
C	0.110

RIPPLE CURRENT FACTOR	
TEMPERATURE (°C)	DERATING FACTOR
25	1.0
85	0.9
125	0.4
150	0.3
175	0.2

STANDARD PACKAGING QUANTITY		
CASE CODE	UNITS PER REEL	
	7" REEL	13" REEL
B	2000	8000
C	500	3000

PRODUCT INFORMATION	
Guide for Molded Tantalum Capacitors	www.vishay.com/doc?40074
Pad Dimensions	
Packaging Dimensions	
Moisture Sensitivity	www.vishay.com/doc?40135
SELECTOR GUIDES	
Solid Tantalum Selector Guide	www.vishay.com/doc?49053
Solid Tantalum Chip Capacitors	www.vishay.com/doc?40091
FAQ	
Frequently Asked Questions	www.vishay.com/doc?40110

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