Solid Tantalum Surface Mount Capacitors TANTAMOUNT® Conformal Coated, Military MIL-PRF-55365/4 Qualified

FEATURES

- Weibull failure rates B, C, D, T
  Exponential failure rates M, P, R, S
- Tape and reel available per EIA 481
- Termination finishes available: Gold plate, solder plated, solder fused and hot solder dipped
- 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.

PERFORMANCE CHARACTERISTICS

Operating Temperature: - 55 °C to + 125 °C
(above 85 °C, voltage derating is required)
Capacitance Range: 0.10 µF to 100 µF

Capacitance Tolerance: ± 5 %, ± 10 %, ± 20 %
Voltage Rating: 4 V_{DC} to 50 V_{DC}

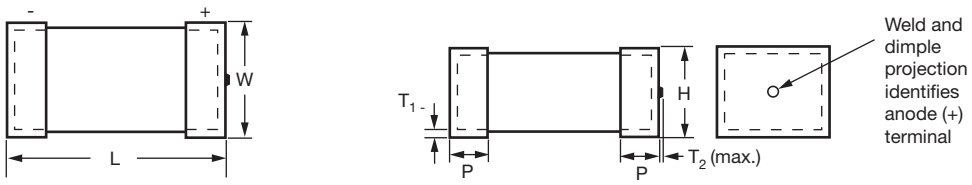
ORDERING INFORMATION

CWR06	D	B	155	K	B	A	/TR
TYPE	VOLTAGE	TERMINATION FINISH	CAPACITANCE	CAPACITANCE TOLERANCE	FAILURE RATE %/1000 h	SURGE CURRENT (OPTIONAL)	PACKAGING
	C = 4 V D = 6 V F = 10 V H = 15 V J = 20 V K = 25 V M = 35 V N = 50 V	B = Gold C = Hot solder dipped H = Solder plated K = Solder fused	This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow.	J = ± 5 % K = ± 10 % M = ± 20 %	M = 1.0 P = 0.1 R = 0.01 S = 0.001 B = 0.1 C = 0.01 D = 0.001 (1) T = 0.01 (2)	A = 3 cycles at + 25 °C B = 3 cycles at - 55 °C and + 85 °C C = 3 cycles at - 55 °C and + 85 °C (before Weibull grading)	Blank = Bulk, plastic tray /FA = Waffle pack /PR = 100 pcs reel /HR = Half reel /TR = Full reel

Notes

(1) Contact marketing for availability of Weibull D failure rate for 50 V ratings
(2) T level requires surge current option “C”. Capacitors are recommended for “space applications”. Shipped in tape and reel/or waffle packaging only.

DIMENSIONS in inches [millimeters]



CASE CODE	L	W	H	P	T_1	T_2 (max.)
A	0.100 ± 0.015 [2.54 ± 0.38]	0.050 ± 0.015 [1.27 ± 0.38]	0.050 ± 0.015 [1.27 ± 0.38]	0.030 ± 0.005 [0.76 ± 0.13]	0.005 [0.13]	0.015 [0.38]
B	0.150 ± 0.015 [3.81 ± 0.38]	0.050 ± 0.015 [1.27 ± 0.38]	0.050 ± 0.015 [1.27 ± 0.38]	0.030 ± 0.005 [0.76 ± 0.13]	0.005 [0.13]	0.015 [0.38]
C	0.200 ± 0.015 [5.08 ± 0.38]	0.050 ± 0.015 [1.27 ± 0.38]	0.050 ± 0.015 [1.27 ± 0.38]	0.030 ± 0.005 [0.76 ± 0.13]	0.005 [0.13]	0.015 [0.38]
D	0.150 ± 0.015 [3.81 ± 0.38]	0.100 ± 0.015 [2.54 ± 0.38]	0.050 ± 0.015 [1.27 ± 0.38]	0.030 ± 0.005 [0.76 ± 0.13]	0.005 [0.13]	0.015 [0.38]
E	0.200 ± 0.015 [5.08 ± 0.38]	0.100 ± 0.015 [2.54 ± 0.38]	0.050 ± 0.015 [1.27 ± 0.38]	0.030 ± 0.005 [0.76 ± 0.13]	0.005 [0.13]	0.015 [0.38]
F	0.220 ± 0.015 [5.59 ± 0.38]	0.135 ± 0.015 [3.43 ± 0.38]	0.070 ± 0.015 [1.78 ± 0.38]	0.030 ± 0.005 [0.76 ± 0.13]	0.005 [0.13]	0.015 [0.38]
G	0.265 ± 0.015 [6.73 ± 0.38]	0.110 ± 0.015 [2.79 ± 0.38]	0.110 ± 0.015 [2.79 ± 0.38]	0.050 ± 0.005 [1.27 ± 0.13]	0.005 [0.13]	0.015 [0.38]
H	0.285 ± 0.015 [7.24 ± 0.38]	0.150 ± 0.015 [3.81 ± 0.38]	0.110 ± 0.015 [2.79 ± 0.38]	0.050 ± 0.005 [1.27 ± 0.13]	0.005 [0.13]	0.015 [0.38]

Note

- When solder coated terminations are required, add 0.015" [0.38 mm] to termination dimension tolerances

For technical questions, contact: tantalum@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

Datasheet.live

RATINGS AND CASE CODES

µF	4 V	6 V	10 V	15 V	20 V	25 V	35 V	50 V
0.10								A
0.15								A
0.22							A	B
0.33						A		B
0.47					A		B	C
0.68				A	B	B	C	D
1.0			A		B	C	D	E
1.5		A		B	C	D	E	F
2.2	A		B	C	D	E		F
3.3		B	C	D	E		F	G
4.7	B	C	D	E		F	G	H
6.8	C	D	E		F	G	H	
10	D	E		F		G		
15	E		F		G	H		
22		F		G	H			
33	F		G	H				
47		G	H					
68	G	H						
100	H							

STANDARD RATINGS

CAPACITANCE (µF)	CASE CODE	PART NUMBER	MAX. DCL (µA) AT			MAX. DF (%) AT			MAX. ESR AT + 25 °C 100 kHz (Ω)
			+ 25 °C	+ 85 °C	+ 125 °C	+ 25 °C	+ 85 °C + 125 °C	- 55 °C	
4 V_{DC} AT + 85 °C; 2.7 V_{DC} AT + 125 °C									
2.2	A	CWR06C(1)225(2)(3)(4)(5)	1.0	10	12	6	8	8	8.0
4.7	B	CWR06C(1)475(2)(3)(4)(5)	1.0	10	12	6	8	8	8.0
6.8	C	CWR06C(1)685(2)(3)(4)(5)	1.0	10	12	6	8	8	5.5
10	D	CWR06C(1)106(2)(3)(4)(5)	1.0	10	12	8	8	10	4.0
15	E	CWR06C(1)156(2)(3)(4)(5)	1.0	10	12	8	10	12	3.5
33	F	CWR06C(1)336(2)(3)(4)(5)	2.0	20	24	8	10	12	2.2
68	G	CWR06C(1)686(2)(3)(4)(5)	3.0	30	36	10	12	12	1.1
100	H	CWR06C(1)107(2)(3)(4)(5)	4.0	40	48	10	12	12	0.9
6 V_{DC} AT + 85 °C; 4 V_{DC} AT + 125 °C									
1.5	A	CWR06D(1)155(2)(3)(4)(5)	1.0	10	12	6	8	8	8.0
3.3	B	CWR06D(1)335(2)(3)(4)(5)	1.0	10	12	6	8	8	8.0
4.7	C	CWR06D(1)475(2)(3)(4)(5)	1.0	10	12	6	8	8	5.5
6.8	D	CWR06D(1)685(2)(3)(4)(5)	1.0	10	12	6	8	8	4.5
10	E	CWR06D(1)106(2)(3)(4)(5)	1.0	10	12	8	10	12	3.5
22	F	CWR06D(1)226(2)(3)(4)(5)	2.0	20	24	8	10	12	2.2
47	G	CWR06D(1)476(2)(3)(4)(5)	3.0	30	36	10	12	12	1.1
68	H	CWR06D(1)686(2)(3)(4)(5)	4.0	40	48	10	12	12	0.9

Notes

- Part number definitions:
  (1) Termination finish: B, C, H, K
  (2) Capacitance tolerance: J, K, M
  (3) Failure rate: B, C, D, M, P, R, S, T
  (4) Surge current (optional): A, B, C
  (5) Packaging: Blank, /FA, /HR, /PR, /TR

(1) 5 % tolerance is not available for the 0.33 µF/50 V design

For technical questions, contact: tantalum@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

STANDARD RATINGS

CAPACITANCE (µF)	CASE CODE	PART NUMBER	MAX. DCL (µA) AT			MAX. DF (%) AT			MAX. ESR AT + 25 °C 100 kHz (Ω)
			+ 25 °C	+ 85 °C	+ 125 °C	+ 25 °C	+ 85 °C + 125 °C	- 55 °C	
10 V_{DC} AT + 85 °C; 7 V_{DC} AT + 125 °C									
1.0	A	CWR06F(1)105(2)(3)(4)(5)	1.0	10	12	6	8	8	12.0
2.2	B	CWR06F(1)225(2)(3)(4)(5)	1.0	10	12	6	8	8	8.0
3.3	C	CWR06F(1)335(2)(3)(4)(5)	1.0	10	12	6	8	8	5.5
4.7	D	CWR06F(1)475(2)(3)(4)(5)	1.0	10	12	6	8	8	4.5
6.8	E	CWR06F(1)685(2)(3)(4)(5)	1.0	10	12	6	8	8	3.5
15	F	CWR06F(1)156(2)(3)(4)(5)	2.0	20	24	8	8	10	2.5
33	G	CWR06F(1)336(2)(3)(4)(5)	3.0	30	36	10	12	12	1.1
47	H	CWR06F(1)476(2)(3)(4)(5)	5.0	50	60	10	12	12	0.9
15 V_{DC} AT + 85 °C; 10 V_{DC} AT + 125 °C									
0.68	A	CWR06H(1)684(2)(3)(4)(5)	1.0	10	12	6	8	8	12.0
1.5	B	CWR06H(1)155(2)(3)(4)(5)	1.0	10	12	6	8	8	8.0
2.2	C	CWR06H(1)225(2)(3)(4)(5)	1.0	10	12	6	8	8	5.5
3.3	D	CWR06H(1)335(2)(3)(4)(5)	1.0	10	12	6	8	8	5.0
4.7	E	CWR06H(1)475(2)(3)(4)(5)	1.0	10	12	6	8	8	4.0
10	F	CWR06H(1)106(2)(3)(4)(5)	2.0	20	24	6	8	8	2.5
22	G	CWR06H(1)226(2)(3)(4)(5)	4.0	40	48	6	8	8	1.1
33	H	CWR06H(1)336(2)(3)(4)(5)	5.0	50	60	8	8	10	0.9
20 V_{DC} AT + 85 °C; 13 V_{DC} AT + 125 °C									
0.47	A	CWR06J(1)474(2)(3)(4)(5)	1.0	10	12	8	8	10	16.0
0.68	B	CWR06J(1)684(2)(3)(4)(5)	1.0	10	12	6	8	8	14.0
1.0	B	CWR06J(1)105(2)(3)(4)(5)	1.0	10	12	6	8	8	12.0
1.5	C	CWR06J(1)155(2)(3)(4)(5)	1.0	10	12	6	8	8	6.0
2.2	D	CWR06J(1)225(2)(3)(4)(5)	1.0	10	12	6	8	8	5.0
3.3	E	CWR06J(1)335(2)(3)(4)(5)	1.0	10	12	6	8	8	4.0
6.8	F	CWR06J(1)685(2)(3)(4)(5)	2.0	20	24	6	8	8	2.4
15	G	CWR06J(1)156(2)(3)(4)(5)	3.0	30	36	6	8	8	1.1
22	H	CWR06J(1)226(2)(3)(4)(5)	4.0	40	48	6	8	8	0.9
25 V_{DC} AT + 85 °C; 17 V_{DC} AT + 125 °C									
0.33	A	CWR06K(1)334(2)(3)(4)(5)	1.0	10	12	6	8	8	15.0
0.68	B	CWR06K(1)684(2)(3)(4)(5)	1.0	10	12	6	8	8	10.0
1.0	C	CWR06K(1)105(2)(3)(4)(5)	1.0	10	12	6	8	8	6.5
1.5	D	CWR06K(1)155(2)(3)(4)(5)	1.0	10	12	6	8	8	6.5
2.2	E	CWR06K(1)225(2)(3)(4)(5)	1.0	10	12	6	8	8	3.5
4.7	F	CWR06K(1)475(2)(3)(4)(5)	2.0	20	24	6	8	8	2.5
6.8	G	CWR06K(1)685(2)(3)(4)(5)	2.0	20	24	6	8	8	1.2
10	G	CWR06K(1)106(2)(3)(4)(5)	3.0	30	36	6	8	8	1.4
15	H	CWR06K(1)156(2)(3)(4)(5)	4.0	40	48	6	8	8	1.0

Notes

- Part number definitions:
  (1) Termination finish: B, C, H, K
  (2) Capacitance tolerance: J, K, M
  (3) Failure rate: B, C, D, M, P, R, S, T
  (4) Surge current (optional): A, B, C
  (5) Packaging: Blank, /FA, /HR, /PR, /TR

(1) 5 % tolerance is not available for the 0.33 µF/50 V design

For technical questions, contact: tantalum@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

STANDARD RATINGS

CAPACITANCE (µF)	CASE CODE	PART NUMBER	MAX. DCL (µA) AT			MAX. DF (%) AT			MAX. ESR AT + 25 °C 100 kHz (Ω)
			+ 25 °C	+ 85 °C	+ 125 °C	+ 25 °C	+ 85 °C + 125 °C	- 55 °C	
35 V_{DC} AT + 85 °C; 23 V_{DC} AT + 125 °C									
0.22	A	CWR06M(1)224(2)(3)(4)(5)	1.0	10	12	6	8	8	24.0
0.47	B	CWR06M(1)474(2)(3)(4)(5)	1.0	10	12	6	8	8	17.0
0.68	C	CWR06M(1)684(2)(3)(4)(5)	1.0	10	12	6	8	8	10.0
1.0	D	CWR06M(1)105(2)(3)(4)(5)	1.0	10	12	6	8	8	6.5
1.5	E	CWR06M(1)155(2)(3)(4)(5)	1.0	10	12	6	8	8	4.5
3.3	F	CWR06M(1)335(2)(3)(4)(5)	1.0	10	12	6	8	8	2.5
4.7	G	CWR06M(1)475(2)(3)(4)(5)	2.0	20	24	6	8	8	1.5
6.8	H	CWR06M(1)685(2)(3)(4)(5)	3.0	30	36	6	8	8	1.3
50 V_{DC} AT + 85 °C; 33 V_{DC} AT + 125 °C									
0.10	A	CWR06N(1)104(2)(3)(4)(5)	1.0	10	12	6	8	8	22.0
0.15	A	CWR06N(1)154(2)(3)(4)(5)	1.0	10	12	6	8	8	25.0
0.22	B	CWR06N(1)224(2)(3)(4)(5)	1.0	10	12	6	8	8	17.0
0.33	B [1]	CWR06N(1)334(2)(3)(4)(5)	1.0	10	12	6	8	8	12.0
0.47	C	CWR06N(1)474(2)(3)(4)(5)	1.0	10	12	6	8	8	8.0
0.68	D	CWR06N(1)684(2)(3)(4)(5)	1.0	10	12	6	8	8	7.0
1.0	E	CWR06N(1)105(2)(3)(4)(5)	1.0	10	12	6	8	8	6.0
1.5	F	CWR06N(1)155(2)(3)(4)(5)	1.0	10	12	6	8	8	4.0
2.2	F	CWR06N(1)225(2)(3)(4)(5)	2.0	20	24	6	8	8	2.5
3.3	G	CWR06N(1)335(2)(3)(4)(5)	2.0	20	24	6	8	8	2.0
4.7	H	CWR06N(1)475(2)(3)(4)(5)	3.0	30	36	6	8	8	1.5

Notes

- Part number definitions:
  (1) Termination finish: B, C, H, K
  (2) Capacitance tolerance: J, K, M
  (3) Failure rate: B, C, D, M, P, R, S, T
  (4) Surge current (optional): A, B, C
  (5) Packaging: Blank, /FA, /HR, /PR, /TR

[1] 5 % tolerance is not available for the 0.33 µF/50 V design

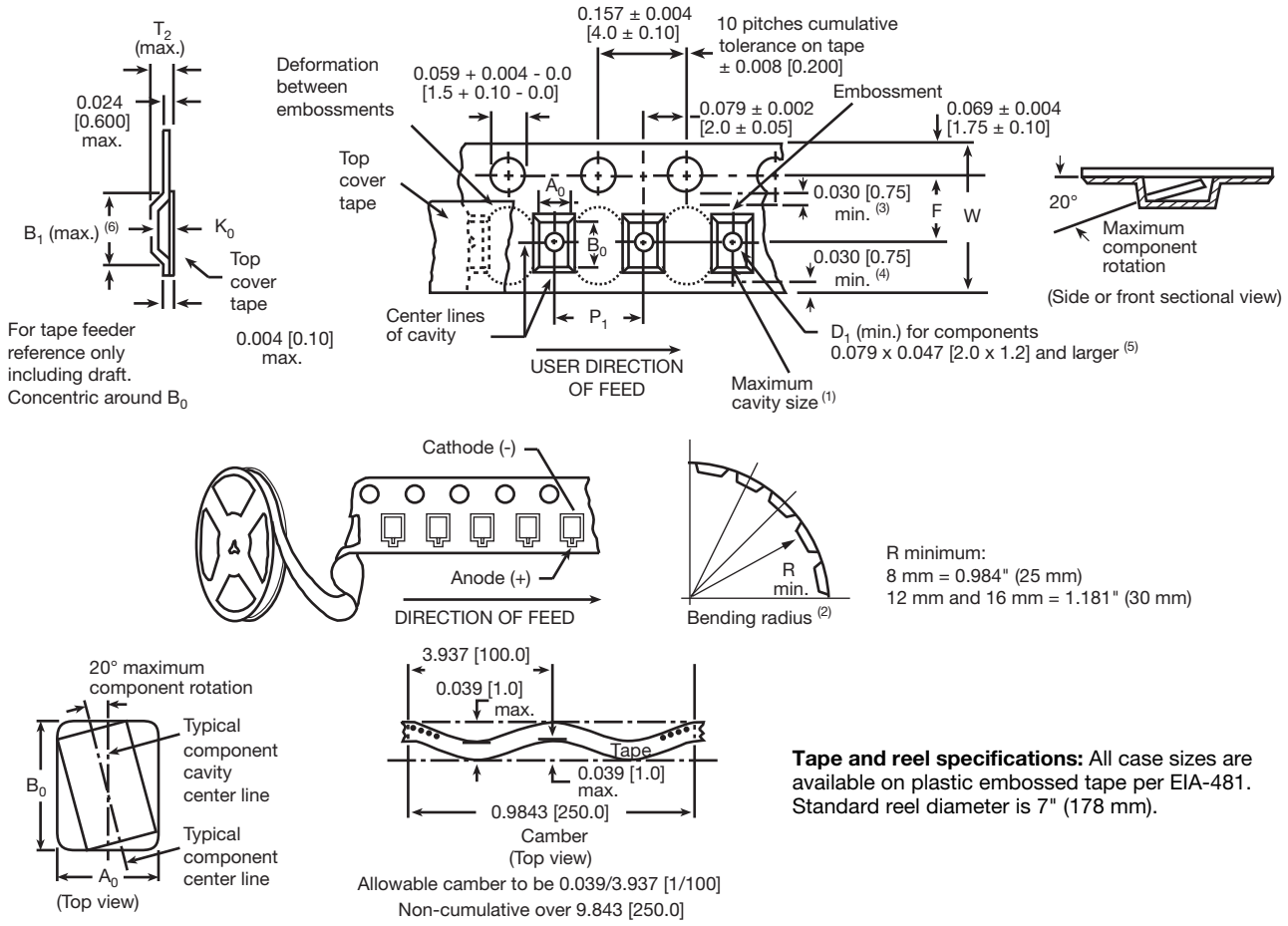
For technical questions, contact: tantalum@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

TAPE AND REEL PACKAGING in inches [millimeters]

Note

- Metric dimensions will govern. Dimensions in inches are rounded and for reference only.



Tape and reel specifications: All case sizes are available on plastic embossed tape per EIA-481. Standard reel diameter is 7" (178 mm).

Notes

(1) A_0, B_0, K_0, are determined by the maximum dimensions to the ends of the terminals extending from the component body and/or the body dimensions of the component. The clearance between the ends of the terminals or body of the component to the sides and depth of the cavity (A_0, B_0, K_0) must be within 0.002" (0.05 mm) minimum and 0.020" (0.50 mm) maximum. The clearance allowed must also prevent rotation of the component within the cavity of not more than 20°.

(2) Tape with components shall pass around radius "R" without damage. The minimum trailer length may require additional length to provide "R" minimum for 12 mm embossed tape for reels with hub diameters approaching N minimum.

(3) This dimension is the flat area from the edge of the sprocket hole to either outward deformation of the carrier tape between the embossed cavities or to the edge of the cavity whichever is less.

(4) This dimension is the flat area from the edge of the carrier tape opposite the sprocket holes to either the outward deformation of the carrier tape between the embossed cavity or to the edge of the cavity whichever is less.

(5) The embossed hole location shall be measured from the sprocket hole controlling the location of the embossement. Dimensions of embossement location shall be applied independent of each other.

(6) B_1 dimension is a reference dimension tape feeder clearance only.

CARRIER TAPE DIMENSIONS in inches [millimeters]

CASE CODE	TAPE SIZE	B_1 (max.)	D_1 (min.)	F	P_1	T_2 (max.)	W
A	8 mm	0.179 [4.55]	0.039 [1.0]	0.138 ± 0.002 [3.5 ± 0.05]	0.157 ± 0.004 [4.0 ± 0.1]	0.098 [2.5]	0.315 ± 0.004 [8.0 ± 0.10]
B, C, D, E	12 mm	0.323 [8.2]	0.059 [1.5]	0.217 ± 0.002 [5.5 ± 0.05]	0.157 ± 0.004 [4.0 ± 0.1]	0.256 [6.5]	0.472 ± 0.012 [12.0 ± 0.30]
F	12 mm double pitch	0.323 [8.2]	0.059 [1.5]	0.217 ± 0.002 [5.5 ± 0.05]	0.315 ± 0.004 [8.0 ± 0.10]	0.256 [6.5]	0.472 ± 0.012 [12.0 ± 0.30]
G, H	16 mm	0.476 [12.1]	0.059 [1.5]	0.295 ± 0.004 [7.5 ± 0.1]	0.315 ± 0.004 [8.0 ± 0.10]	0.315 [8.0]	0.642 max. [16.3] max.

For technical questions, contact: tantalum@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

STANDARD PACKAGING QUANTITY

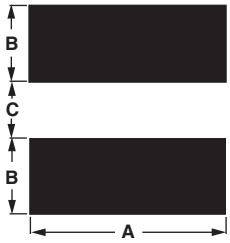
CASE CODE	QUANTITY (PCS/REEL)			BULK, PLASTIC TRAY QUANTITY (PCS)
	7", FULL REEL (/TR)	7", HALF REEL (/HR)	7", PARTIAL REEL (/PR)	
A, B, C, D, E	2500	1250	100	75
F	1000	500	100	75
G	600	300	100	60
H	600	300	100	50

Notes

(1) Bulk capacitors are shipped in plastic trays

(2) T level capacitors are only shipped in tape and reel/or waffle packaging. Contact factory for waffle pack quantities

PAD DIMENSIONS in inches [millimeters]



CASE CODE	WIDTH (A)	PAD METALLIZATION (B)	SEPARATION (C)
A	0.065 [1.6]	0.050 [1.3]	0.040 [1.0]
B	0.065 [1.6]	0.070 [1.8]	0.055 [1.4]
C	0.065 [1.6]	0.070 [1.8]	0.120 [3.0]
D	0.115 [2.9]	0.070 [1.8]	0.070 [1.8]
E	0.115 [2.9]	0.070 [1.8]	0.120 [3.0]
F	0.150 [3.8]	0.070 [1.8]	0.140 [3.6]
G	0.125 [3.2]	0.070 [1.8]	0.170 [4.3]
H	0.165 [4.2]	0.090 [2.3]	0.170 [4.3]

POWER DISSIPATION

CASE CODE	MAXIMUM PERMISSIBLE POWER DISSIPATION AT + 25 °C (W) IN FREE AIR
A	0.060
B, C	0.075
D, E	0.085
F	0.110
G	0.120
H	0.150

PRODUCT INFORMATION	
Conformal Coated Guide	www.vishay.com/doc?40150
Pad Dimensions	
Package 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

For technical questions, contact: tantalum@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

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 in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay’s knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer’s responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer’s technical experts. Product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

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

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.