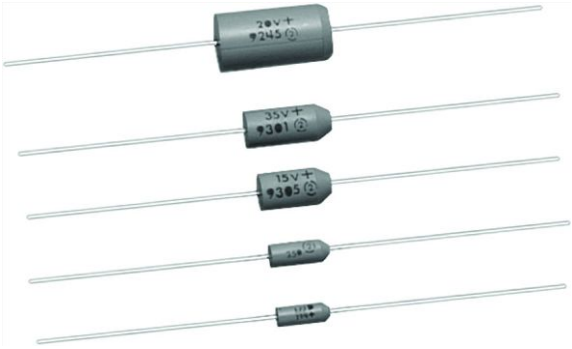
# Solid-Electrolyte TANTALEX® Capacitors, Axial-Leaded, Molded Case



## FEATURES

- Axial through-hole terminations: Tin/lead (SnPb), 100 % tin (RoHS-compliant)
- Miniature axial-lead capacitors available in 5 sizes
- Precision molded in gold colored, flame retardant, thermosetting epoxy resin
- Laser marked for improved legibility and tapered end of case provides easy identification of positive terminal
- Standard orders are lead taped and reeled; orders under 500 are taped only
- 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

Designed for high performance automotive, industrial and commercial electronic equipment.

## PERFORMANCE CHARACTERISTICS

**Operating Temperature:** - 55 °C to + 85 °C
(to + 125 °C with voltage derating)

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

**Capacitance Range:** 0.10µF to 330 µF.

**Voltage Rating:** 2 $V_{DC}$ to 50 $V_{DC}$.

**Dissipation Factor:** At 120 Hz, + 25 °C. Dissipation factor, as determined from the expression 2πfRC, shall not exceed the values listed in the Standard Ratings table.

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

**At + 25 °C:** Leakage current shall not exceed the values listed in the Standard Ratings table.

**At + 85 °C:** Leakage current shall not exceed 10 times the values listed in the Standard Ratings table.

**At + 125 °C:** Leakage shall not exceed 15 times the values listed in the Standard Ratings table.

**Life Test:** Capacitors shall withstand rated DC voltage applied at + 85 °C for 2000 h and for 1000 h applied at + 25 °C derated voltage.

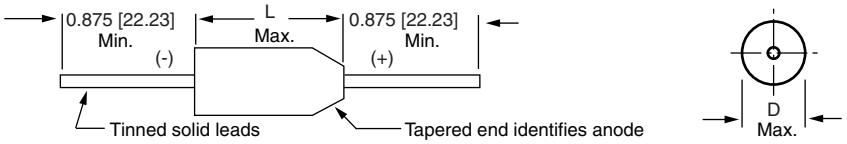
Following the life test:

1. DCL shall not exceed 125 % of the initial requirements.
2. Dissipation Factor shall meet the initial requirement.
3. Change in capacitance shall not exceed ± 10 %.

## ORDERING INFORMATION

| 173D | 335 | X9 | 006 | U | W | E3 |
|---|---|---|---|---|---|---|
| MODEL | CAPACITANCE | CAPACITANCE TOLERANCE | DC VOLTAGE RATING AT + 85 °C | CASE CODE | PACKAGING | 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 %<br>X9 = ± 10 %<br>*X5 = ± 5 %<br>* Special order | This is expressed in volts. To complete the three-digit block, zeros precede the voltage rating. | See Ratings and Case Codes table | W = Tape and reel<br>Blank = Ammo pack | E3 = 100 % tin termination (RoHS compliant)<br>Blank = SnPb termination |

## DIMENSIONS in inches [millimeters]




| CASE CODE | D (MAX.) | L (MAX.) | LEAD DIAMETER |
|---|---|---|---|
| U | 0.095 [2.41] | 0.260 [6.60] | 0.020 [0.51] |
| V | 0.110 [2.79] | 0.290 [7.37] | 0.020 [0.51] |
| W | 0.180 [4.57] | 0.345 [8.76] | 0.020 [0.51] |
| X | 0.180 [4.57] | 0.420 [10.67] | 0.020 [0.51] |
| Y | 0.280 [7.11] | 0.550 [13.97] | 0.025 [0.64] |



For technical questions, contact: tantalum@vishay.com

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| RATINGS AND CASE CODES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| µF | 2 V | 4 V | 6 V | 10 V | 15 V | 20 V | 25 V | 35 V | 50 V |
| 0.10 | | | | | | | | U | U |
| 0.12 | | | | | | | | U | U |
| 0.15 | | | | | | | | U | U |
| 0.18 | | | | | | | | U | U |
| 0.22 | | | | | | | | U | U |
| 0.27 | | | | | | | | U | U |
| 0.33 | | | | | | | | U | V |
| 0.39 | | | | | | | | U | V |
| 0.47 | | | | | | | U | U | V |
| 0.56 | | | | | | | U | V | V |
| 0.68 | | | | | | | U | V | V |
| 0.82 | | | | | | | U | V | V |
| 1.0 | | | | | U | U | U | V | V |
| 1.2 | | | | | | U | V | V | W |
| 1.5 | | | | | U | U | V | V | W |
| 1.8 | | | | | U | V | V | W | W |
| 2.2 | | | | U | U | U/V | V | W | W |
| 2.7 | | | | U | V | V | V | W | X |
| 3.3 | | | U | U | V | V | V | W | X |
| 3.9 | | | U | V | V | V | W | W | X |
| 4.7 | | U | U | V | V | V | W | W | X |
| 5.6 | | U | V | V | V | W | W | X | Y |
| 6.8 | U | U | V | V | V | W | W | X | Y |
| 8.2 | U | V | V | V | W | W | W | X | Y |
| 10 | U | V | V | V | W | W | W | X | Y |
| 12 | V | V | V | W | W | X | X | Y | Y |
| 15 | V | V | V | W | W | X | X | Y | Y |
| 18 | V | V | W | W | X | X | Y | Y | Y |
| 22 | V | V | W | W | X | X | Y | Y | Y |
| 27 | V | W | W | X | X | Y | Y | Y | |
| 33 | V | W | W | X | X | Y | Y | Y | |
| 39 | W | W | X | X | Y | Y | Y | Y | |
| 47 | W | W | X | X | Y | Y | Y | Y | |
| 56 | W | X | X | Y | Y | Y | | | |
| 68 | W | X | X | Y | Y | Y | | | |
| 82 | | | Y | Y | Y | Y | | | |
| 100 | | | Y | Y | Y | Y | | | |
| 120 | | | Y | Y | Y | | | | |
| 150 | | | Y | Y | Y | | | | |
| 180 | | | Y | Y | | | | | |
| 220 | | | Y | Y | | | | | |
| 270 | | | Y | | | | | | |
| 330 | | | Y | | | | | | |


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| MARKING | |
|---|---|
| **PARAMETER** | **EXAMPLE** |
| Product type | 173D |
| Polarity | + |
| Capacitance code, pF | 156 |
| Capacitance tolerance code | K |
| Voltage | 25 V |
| Date code | 1209 |
| Lead (Pb)-free indicator (1) | L |
| Sprague logo | |



**Note**

(1) On big case sizes (W,X,Y) lead free indicator is printed after date code, for example 1209L.

| STANDARD RATINGS | | | | |
|---|---|---|---|---|
| **CAPACITANCE (µF)** | **CASE CODE** | **PART NUMBER** | **MAX. DCL AT + 25 °C (µA)** | **MAX. DF AT + 25 °C 120 Hz (%)** |
| **2 $V_{DC}$ AT + 85 °C, SURGE = 2.5 V; 1.5 $V_{DC}$ AT + 125 °C, SURGE = 1.8 V** | | | | |
| 6.8 | U | 173D685(1)002U(2)(3) | 0.5 | 10 |
| 8.2 | U | 173D825(1)002U(2)(3) | 0.5 | 10 |
| 10 | U | 173D106(1)002U(2)(3) | 0.5 | 10 |
| 12 | V | 173D126(1)002V(2)(3) | 0.5 | 10 |
| 15 | V | 173D156(1)002V(2)(3) | 0.5 | 10 |
| 18 | V | 173D186(1)002V(2)(3) | 0.5 | 10 |
| 22 | V | 173D226(1)002V(2)(3) | 0.5 | 10 |
| 27 | V | 173D276(1)002V(2)(3) | 0.5 | 10 |
| 33 | V | 173D336(1)002V(2)(3) | 0.5 | 10 |
| 39 | W | 173D396(1)002W(2)(3) | 0.6 | 10 |
| 47 | W | 173D476(1)002W(2)(3) | 0.8 | 10 |
| 56 | W | 173D566(1)002W(2)(3) | 0.9 | 10 |
| 68 | W | 173D686(1)002W(2)(3) | 1.1 | 10 |
| **4 $V_{DC}$ AT + 85 °C, SURGE = 5 V; 2.5 $V_{DC}$ AT + 125 °C, SURGE = 3 V** | | | | |
| 4.7 | U | 173D475(1)004U(2)(3) | 0.5 | 8 |
| 5.6 | U | 173D565(1)004U(2)(3) | 0.5 | 8 |
| 6.8 | U | 173D685(1)004U(2)(3) | 0.5 | 8 |
| 8.2 | V | 173D825(1)004V(2)(3) | 0.5 | 8 |
| 10 | V | 173D106(1)004V(2)(3) | 0.5 | 8 |
| 12 | V | 173D126(1)004V(2)(3) | 0.5 | 8 |
| 15 | V | 173D156(1)004V(2)(3) | 0.5 | 8 |
| 18 | V | 173D186(1)004V(2)(3) | 0.6 | 8 |
| 22 | V | 173D226(1)004V(2)(3) | 0.7 | 8 |
| 27 | W | 173D276(1)004W(2)(3) | 0.9 | 8 |
| 33 | W | 173D336(1)004W(2)(3) | 1.1 | 8 |
| 39 | W | 173D396(1)004W(2)(3) | 1.2 | 8 |
| 47 | W | 173D476(1)004W(2)(3) | 1.5 | 8 |
| 56 | X | 173D566(1)004X(2)(3) | 1.5 | 8 |
| 68 | X | 173D686(1)004X(2)(3) | 2.2 | 8 |

**Note**

- Part number definition:

(1) For 10 % tolerance specify “X9”; for 20 % specify “X0”; for 5 % specify “X5” (special order)
(2) Packaging code: for reel 13" specify W, leave blank for ammo pack
(3) Termination: for 100 % tin specify E3, for SnPb leave blank



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## STANDARD RATINGS

| CAPACITANCE (µF) | CASE CODE | PART NUMBER | MAX. DCL AT + 25 °C (µA) | MAX. DF AT + 25 °C 120 Hz (%) |
|---|---|---|---|---|
| **6 $V_{DC}$ AT + 85 °C, SURGE = 8 V; 4 $V_{DC}$ AT + 125 °C, SURGE = 5 V** | | | | |
| 3.3 | U | 173D335(1)006U(2)(3) | 0.5 | 4 |
| 3.9 | U | 173D395(1)006U(2)(3) | 0.5 | 4 |
| 4.7 | U | 173D475(1)006U(2)(3) | 0.5 | 4 |
| 5.6 | V | 173D565(1)006V(2)(3) | 0.5 | 4 |
| 6.8 | V | 173D685(1)006V(2)(3) | 0.5 | 6 |
| 8.2 | V | 173D825(1)006V(2)(3) | 0.5 | 6 |
| 10 | V | 173D106(1)006V(2)(3) | 0.5 | 6 |
| 12 | V | 173D126(1)006V(2)(3) | 0.6 | 6 |
| 15 | V | 173D156(1)006V(2)(3) | 0.7 | 6 |
| 18 | W | 173D186(1)006W(2)(3) | 0.9 | 6 |
| 22 | W | 173D226(1)006W(2)(3) | 1.1 | 6 |
| 27 | W | 173D276(1)006W(2)(3) | 1.3 | 6 |
| 33 | W | 173D336(1)006W(2)(3) | 1.5 | 6 |
| 39 | X | 173D396(1)006X(2)(3) | 1.6 | 6 |
| 47 | X | 173D476(1)006X(2)(3) | 2.3 | 6 |
| 56 | X | 173D566(1)006X(2)(3) | 2.7 | 6 |
| 68 | X | 173D686(1)006X(2)(3) | 3.3 | 6 |
| 82 | Y | 173D826(1)006Y(2)(3) | 3.9 | 8 |
| 100 | Y | 173D107(1)006Y(2)(3) | 4.8 | 8 |
| 120 | Y | 173D127(1)006Y(2)(3) | 5.0 | 8 |
| 150 | Y | 173D157(1)006Y(2)(3) | 5.0 | 8 |
| 180 | Y | 173D187(1)006Y(2)(3) | 8.6 | 8 |
| 220 | Y | 173D227(1)006Y(2)(3) | 10.0 | 8 |
| 270 | Y | 173D277(1)006Y(2)(3) | 10.0 | 8 |
| 330 | Y | 173D337(1)006Y(2)(3) | 10.0 | 8 |
| **10 $V_{DC}$ AT + 85 °C, SURGE = 13 V; 7 $V_{DC}$ AT + 125 °C, SURGE = 9 V** | | | | |
| 2.2 | U | 173D225(1)010U(2)(3) | 0.5 | 4 |
| 2.7 | U | 173D275(1)010U(2)(3) | 0.5 | 4 |
| 3.3 | U | 173D335(1)010U(2)(3) | 0.5 | 4 |
| 3.9 | V | 173D395(1)010V(2)(3) | 0.5 | 4 |
| 4.7 | V | 173D475(1)010V(2)(3) | 0.5 | 4 |
| 5.6 | V | 173D565(1)010V(2)(3) | 0.5 | 4 |
| 6.8 | V | 173D685(1)010V(2)(3) | 0.5 | 6 |
| 8.2 | V | 173D825(1)010V(2)(3) | 0.7 | 6 |
| 10 | V | 173D106(1)010V(2)(3) | 0.8 | 6 |
| 12 | W | 173D126(1)010W(2)(3) | 1.0 | 6 |
| 15 | W | 173D156(1)010W(2)(3) | 1.2 | 6 |
| 18 | W | 173D186(1)010W(2)(3) | 1.4 | 6 |
| 22 | W | 173D226(1)010W(2)(3) | 1.5 | 6 |
| 27 | X | 173D276(1)010X(2)(3) | 2.2 | 6 |
| 33 | X | 173D336(1)010X(2)(3) | 2.6 | 6 |
| 39 | X | 173D396(1)010X(2)(3) | 3.1 | 6 |
| 47 | X | 173D476(1)010X(2)(3) | 3.8 | 6 |
| 56 | Y | 173D566(1)010Y(2)(3) | 4.4 | 6 |
| 68 | Y | 173D686(1)010Y(2)(3) | 5.0 | 6 |
| 82 | Y | 173D826(1)010Y(2)(3) | 5.0 | 8 |
| 100 | Y | 173D107(1)010Y(2)(3) | 8.0 | 8 |

**Note**

- Part number definition:

(1) For 10 % tolerance specify “X9”; for 20 % specify “X0”; for 5 % specify “X5” (special order)
(2) Packaging code: for reel 13" specify W, leave blank for ammo pack
(3) Termination: for 100 % tin specify E3, for SnPb leave blank


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## STANDARD RATINGS

| CAPACITANCE (µF) | CASE CODE | PART NUMBER | MAX. DCL AT + 25 °C (µA) | MAX. DF AT + 25 °C 120 Hz (%) |
|---|---|---|---|---|
| **10 $V_{DC}$ AT + 85 °C, SURGE = 13 V; 7 $V_{DC}$ AT + 125 °C, SURGE = 9 V** | | | | |
| 120 | Y | 173D127(1)010Y(2)(3) | 9.6 | 8 |
| 150 | Y | 173D157(1)010Y(2)(3) | 10.0 | 8 |
| 180 | Y | 173D187(1)010Y(2)(3) | 10.0 | 8 |
| 220 | Y | 173D227(1)010Y(2)(3) | 10.0 | 8 |
| **15 $V_{DC}$ AT + 85 °C, SURGE = 20 V; 10 $V_{DC}$ AT + 125 °C, SURGE = 12 V** | | | | |
| 1.0 | U | 173D105(1)015U(2)(3) | 0.5 | 4 |
| 1.5 | U | 173D155(1)015U(2)(3) | 0.5 | 4 |
| 1.8 | U | 173D185(1)015U(2)(3) | 0.5 | 4 |
| 2.2 | U | 173D225(1)015U(2)(3) | 0.5 | 4 |
| 2.7 | V | 173D275(1)015V(2)(3) | 0.5 | 4 |
| 3.3 | V | 173D335(1)015V(2)(3) | 0.5 | 4 |
| 3.9 | V | 173D395(1)015V(2)(3) | 0.5 | 4 |
| 4.7 | V | 173D475(1)015V(2)(3) | 0.6 | 4 |
| 5.6 | V | 173D565(1)015V(2)(3) | 0.7 | 4 |
| 6.8 | V | 173D685(1)015V(2)(3) | 0.8 | 6 |
| 8.2 | W | 173D825(1)015W(2)(3) | 1.0 | 6 |
| 10 | W | 173D106(1)015W(2)(3) | 1.2 | 6 |
| 12 | W | 173D126(1)015W(2)(3) | 1.4 | 6 |
| 15 | W | 173D156(1)015W(2)(3) | 1.5 | 6 |
| 18 | X | 173D186(1)015X(2)(3) | 2.2 | 6 |
| 22 | X | 173D226(1)015X(2)(3) | 2.6 | 6 |
| 27 | X | 173D276(1)015X(2)(3) | 3.2 | 6 |
| 33 | X | 173D336(1)015X(2)(3) | 4.0 | 6 |
| 39 | Y | 173D396(1)015Y(2)(3) | 4.7 | 6 |
| 47 | Y | 173D476(1)015Y(2)(3) | 5.0 | 6 |
| 56 | Y | 173D566(1)015Y(2)(3) | 6.7 | 6 |
| 68 | Y | 173D686(1)015Y(2)(3) | 8.2 | 6 |
| 82 | Y | 173D826(1)015Y(2)(3) | 9.8 | 8 |
| 100 | Y | 173D107(1)015Y(2)(3) | 10.0 | 8 |
| 120 | Y | 173D127(1)015Y(2)(3) | 10.0 | 8 |
| 150 | Y | 173D157(1)015Y(2)(3) | 10.0 | 8 |
| **20 $V_{DC}$ AT + 85 °C, SURGE = 26 V; 13 $V_{DC}$ AT + 125 °C, SURGE = 16 V** | | | | |
| 1.0 | U | 173D105(1)020U(2)(3) | 0.5 | 4 |
| 1.2 | U | 173D125(1)020U(2)(3) | 0.5 | 4 |
| 1.5 | U | 173D155(1)020U(2)(3) | 0.5 | 4 |
| 1.8 | V | 173D185(1)020V(2)(3) | 0.5 | 4 |
| 2.2 | U | 173D225(1)020U(2)(3) | 0.5 | 4 |
| 2.2 | V | 173D225(1)020V(2)(3) | 0.5 | 4 |
| 2.7 | V | 173D275(1)020V(2)(3) | 0.5 | 4 |
| 3.3 | V | 173D335(1)020V(2)(3) | 0.5 | 4 |
| 3.9 | V | 173D395(1)020V(2)(3) | 0.6 | 4 |
| 4.7 | V | 173D475(1)020V(2)(3) | 0.8 | 4 |
| 5.6 | W | 173D565(1)020W(2)(3) | 0.9 | 4 |

**Note**

- Part number definition:

(1) For 10 % tolerance specify “X9”; for 20 % specify “X0”; for 5 % specify “X5” (special order)
(2) Packaging code: for reel 13" specify W, leave blank for ammo pack
(3) Termination: for 100 % tin specify E3, for SnPb leave blank


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## STANDARD RATINGS

| CAPACITANCE (µF) | CASE CODE | PART NUMBER | MAX. DCL AT + 25 °C (µA) | MAX. DF AT + 25 °C 120 Hz (%) |
|---|---|---|---|---|
| **20 $V_{DC}$ AT + 85 °C, SURGE = 26 V; 13 $V_{DC}$ AT + 125 °C, SURGE = 16 V** | | | | |
| 6.8 | W | 173D685(1)020W(2)(3) | 1.1 | 6 |
| 8.2 | W | 173D825(1)020W(2)(3) | 1.3 | 6 |
| 10 | W | 173D106(1)020W(2)(3) | 1.6 | 6 |
| 12 | X | 173D126(1)020X(2)(3) | 1.9 | 6 |
| 15 | X | 173D156(1)020X(2)(3) | 2.4 | 6 |
| 18 | X | 173D186(1)020X(2)(3) | 2.9 | 6 |
| 22 | X | 173D226(1)020X(2)(3) | 3.5 | 6 |
| 27 | Y | 173D276(1)020Y(2)(3) | 4.3 | 6 |
| 33 | Y | 173D336(1)020Y(2)(3) | 5.0 | 6 |
| 39 | Y | 173D396(1)020Y(2)(3) | 6.2 | 6 |
| 47 | Y | 173D476(1)020Y(2)(3) | 7.5 | 6 |
| 56 | Y | 173D566(1)020Y(2)(3) | 8.9 | 6 |
| 68 | Y | 173D686(1)020Y(2)(3) | 10.0 | 6 |
| 82 | Y | 173D826(1)020Y(2)(3) | 10.0 | 6 |
| 100 | Y | 173D107(1)020Y(2)(3) | 10.0 | 6 |
| **25 $V_{DC}$ AT + 85 °C, SURGE = 32 V; 17 $V_{DC}$ AT + 125 °C, SURGE = 21 V** | | | | |
| 0.47 | U | 173D474(1)025U(2)(3) | 0.5 | 3 |
| 0.56 | U | 173D564(1)025U(2)(3) | 0.5 | 3 |
| 0.68 | U | 173D684(1)025U(2)(3) | 0.5 | 3 |
| 0.82 | U | 173D824(1)025U(2)(3) | 0.5 | 3 |
| 1.0 | U | 173D105(1)025U(2)(3) | 0.5 | 3 |
| 1.2 | V | 173D125(1)025V(2)(3) | 0.5 | 3 |
| 1.5 | V | 173D155(1)025V(2)(3) | 0.5 | 3 |
| 1.8 | V | 173D185(1)025V(2)(3) | 0.5 | 3 |
| 2.2 | V | 173D225(1)025V(2)(3) | 0.5 | 3 |
| 2.7 | V | 173D275(1)025V(2)(3) | 0.5 | 3 |
| 3.3 | V | 173D335(1)025V(2)(3) | 0.7 | 3 |
| 3.9 | W | 173D395(1)025W(2)(3) | 0.8 | 3 |
| 4.7 | W | 173D475(1)025W(2)(3) | 0.9 | 4 |
| 5.6 | W | 173D565(1)025W(2)(3) | 1.1 | 4 |
| 6.8 | W | 173D685(1)025W(2)(3) | 1.4 | 4 |
| 8.2 | W | 173D825(1)025W(2)(3) | 1.5 | 4 |
| 10 | W | 173D106(1)025W(2)(3) | 1.5 | 4 |
| 12 | X | 173D126(1)025X(2)(3) | 2.4 | 4 |
| 15 | X | 173D156(1)025X(2)(3) | 3.0 | 4 |
| 18 | Y | 173D186(1)025Y(2)(3) | 3.6 | 6 |
| 22 | Y | 173D226(1)025Y(2)(3) | 4.4 | 6 |
| 27 | Y | 173D276(1)025Y(2)(3) | 5.4 | 6 |
| 33 | Y | 173D336(1)025Y(2)(3) | 6.6 | 6 |
| 39 | Y | 173D396(1)025Y(2)(3) | 7.8 | 6 |
| 47 | Y | 173D476(1)025Y(2)(3) | 9.4 | 6 |

**Note**

- Part number definition:

(1) For 10 % tolerance specify “X9”; for 20 % specify “X0”; for 5 % specify “X5” (special order)
(2) Packaging code: for reel 13" specify W, leave blank for ammo pack
(3) Termination: for 100 % tin specify E3, for SnPb leave blank


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## STANDARD RATINGS

| CAPACITANCE (µF) | CASE CODE | PART NUMBER | MAX. DCL AT + 25 °C (µA) | MAX. DF AT + 25 °C 120 Hz (%) |
|---|---|---|---|---|
| **35 $V_{DC}$ AT + 85 °C, SURGE = 46 V; 23 $V_{DC}$ AT + 125 °C, SURGE = 28 V** | | | | |
| 0.10 | U | 173D104(1)035U(2)(3) | 0.5 | 3 |
| 0.12 | U | 173D124(1)035U(2)(3) | 0.5 | 3 |
| 0.15 | U | 173D154(1)035U(2)(3) | 0.5 | 3 |
| 0.18 | U | 173D184(1)035U(2)(3) | 0.5 | 3 |
| 0.22 | U | 173D224(1)035U(2)(3) | 0.5 | 3 |
| 0.27 | U | 173D274(1)035U(2)(3) | 0.5 | 3 |
| 0.33 | U | 173D334(1)035U(2)(3) | 0.5 | 3 |
| 0.39 | U | 173D394(1)035U(2)(3) | 0.5 | 3 |
| 0.47 | U | 173D474(1)035U(2)(3) | 0.5 | 3 |
| 0.56 | V | 173D564(1)035V(2)(3) | 0.5 | 3 |
| 0.68 | V | 173D684(1)035V(2)(3) | 0.5 | 3 |
| 0.82 | V | 173D824(1)035V(2)(3) | 0.5 | 3 |
| 1.0 | V | 173D105(1)035V(2)(3) | 0.5 | 3 |
| 1.2 | V | 173D125(1)035V(2)(3) | 0.5 | 3 |
| 1.5 | V | 173D155(1)035V(2)(3) | 0.5 | 3 |
| 1.8 | W | 173D185(1)035W(2)(3) | 0.5 | 3 |
| 2.2 | W | 173D225(1)035W(2)(3) | 0.6 | 3 |
| 2.7 | W | 173D275(1)035W(2)(3) | 0.8 | 3 |
| 3.3 | W | 173D335(1)035W(2)(3) | 0.9 | 4 |
| 3.9 | W | 173D395(1)035W(2)(3) | 1.1 | 4 |
| 4.7 | W | 173D475(1)035W(2)(3) | 1.3 | 4 |
| 5.6 | X | 173D565(1)035X(2)(3) | 1.6 | 4 |
| 6.8 | X | 173D685(1)035X(2)(3) | 1.9 | 4 |
| 8.2 | X | 173D825(1)035X(2)(3) | 2.3 | 4 |
| 10 | X | 173D106(1)035X(2)(3) | 2.8 | 4 |
| 12 | Y | 173D126(1)035Y(2)(3) | 3.3 | 4 |
| 15 | Y | 173D156(1)035Y(2)(3) | 4.2 | 4 |
| 18 | Y | 173D186(1)035Y(2)(3) | 5.0 | 6 |
| 22 | Y | 173D226(1)035Y(2)(3) | 6.2 | 6 |
| 27 | Y | 173D276(1)035Y(2)(3) | 7.5 | 6 |
| 33 | Y | 173D336(1)035Y(2)(3) | 9.2 | 6 |
| 39 | Y | 173D396(1)035Y(2)(3) | 10.0 | 6 |
| 47 | Y | 173D476(1)035Y(2)(3) | 10.0 | 6 |
| **50 $V_{DC}$ AT + 85 °C, SURGE = 65 V; 33 $V_{DC}$ AT + 125 °C, SURGE = 40 V** | | | | |
| 0.10 | U | 173D104(1)050U(2)(3) | 0.5 | 3 |
| 0.12 | U | 173D124(1)050U(2)(3) | 0.5 | 3 |
| 0.15 | U | 173D154(1)050U(2)(3) | 0.5 | 3 |
| 0.18 | U | 173D184(1)050U(2)(3) | 0.5 | 3 |
| 0.22 | U | 173D224(1)050U(2)(3) | 0.5 | 3 |
| 0.27 | U | 173D274(1)050U(2)(3) | 0.5 | 3 |
| 0.33 | V | 173D334(1)050V(2)(3) | 0.5 | 3 |
| 0.39 | V | 173D394(1)050V(2)(3) | 0.5 | 3 |

**Note**

- Part number definition:

(1) For 10 % tolerance specify “X9”; for 20 % specify “X0”; for 5 % specify “X5” (special order)
(2) Packaging code: for reel 13" specify W, leave blank for ammo pack
(3) Termination: for 100 % tin specify E3, for SnPb leave blank


For technical questions, contact: tantalum@vishay.com
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## STANDARD RATINGS

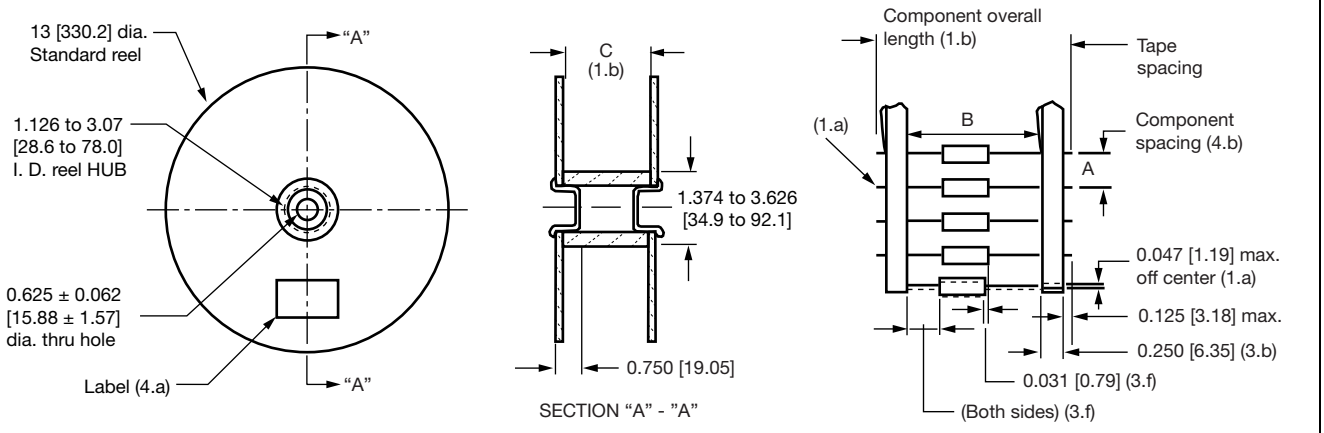
| CAPACITANCE (µF) | CASE CODE | PART NUMBER | MAX. DCL AT + 25 °C (µA) | MAX. DF AT + 25 °C 120 Hz (%) |
|---|---|---|---|---|
| 50 $V_{DC}$ AT + 85 °C, SURGE = 65 V; 33 $V_{DC}$ AT + 125 °C, SURGE = 40 V | | | | |
| 0.47 | V | 173D474(1)050V(2)(3) | 0.5 | 3 |
| 0.56 | V | 173D564(1)050V(2)(3) | 0.5 | 3 |
| 0.68 | V | 173D684(1)050V(2)(3) | 0.5 | 3 |
| 0.82 | V | 173D824(1)050V(2)(3) | 0.5 | 3 |
| 1.0 | V | 173D105(1)050V(2)(3) | 0.5 | 3 |
| 1.2 | W | 173D125(1)050W(2)(3) | 0.5 | 3 |
| 1.5 | W | 173D155(1)050W(2)(3) | 0.6 | 3 |
| 1.8 | W | 173D185(1)050W(2)(3) | 0.7 | 4 |
| 2.2 | W | 173D225(1)050W(2)(3) | 0.9 | 4 |
| 2.7 | X | 173D275(1)050X(2)(3) | 1.1 | 4 |
| 3.3 | X | 173D335(1)050X(2)(3) | 1.3 | 4 |
| 3.9 | X | 173D395(1)050X(2)(3) | 1.6 | 4 |
| 4.7 | X | 173D475(1)050X(2)(3) | 1.9 | 4 |
| 5.6 | Y | 173D565(1)050Y(2)(3) | 2.2 | 4 |
| 6.8 | Y | 173D685(1)050Y(2)(3) | 2.7 | 4 |
| 8.2 | Y | 173D825(1)050Y(2)(3) | 3.2 | 4 |
| 10 | Y | 173D106(1)050Y(2)(3) | 4.0 | 6 |
| 12 | Y | 173D126(1)050Y(2)(3) | 5.0 | 6 |
| 15 | Y | 173D156(1)050Y(2)(3) | 6.0 | 6 |
| 18 | Y | 173D186(1)050Y(2)(3) | 6.0 | 6 |
| 22 | Y | 173D226(1)050Y(2)(3) | 11.0 | 6 |

**Note**

- Part number definition:

(1) For 10 % tolerance specify “X9”; for 20 % specify “X0”; for 5 % specify “X5” (special order)
(2) Packaging code: for reel 13" specify W, leave blank for ammo pack
(3) Termination: for 100 % tin specify E3, for SnPb leave blank

## TAPE AND REEL PACKAGING in inches [millimeters]




| CASE CODE | UNITS PER REEL | COMPONENT SPACING | TAPE SPACING | UNITS PER AMMOPACK |
|---|---|---|---|---|
| | | A | B | |
| U | 4500 | 0.200 ± 0.015 [5.08 ± 3.81] | 2.062 ± 0.062 [52.37 ± 1.57] | 1000 |
| V | 4000 | | | |
| W, X | 2500 | | | 500 |
| Y | 500 | 0.400 ± 0.015 | | |



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## STANDARD REEL PACKAGING INFORMATION

**1. Component Leads**

a. Component leads shall not be bent beyond 0.047" [1.19 mm] maximum from their nominal position when measured from the leading edge of the component lead at the inside tape edge and at the lead egress from the component.

b. The “C” dimension shall be governed by the overall length of the reel packaged component. The distance between flanges shall be 0.125" to 0.250" [3.18 mm to 6.35 mm] greater than the overall component length.

**2. Orientation**

All polarized components must be oriented to one direction. The cathode lead tape shall be a color and the anode lead tape shall be white.

**3. Reeling**

a. Components on any reel shall not represent more than two date codes when date code identification is required.

b. Component leads shall be positioned between pairs of 0.250" [6.35 mm] tape.

c. The disposable reels have hubs and corrugated fibreboard flanges and core.

d. A minimum of 12" [304.8 mm] leader of tape shall be provided before the first and after the last component on the reel.

e. 50 lb to 60 lb. Kraft paper must be wound between layers of components as far as necessary for component protection. Width of paper to be 0.062" to 0.250" [1.57 mm to 6.35 mm] less than the “C” dimension of the reel.

f. Row components must be centered between tapes ± 0.047" [1.19 mm]. In addition, individual components may deviate from center of component row ± 0.031" [0.79 mm].

g. Staples shall not be used for splicing. Not more than 4 layers of tape shall be used in any splice area and no tape shall be offset from another by more than 0.031" [0.79 mm] non-cumulative. Tape splices shall overlap at least 6.0" [152.4 mm] for butt joints and at least 3" [76.2 mm] for lap joints and shall not be weaker than unspliced tape. Universal splicing clips may also be used.

h. Quantity per reel shall be controlled so that tape components and cover shall not extend beyond the smallest dimension of the flange (either across flats or diameter). Once the quantity per reel for each part number has been established, future orders for that part number shall be packaged in that quantity. When order release quantity is less than the established quantity, a standard commercial pack is to be used.

i. A maximum of 0.25 % of the components per reel quantity may be missing without consecutive missing components.

j. Adequate protection must be provided to prevent physical damage to both reel and components during shipment and storage

| **PRODUCT INFORMATION** | |
|---|---|
| Mounting of Through Hole Components | www.vishay.com/doc?40108 |
| **SELECTOR GUIDES** | |
| Quick Reference Guide | www.vishay.com/doc?40037 |
| Selector Guide | www.vishay.com/doc?49054 |
| Parameter Comparison Guide | www.vishay.com/doc?40033 |
| **FAQ** | |
| Frequently Asked Questions | www.vishay.com/doc?40110 |


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Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
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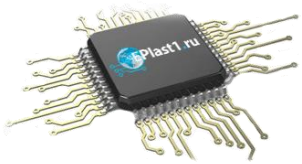
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.




**Как с нами связаться**

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