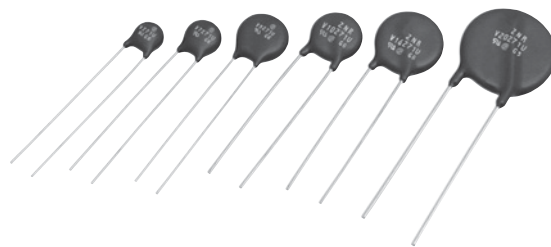


## "ZNR" Transient/Surge Absorbers

Type: **D**

Series: **V**



### Features

- Large withstanding surge current capability in compact sizes
- Large "Energy Handling Capability" absorbing transient overvoltages in compact sizes
- Wide range of varistor voltages
- RoHS compliant

### Recommended Applications

- Transistor, diode, IC, thyristor or triac semiconductor protection
- Surge protection in consumer electronic equipment
- Surge protection in communication, measuring or controller electronics
- Surge protection in electronic home appliances, gas or petroleum appliances

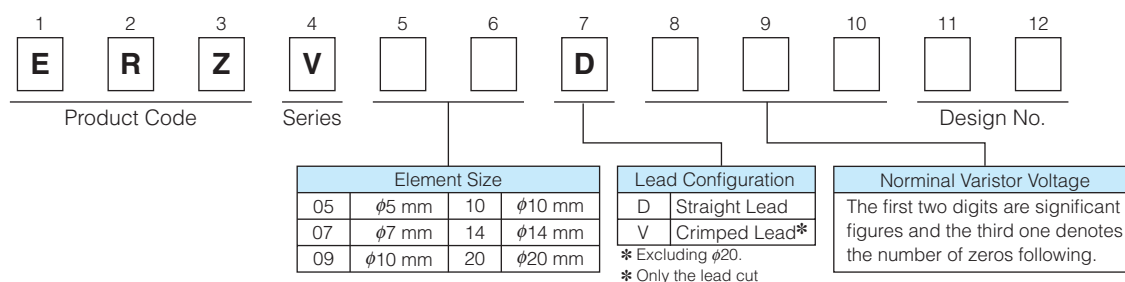
### Applicable Standards

- UL1449 (VZCA2/UL, VZCA8/C-UL)
  - VDE IEC61051-1, -2, -2-2, IEC60950-1 Annex.Q
  - CSA C22.2 No.1
  - CQC(GB/T10193, GB/T10194, GB4943.1, GB8898)
- Refer to page 5 to 8, and 27, for the details

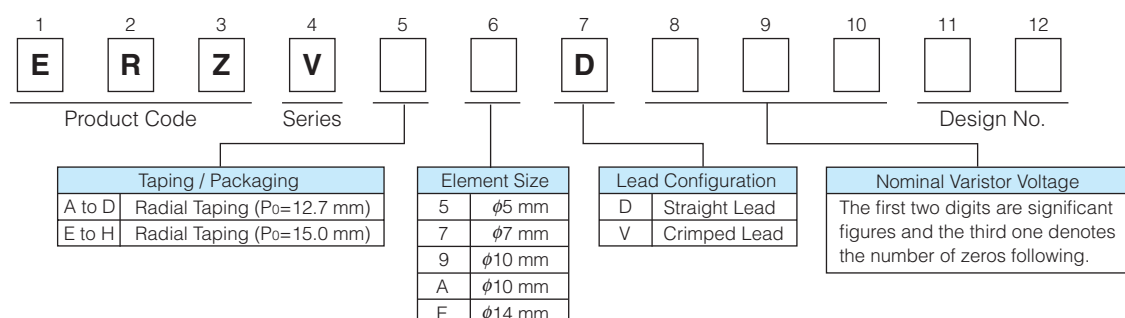
### ■ As for Handling Precautions and Minimum Quantity / Packing Unit

Please see Related Information

### Explanation of Part Numbers (Bulk)



### Explanation of Part Numbers (Taping)



## Reference Guide to Standard Products

| Part No.   | Applicable Standards |           | Varistor Voltage* | Maximum Allowable Voltage |        | Clamping Voltage at 8/20μs |                    | Maximum Peak Current at 8/20μs(A) |         | Recommended Applications    |
|------------|----------------------|-----------|-------------------|---------------------------|--------|----------------------------|--------------------|-----------------------------------|---------|-----------------------------|
|            | Type Name            | Approvals | (V)               | ACrms (V)                 | DC (V) | max.(V)                    | I <sub>p</sub> (A) | 1 time                            | 2 times |                             |
| ERZV05D180 | V180                 | ◇         | 18<br>(16 to 20)  | 11                        | 14     | 40                         | 1                  | 250                               | 125     | For the low voltage circuit |
| ERZV07D180 | V7180                | ◇         |                   |                           |        | 36                         | 2.5                | 500                               | 250     |                             |
| ERZV09D180 | V9180                | ◇         |                   |                           |        | 36                         | 5                  | 1000                              | 500     |                             |
| ERZV10D180 | V10180               | ◇         |                   |                           |        | 36                         | 5                  | 1000                              | 500     |                             |
| ERZV14D180 | V14180               | ◇         |                   |                           |        | 36                         | 10                 | 2000                              | 1000    |                             |
| ERZV20D180 | V20180               | ◇         |                   |                           |        | 36                         | 20                 | 3000                              | 2000    |                             |
| ERZV05D220 | V220                 | ◇         | 22<br>(20 to 24)  | 14                        | 18     | 48                         | 1                  | 250                               | 125     |                             |
| ERZV07D220 | V7220                | ◇         |                   |                           |        | 43                         | 2.5                | 500                               | 250     |                             |
| ERZV09D220 | V9220                | ◇         |                   |                           |        | 43                         | 5                  | 1000                              | 500     |                             |
| ERZV10D220 | V10220               | ◇         |                   |                           |        | 43                         | 5                  | 1000                              | 500     |                             |
| ERZV14D220 | V14220               | ◇         |                   |                           |        | 43                         | 10                 | 2000                              | 1000    |                             |
| ERZV20D220 | V20220               | ◇         |                   |                           |        | 43                         | 20                 | 3000                              | 2000    |                             |
| ERZV05D270 | V270                 | ◇         | 27<br>(24 to 30)  | 17                        | 22     | 60                         | 1                  | 250                               | 125     |                             |
| ERZV07D270 | V7270                | ◇         |                   |                           |        | 53                         | 2.5                | 500                               | 250     |                             |
| ERZV09D270 | V9270                | ◇         |                   |                           |        | 53                         | 5                  | 1000                              | 500     |                             |
| ERZV10D270 | V10270               | ◇         |                   |                           |        | 53                         | 5                  | 1000                              | 500     |                             |
| ERZV14D270 | V14270               | ◇         |                   |                           |        | 53                         | 10                 | 2000                              | 1000    |                             |
| ERZV20D270 | V20270               | ◇         |                   |                           |        | 53                         | 20                 | 3000                              | 2000    |                             |
| ERZV05D330 | V330                 | ◇         | 33<br>(30 to 36)  | 20                        | 26     | 73                         | 1                  | 250                               | 125     |                             |
| ERZV07D330 | V7330                | ◇         |                   |                           |        | 65                         | 2.5                | 500                               | 250     |                             |
| ERZV09D330 | V9330                | ◇         |                   |                           |        | 65                         | 5                  | 1000                              | 500     |                             |
| ERZV10D330 | V10330               | ◇         |                   |                           |        | 65                         | 5                  | 1000                              | 500     |                             |
| ERZV14D330 | V14330               | ◇         |                   |                           |        | 65                         | 10                 | 2000                              | 1000    |                             |
| ERZV20D330 | V20330               | ◇         |                   |                           |        | 65                         | 20                 | 3000                              | 2000    |                             |
| ERZV05D390 | V390                 | ◇         | 39<br>(35 to 43)  | 25                        | 31     | 86                         | 1                  | 250                               | 125     |                             |
| ERZV07D390 | V7390                | ◇         |                   |                           |        | 77                         | 2.5                | 500                               | 250     |                             |
| ERZV09D390 | V9390                | ◇         |                   |                           |        | 77                         | 5                  | 1000                              | 500     |                             |
| ERZV10D390 | V10390               | ◇         |                   |                           |        | 77                         | 5                  | 1000                              | 500     |                             |
| ERZV14D390 | V14390               | ◇         |                   |                           |        | 77                         | 10                 | 2000                              | 1000    |                             |
| ERZV20D390 | V20390               | ◇         |                   |                           |        | 77                         | 20                 | 3000                              | 2000    |                             |
| ERZV05D470 | V470                 | ◇         | 47<br>(42 to 52)  | 30                        | 38     | 104                        | 1                  | 250                               | 125     |                             |
| ERZV07D470 | V7470                | ◇         |                   |                           |        | 93                         | 2.5                | 500                               | 250     |                             |
| ERZV09D470 | V9470                | ◇         |                   |                           |        | 93                         | 5                  | 1000                              | 500     |                             |
| ERZV10D470 | V10470               | ◇         |                   |                           |        | 93                         | 5                  | 1000                              | 500     |                             |
| ERZV14D470 | V14470               | ◇         |                   |                           |        | 93                         | 10                 | 2000                              | 1000    |                             |
| ERZV20D470 | V20470               | ◇         |                   |                           |        | 93                         | 20                 | 3000                              | 2000    |                             |
| ERZV05D560 | V560                 | ◇         | 56<br>(50 to 62)  | 35                        | 45     | 123                        | 1                  | 250                               | 125     |                             |
| ERZV07D560 | V7560                | ◇         |                   |                           |        | 110                        | 2.5                | 500                               | 250     |                             |
| ERZV09D560 | V9560                | ◇         |                   |                           |        | 110                        | 5                  | 1000                              | 500     |                             |
| ERZV10D560 | V10560               | ◇         |                   |                           |        | 110                        | 5                  | 1000                              | 500     |                             |
| ERZV14D560 | V14560               | ◇         |                   |                           |        | 110                        | 10                 | 2000                              | 1000    |                             |
| ERZV20D560 | V20560               | ◇         |                   |                           |        | 110                        | 20                 | 3000                              | 2000    |                             |
| ERZV05D680 | V680                 | ◇         | 68<br>(61 to 75)  | 40                        | 56     | 150                        | 1                  | 250                               | 125     |                             |
| ERZV07D680 | V7680                | ◇         |                   |                           |        | 135                        | 2.5                | 500                               | 250     |                             |
| ERZV09D680 | V9680                | ◇         |                   |                           |        | 135                        | 5                  | 1000                              | 500     |                             |
| ERZV10D680 | V10680               | ◇         |                   |                           |        | 135                        | 5                  | 1000                              | 500     |                             |
| ERZV14D680 | V14680               | ◇         |                   |                           |        | 135                        | 10                 | 2000                              | 1000    |                             |
| ERZV20D680 | V20680               | ◇         |                   |                           |        | 135                        | 20                 | 3000                              | 2000    |                             |

\* Measuring Current of Varistor Voltage 5 Series : 0.1 mA, Others: 1 mA

○ : UL1449 (VZCA2/UL, VZCA8/C-UL),

☆ : VDE (IEC61051-1, -2, -2-2), ★ : VDE (IEC60950-1 Annex.Q), □ : CSA C22.2 No.1

◇ : CQC (GB/T10193, GB/T10194), ◆ : CQC (GB4943.1, GB8998)

※ Approval number (File No.) of safety regulations are subject to revision without notice. Ask factory for a copy of the latest file No.

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use.

Should a safety concern arise regarding this product, please be sure to contact us immediately.

## Reference Guide to Standard Products

| Part No.   | Applicable Standards |           | Varistor Voltage*   | Maximum Allowable Voltage |        | Clamping Voltage at 8/20μs |                    | Maximum Peak Current at 8/20μs(A) |         | Recommended Applications                   |
|------------|----------------------|-----------|---------------------|---------------------------|--------|----------------------------|--------------------|-----------------------------------|---------|--------------------------------------------|
|            | Type Name            | Approvals | (V)                 | ACrms (V)                 | DC (V) | max.(V)                    | I <sub>p</sub> (A) | 1 time                            | 2 times |                                            |
| ERZV05D820 | V820U                | ○☆◇       | 82<br>(74 to 90)    | 50                        | 65     | 145                        | 5                  | 800                               | 600     | Telephone, Communication Line<br>(DC 48 V) |
| ERZV07D820 | V7820U               | ○☆◇       |                     |                           |        | 135                        | 10                 | 1750                              | 1250    |                                            |
| ERZV09D820 | V9820U               | ○☆◇       |                     |                           |        | 135                        | 25                 | 3500                              | 2500    |                                            |
| ERZV10D820 | V10820U              | ○☆◇       |                     |                           |        | 135                        | 25                 | 3500                              | 2500    |                                            |
| ERZV14D820 | V14820U              | ○☆◇       |                     |                           |        | 135                        | 50                 | 6000                              | 5000    |                                            |
| ERZV20D820 | V20820U              | ○☆◇       |                     |                           |        | 135                        | 100                | 10000                             | 7000    |                                            |
| ERZV05D101 | V101U                | ○☆◇       | 100<br>(90 to 110)  | 60                        | 85     | 175                        | 5                  | 800                               | 600     |                                            |
| ERZV07D101 | V7101U               | ○☆◇       |                     |                           |        | 165                        | 10                 | 1750                              | 1250    |                                            |
| ERZV09D101 | V9101U               | ○☆◇       |                     |                           |        | 165                        | 25                 | 3500                              | 2500    |                                            |
| ERZV10D101 | V10101U              | ○☆◇       |                     |                           |        | 165                        | 25                 | 3500                              | 2500    |                                            |
| ERZV14D101 | V14101U              | ○☆◇       |                     |                           |        | 165                        | 50                 | 6000                              | 5000    |                                            |
| ERZV20D101 | V20101U              | ○☆◇       |                     |                           |        | 165                        | 100                | 10000                             | 7000    |                                            |
| ERZV05D121 | V121U                | ○☆◇       | 120<br>(108 to 132) | 75                        | 100    | 210                        | 5                  | 800                               | 600     |                                            |
| ERZV07D121 | V7121U               | ○☆◇       |                     |                           |        | 200                        | 10                 | 1750                              | 1250    |                                            |
| ERZV09D121 | V9121U               | ○☆◇       |                     |                           |        | 200                        | 25                 | 3500                              | 2500    |                                            |
| ERZV10D121 | V10121U              | ○☆◇       |                     |                           |        | 200                        | 25                 | 3500                              | 2500    |                                            |
| ERZV14D121 | V14121U              | ○☆◇       |                     |                           |        | 200                        | 50                 | 6000                              | 5000    |                                            |
| ERZV20D121 | V20121U              | ○☆◇       |                     |                           |        | 200                        | 100                | 10000                             | 7000    |                                            |
| ERZV05D151 | V151U                | ○☆◇       | 150<br>(135 to 165) | 95                        | 125    | 260                        | 5                  | 800                               | 600     |                                            |
| ERZV07D151 | V7151U               | ○☆◇       |                     |                           |        | 250                        | 10                 | 1750                              | 1250    |                                            |
| ERZV09D151 | V9151U               | ○☆◇       |                     |                           |        | 250                        | 25                 | 3500                              | 2500    |                                            |
| ERZV10D151 | V10151U              | ○☆◇       |                     |                           |        | 250                        | 25                 | 3500                              | 2500    |                                            |
| ERZV14D151 | V14151U              | ○☆◇       |                     |                           |        | 250                        | 50                 | 6000                              | 5000    |                                            |
| ERZV20D151 | V20151U              | ○☆◇       |                     |                           |        | 250                        | 100                | 10000                             | 7000    |                                            |
| ERZV05D201 | V201U                | ○☆□◇      | 200<br>(185 to 225) | 130                       | 170    | 355                        | 5                  | 800                               | 600     | AC 100 V Line-Line Applications            |
| ERZV07D201 | V7201U               | ○☆□◇      |                     |                           |        | 340                        | 10                 | 1750                              | 1250    |                                            |
| ERZV09D201 | V9201U               | ○☆□◇      |                     |                           |        | 340                        | 25                 | 3500                              | 2500    |                                            |
| ERZV10D201 | V10201U              | ○☆□◇      |                     |                           |        | 340                        | 25                 | 3500                              | 2500    |                                            |
| ERZV14D201 | V14201U              | ○☆★□◇◆    |                     |                           |        | 340                        | 50                 | 6000                              | 5000    |                                            |
| ERZV20D201 | V20201U              | ○☆★□◇◆    |                     |                           |        | 340                        | 100                | 10000                             | 7000    |                                            |
| ERZV05D221 | V221U                | ○☆□◇      | 220<br>(198 to 242) | 140                       | 180    | 380                        | 5                  | 800                               | 600     |                                            |
| ERZV07D221 | V7221U               | ○☆□◇      |                     |                           |        | 360                        | 10                 | 1750                              | 1250    |                                            |
| ERZV09D221 | V9221U               | ○☆□◇      |                     |                           |        | 360                        | 25                 | 3500                              | 2500    |                                            |
| ERZV10D221 | V10221U              | ○☆□◇      |                     |                           |        | 360                        | 25                 | 3500                              | 2500    |                                            |
| ERZV14D221 | V14221U              | ○☆★□◇◆    |                     |                           |        | 360                        | 50                 | 6000                              | 5000    |                                            |
| ERZV20D221 | V20221U              | ○☆★□◇◆    |                     |                           |        | 360                        | 100                | 10000                             | 7000    |                                            |
| ERZV05D241 | V241U                | ○☆□◇      | 240<br>(216 to 264) | 150                       | 200    | 415                        | 5                  | 800                               | 600     | AC 100 V to 120 V, Line-Line Applications  |
| ERZV07D241 | V7241U               | ○☆□◇      |                     |                           |        | 395                        | 10                 | 1750                              | 1250    |                                            |
| ERZV09D241 | V9241U               | ○☆□◇      |                     |                           |        | 395                        | 25                 | 3500                              | 2500    |                                            |
| ERZV10D241 | V10241U              | ○☆□◇      |                     |                           |        | 395                        | 25                 | 3500                              | 2500    |                                            |
| ERZV14D241 | V14241U              | ○☆★□◇◆    |                     |                           |        | 395                        | 50                 | 6000                              | 5000    |                                            |
| ERZV20D241 | V20241U              | ○☆★□◇◆    |                     |                           |        | 395                        | 100                | 10000                             | 7000    |                                            |
| ERZV05D271 | V271U                | ○☆□◇      | 270<br>(247 to 303) | 175                       | 225    | 475                        | 5                  | 800                               | 600     |                                            |
| ERZV07D271 | V7271U               | ○☆□◇      |                     |                           |        | 455                        | 10                 | 1750                              | 1250    |                                            |
| ERZV09D271 | V9271U               | ○☆□◇      |                     |                           |        | 455                        | 25                 | 3500                              | 2500    |                                            |
| ERZV10D271 | V10271U              | ○☆□◇      |                     |                           |        | 455                        | 25                 | 3500                              | 2500    |                                            |
| ERZV14D271 | V14271U              | ○☆★□◇◆    |                     |                           |        | 455                        | 50                 | 6000                              | 5000    |                                            |
| ERZV20D271 | V20271U              | ○☆★□◇◆    |                     |                           |        | 455                        | 100                | 10000                             | 7000    |                                            |

\* Measuring Current of Varistor Voltage 5 Series : 0.1 mA, Others: 1 mA

○ : UL1449 (VZCA2/UL, VZCA8/C-UL),

☆ : VDE (IEC61051-1, -2, -2-2), ★ : VDE (IEC60950-1 Annex.Q), □ : CSA C22.2 No.1

◇ : CQC (GB/T10193, GB/T10194), ◆ : CQC (GB4943.1, GB8898)

※ Approval number (File No.) of safety regulations are subject to revision without notice. Ask factory for a copy of the latest file No.

## Reference Guide to Standard Products

| Part No.   | Applicable Standards |           | Varistor Voltage*   | Maximum Allowable Voltage |        | Clamping Voltage at 8/20μs |                    | Maximum Peak Current at 8/20μs(A) |         | Recommended Applications                                                                                                   |
|------------|----------------------|-----------|---------------------|---------------------------|--------|----------------------------|--------------------|-----------------------------------|---------|----------------------------------------------------------------------------------------------------------------------------|
|            | Type Name            | Approvals | (V)                 | ACrms (V)                 | DC (V) | max.(V)                    | I <sub>p</sub> (A) | 1 time                            | 2 times |                                                                                                                            |
| ERZV05D331 | V331U                | ○☆□◇      | 330<br>(297 to 363) | 210                       | 270    | 570                        | 5                  | 800                               | 600     | AC 100 V to 120 V, Line–Line Applications<br><br>Telephone Line Applications,<br>(For DC 250 V Insulation Resistance Test) |
| ERZV07D331 | V7331U               | ○☆□◇      |                     |                           |        | 545                        | 10                 | 1750                              | 1250    |                                                                                                                            |
| ERZV09D331 | V9331U               | ○☆□◇      |                     |                           |        | 545                        | 25                 | 3500                              | 2500    |                                                                                                                            |
| ERZV10D331 | V10331U              | ○☆□◇      |                     |                           |        | 545                        | 25                 | 3500                              | 2500    |                                                                                                                            |
| ERZV14D331 | V14331U              | ○☆★□◇◆    |                     |                           |        | 545                        | 50                 | 6000                              | 4500    |                                                                                                                            |
| ERZV20D331 | V20331U              | ○☆★□◇◆    |                     |                           |        | 545                        | 100                | 10000                             | 6500    |                                                                                                                            |
| ERZV05D361 | V361U                | ○☆□◇      | 360<br>(324 to 396) | 230                       | 300    | 620                        | 5                  | 800                               | 600     |                                                                                                                            |
| ERZV07D361 | V7361U               | ○☆□◇      |                     |                           |        | 595                        | 10                 | 1750                              | 1250    |                                                                                                                            |
| ERZV09D361 | V9361U               | ○☆□◇      |                     |                           |        | 595                        | 25                 | 3500                              | 2500    |                                                                                                                            |
| ERZV10D361 | V10361U              | ○☆□◇      |                     |                           |        | 595                        | 25                 | 3500                              | 2500    |                                                                                                                            |
| ERZV14D361 | V14361U              | ○☆★□◇◆    |                     |                           |        | 595                        | 50                 | 6000                              | 4500    |                                                                                                                            |
| ERZV20D361 | V20361U              | ○☆★□◇◆    |                     |                           |        | 595                        | 100                | 10000                             | 6500    |                                                                                                                            |
| ERZV05D391 | V391U                | ○☆□◇      | 390<br>(351 to 429) | 250                       | 320    | 675                        | 5                  | 800                               | 600     | AC 100 V to 220 V, Line–Line and Line–Ground Applications                                                                  |
| ERZV07D391 | V7391U               | ○☆□◇      |                     |                           |        | 650                        | 10                 | 1750                              | 1250    |                                                                                                                            |
| ERZV09D391 | V9391U               | ○☆□◇      |                     |                           |        | 650                        | 25                 | 3500                              | 2500    |                                                                                                                            |
| ERZV10D391 | V10391U              | ○☆□◇      |                     |                           |        | 650                        | 25                 | 3500                              | 2500    |                                                                                                                            |
| ERZV14D391 | V14391U              | ○☆★□◇◆    |                     |                           |        | 650                        | 50                 | 6000                              | 4500    |                                                                                                                            |
| ERZV20D391 | V20391U              | ○☆★□◇◆    |                     |                           |        | 650                        | 100                | 10000                             | 6500    |                                                                                                                            |
| ERZV05D431 | V431U                | ○☆□◇      | 430<br>(387 to 473) | 275                       | 350    | 745                        | 5                  | 800                               | 600     |                                                                                                                            |
| ERZV07D431 | V7431U               | ○☆□◇      |                     |                           |        | 710                        | 10                 | 1750                              | 1250    |                                                                                                                            |
| ERZV09D431 | V9431U               | ○☆□◇      |                     |                           |        | 710                        | 25                 | 3500                              | 2500    |                                                                                                                            |
| ERZV10D431 | V10431U              | ○☆□◇      |                     |                           |        | 710                        | 25                 | 3500                              | 2500    |                                                                                                                            |
| ERZV14D431 | V14431U              | ○☆★□◇◆    |                     |                           |        | 710                        | 50                 | 6000                              | 4500    |                                                                                                                            |
| ERZV20D431 | V20431U              | ○☆★□◇◆    |                     |                           |        | 710                        | 100                | 10000                             | 6500    |                                                                                                                            |
| ERZV05D471 | V471U                | ○☆□◇      | 470<br>(423 to 517) | 300                       | 385    | 810                        | 5                  | 800                               | 600     | AC 100 to 240 V, Line–Line and Line–Ground Applications                                                                    |
| ERZV07D471 | V7471U               | ○☆□◇      |                     |                           |        | 775                        | 10                 | 1750                              | 1250    |                                                                                                                            |
| ERZV09D471 | V9471U               | ○☆□◇      |                     |                           |        | 775                        | 25                 | 3500                              | 2500    |                                                                                                                            |
| ERZV10D471 | V10471U              | ○☆★□◇◆    |                     |                           |        | 775                        | 25                 | 3500                              | 2500    |                                                                                                                            |
| ERZV14D471 | V14471U              | ○☆★□◇◆    |                     |                           |        | 775                        | 50                 | 6000                              | 4500    |                                                                                                                            |
| ERZV20D471 | V20471U              | ○☆★□◇◆    |                     |                           |        | 775                        | 100                | 10000                             | 6500    |                                                                                                                            |
| ERZV07D511 | V7511U               | ○☆□◇      | 510<br>(459 to 561) | 320                       | 410    | 845                        | 10                 | 1750                              | 1250    |                                                                                                                            |
| ERZV09D511 | V9511U               | ○☆□◇      |                     |                           |        | 845                        | 25                 | 3500                              | 2500    |                                                                                                                            |
| ERZV10D511 | V10511U              | ○☆★□◇◆    |                     |                           |        | 845                        | 25                 | 3500                              | 2500    |                                                                                                                            |
| ERZV14D511 | V14511U              | ○☆★□◇◆    |                     |                           |        | 845                        | 50                 | 6000                              | 4500    |                                                                                                                            |
| ERZV20D511 | V20511U              | ○☆★□◇◆    |                     |                           |        | 845                        | 100                | 10000                             | 6500    |                                                                                                                            |
| ERZV10D561 | V10561U              | ○☆★□◇◆    | 560<br>(504 to 616) | 350                       | 450    | 930                        | 25                 | 3500                              | 2500    |                                                                                                                            |
| ERZV14D561 | V14561U              | ○☆★□◇◆    |                     |                           |        | 930                        | 50                 | 5000                              | 4500    |                                                                                                                            |
| ERZV20D561 | V20561U              | ○☆★□◇◆    |                     |                           |        | 930                        | 100                | 7500                              | 6500    |                                                                                                                            |
| ERZV10D621 | V10621U              | ○☆★□◇◆    | 620<br>(558 to 682) | 385                       | 505    | 1025                       | 25                 | 3500                              | 2500    |                                                                                                                            |
| ERZV14D621 | V14621U              | ○☆★□◇◆    |                     |                           |        | 1025                       | 50                 | 5000                              | 4500    |                                                                                                                            |
| ERZV20D621 | V20621U              | ○☆★□◇◆    |                     |                           |        | 1025                       | 100                | 7500                              | 6500    |                                                                                                                            |
| ERZV10D681 | V10681U              | ○☆★□◇◆    | 680<br>(612 to 748) | 420                       | 560    | 1120                       | 25                 | 3500                              | 2500    |                                                                                                                            |
| ERZV14D681 | V14681U              | ○☆★□◇◆    |                     |                           |        | 1120                       | 50                 | 5000                              | 4500    |                                                                                                                            |
| ERZV20D681 | V20681U              | ○☆★□◇◆    |                     |                           |        | 1120                       | 100                | 7500                              | 6500    |                                                                                                                            |

\* Measuring Current of Varistor Voltage 5 Series : 0.1 mA, Others: 1 mA

○ : UL1449 (VZCA2/UL, VZCA8/C-UL),

☆ : VDE (IEC61051-1, -2, -2-2), ★ : VDE (IEC60950-1 Annex.Q), □ : CSA C22.2 No.1

◇ : CQC (GB/T10193, GB/T10194), ◆ : CQC (GB4943.1, GB8898)

※ Approval number (File No.) of safety regulations are subject to revision without notice. Ask factory for a copy of the latest file No.

## Reference Guide to Standard Products

| Part No.     | Applicable Standards |           | Varistor Voltage*      | Maximum Allowable Voltage |        | Clamping Voltage at 8/20μs |                    | Maximum Peak Current at 8/20μs(A) |         | Recommended Applications                                                           |
|--------------|----------------------|-----------|------------------------|---------------------------|--------|----------------------------|--------------------|-----------------------------------|---------|------------------------------------------------------------------------------------|
|              | Type Name            | Approvals | (V)                    | ACrms (V)                 | DC (V) | max.(V)                    | I <sub>p</sub> (A) | 1 time                            | 2 times |                                                                                    |
| ERZV10D751   | V10751U              | ○☆★□◆     | 750<br>(675 to 825)    | 460                       | 615    | 1240                       | 25                 | 3500                              | 2500    | AC 380 V, Line-Line and Line-Ground Applications<br>(For DC 500 V Insulating Test) |
| ERZV14D751   | V14751U              | ○☆★□◆     |                        |                           |        | 1240                       | 50                 | 5000                              | 4500    |                                                                                    |
| ERZV20D751   | V20751U              | ○☆★□◆     |                        |                           |        | 1240                       | 100                | 7500                              | 6500    |                                                                                    |
| ERZV10D821   | V10821U              | ○☆★□◆     | 820<br>(738 to 902)    | 510                       | 670    | 1355                       | 25                 | 3500                              | 2500    |                                                                                    |
| ERZV14D821   | V14821U              | ○☆★□◆     |                        |                           |        | 1355                       | 50                 | 5000                              | 4500    |                                                                                    |
| ERZV20D821   | V20821U              | ○☆★□◆     |                        |                           |        | 1355                       | 100                | 7500                              | 6500    |                                                                                    |
| ERZV10D911   | V10911U              | ○☆★□◆     | 910<br>(819 to 1001)   | 550                       | 745    | 1500                       | 25                 | 3500                              | 2500    | AC 415 V, Line-Line and Line-Ground Applications<br>(For DC 500 V Insulating Test) |
| ERZV14D911   | V14911U              | ○☆★□◆     |                        |                           |        | 1500                       | 50                 | 5000                              | 4500    |                                                                                    |
| ERZV20D911   | V20911U              | ○☆★□◆     |                        |                           |        | 1500                       | 100                | 7500                              | 6500    |                                                                                    |
| ERZV10D102   | V10102U              | ○☆★□◆     | 1000<br>(900 to 1100)  | 625                       | 825    | 1650                       | 25                 | 3500                              | 2500    | AC 480 V, Line-Line and Line-Ground Applications<br>(For DC 500 V Insulating Test) |
| ERZV14D102   | V14102U              | ○☆★□◆     |                        |                           |        | 1650                       | 50                 | 5000                              | 4500    |                                                                                    |
| ERZV20D102   | V20102U              | ○☆★□◆     |                        |                           |        | 1650                       | 100                | 7500                              | 6500    |                                                                                    |
| ERZV10D112   | V10112U              | ○☆★□◆     | 1100<br>(990 to 1210)  | 680                       | 895    | 1815                       | 25                 | 3500                              | 2500    |                                                                                    |
| ERZV14D112   | V14112U              | ○☆★□◆     |                        |                           |        | 1815                       | 50                 | 5000                              | 4500    |                                                                                    |
| ERZV20D112   | V20112U              | ○☆★□◆     |                        |                           |        | 1815                       | 100                | 7500                              | 6500    |                                                                                    |
| ERZV10D182CS | V10182U              | ○☆★□◆     | 1800<br>(1700 to 1980) | 1000                      | 1465   | 2970                       | 25                 | 3500                              | 2500    | Line-Ground Applications<br>(For AC 1200 V Withstanding Test)                      |
| ERZV14D182CS | V14182U              | ○☆★□◆     |                        |                           |        | 2970                       | 50                 | 5000                              | 4500    |                                                                                    |
| ERZV20D182   | V20182U              | ○☆★□◆     |                        |                           |        | 2970                       | 100                | 7500                              | 6500    |                                                                                    |

\* Measuring Current of Varistor Voltage 5 Series : 0.1 mA, Others: 1 mA

○ : UL1449 (VZCA2/UL, VZCA8/C-UL),

☆ : VDE (IEC61051-1, -2, -2-2), ★ : VDE (IEC60950-1 Annex.Q), □ : CSA C22.2 No.1

◇ : CQC (GB/T10193, GB/T10194), ◆ : CQC (GB4943.1, GB8898)

※ Approval number (File No.) of safety regulations are subject to revision without notice. Ask factory for a copy of the latest file No.

## 5 Series

### Ratings and Characteristics

● Operating Temperature Range : -40 to 85 °C ● Storage Temperature Range : -40 to 125 °C

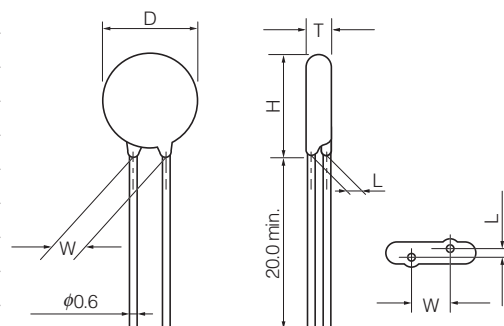
| Part No.   | Varistor Voltage | Maximum Allowable Voltage |        | Clamping Voltage (max.)<br>**I <sub>p</sub> | Rated Power | Maximum Energy |        | Maximum Peak Current (8/20 μs) |         | Capacitance (max.)<br>at 1 kHz (pF) |
|------------|------------------|---------------------------|--------|---------------------------------------------|-------------|----------------|--------|--------------------------------|---------|-------------------------------------|
|            |                  | ACrms (V)                 | DC (V) |                                             |             | (10/1000 μs)   | (2 ms) | 1 time                         | 2 times |                                     |
| ERZV05D180 | 18(16 to 20)     | 11                        | 14     | 40                                          | 0.01        | 0.6            | 0.4    | 250                            | 125     | 1600                                |
| ERZV05D220 | 22(20 to 24)     | 14                        | 18     | 48                                          | 0.01        | 0.7            | 0.5    | 250                            | 125     | 1500                                |
| ERZV05D270 | 27(24 to 30)     | 17                        | 22     | 60                                          | 0.01        | 0.9            | 0.7    | 250                            | 125     | 1450                                |
| ERZV05D330 | 33(30 to 36)     | 20                        | 26     | 73                                          | 0.01        | 1.1            | 0.8    | 250                            | 125     | 1400                                |
| ERZV05D390 | 39(35 to 43)     | 25                        | 31     | 86                                          | 0.01        | 1.2            | 0.9    | 250                            | 125     | 700                                 |
| ERZV05D470 | 47(42 to 52)     | 30                        | 38     | 104                                         | 0.01        | 1.5            | 1.1    | 250                            | 125     | 650                                 |
| ERZV05D560 | 56(50 to 62)     | 35                        | 45     | 123                                         | 0.01        | 1.8            | 1.3    | 250                            | 125     | 600                                 |
| ERZV05D680 | 68(61 to 75)     | 40                        | 56     | 150                                         | 0.01        | 2.2            | 1.6    | 250                            | 125     | 580                                 |
| ERZV05D820 | 82(74 to 90)     | 50                        | 65     | 145                                         | 0.1         | 3.5            | 2.5    | 800                            | 600     | 460                                 |
| ERZV05D101 | 100(90 to 110)   | 60                        | 85     | 175                                         | 0.1         | 4.0            | 3.0    | 800                            | 600     | 400                                 |
| ERZV05D121 | 120(108 to 132)  | 75                        | 100    | 210                                         | 0.1         | 5.0            | 3.5    | 800                            | 600     | 350                                 |
| ERZV05D151 | 150(135 to 165)  | 95                        | 125    | 260                                         | 0.1         | 6.5            | 4.5    | 800                            | 600     | 300                                 |
| ERZV05D201 | 200(185 to 225)  | 130                       | 170    | 355                                         | 0.1         | 8.5            | 6.0    | 800                            | 600     | 120                                 |
| ERZV05D221 | 220(198 to 242)  | 140                       | 180    | 380                                         | 0.1         | 9.0            | 6.5    | 800                            | 600     | 110                                 |
| ERZV05D241 | 240(216 to 264)  | 150                       | 200    | 415                                         | 0.1         | 10.5           | 7.5    | 800                            | 600     | 100                                 |
| ERZV05D271 | 270(247 to 303)  | 175                       | 225    | 475                                         | 0.1         | 11.0           | 8.0    | 800                            | 600     | 90*                                 |
| ERZV05D331 | 330(297 to 363)  | 210                       | 270    | 570                                         | 0.1         | 13.0           | 9.5    | 800                            | 600     | 80*                                 |
| ERZV05D361 | 360(324 to 396)  | 230                       | 300    | 620                                         | 0.1         | 16.0           | 11.0   | 800                            | 600     | 80*                                 |
| ERZV05D391 | 390(351 to 429)  | 250                       | 320    | 675                                         | 0.1         | 17.0           | 12.0   | 800                            | 600     | 80*                                 |
| ERZV05D431 | 430(387 to 473)  | 275                       | 350    | 745                                         | 0.1         | 20.0           | 13.5   | 800                            | 600     | 70*                                 |
| ERZV05D471 | 470(423 to 517)  | 300                       | 385    | 810                                         | 0.1         | 21.0           | 15.0   | 800                            | 600     | 60*                                 |

\* Measured at 1 MHz \*\*I<sub>p</sub> Measuring current of clamping voltage 180 to 680 : 1 A, 820 to 471 : 5 A

### Dimensions in mm (not to scale)

\* Refer to page 24 to 26 about leads cut type and taping.

| Part No.   | D max. | T max. | W±1.0 | H max. | L±1.0 |
|------------|--------|--------|-------|--------|-------|
| ERZV05D180 | 7.0    | 4.5    | 5.0   | 10.0   | 1.5   |
| ERZV05D220 | 7.0    | 4.5    | 5.0   | 10.0   | 1.5   |
| ERZV05D270 | 7.0    | 4.5    | 5.0   | 10.0   | 1.5   |
| ERZV05D330 | 7.0    | 4.5    | 5.0   | 10.0   | 1.5   |
| ERZV05D390 | 7.0    | 4.5    | 5.0   | 10.0   | 1.5   |
| ERZV05D470 | 7.0    | 4.5    | 5.0   | 10.0   | 1.5   |
| ERZV05D560 | 7.0    | 4.5    | 5.0   | 10.0   | 1.5   |
| ERZV05D680 | 7.0    | 4.5    | 5.0   | 10.0   | 1.5   |
| ERZV05D820 | 7.0    | 4.1    | 5.0   | 10.0   | 1.4   |
| ERZV05D101 | 7.0    | 4.3    | 5.0   | 10.0   | 1.6   |
| ERZV05D121 | 7.0    | 4.5    | 5.0   | 10.0   | 1.8   |
| ERZV05D151 | 7.0    | 4.8    | 5.0   | 10.0   | 2.1   |
| ERZV05D201 | 7.0    | 4.4    | 5.0   | 10.0   | 1.7   |
| ERZV05D221 | 7.0    | 4.5    | 5.0   | 10.0   | 1.8   |
| ERZV05D241 | 7.0    | 4.6    | 5.0   | 10.0   | 1.9   |
| ERZV05D271 | 7.0    | 4.8    | 5.0   | 10.0   | 2.1   |
| ERZV05D331 | 7.0    | 5.1    | 5.0   | 10.0   | 2.4   |
| ERZV05D361 | 7.0    | 5.3    | 5.0   | 10.0   | 2.5   |
| ERZV05D391 | 7.0    | 5.4    | 5.0   | 10.0   | 2.7   |
| ERZV05D431 | 7.0    | 5.6    | 5.0   | 10.0   | 2.9   |
| ERZV05D471 | 7.0    | 5.8    | 5.0   | 10.0   | 3.1   |

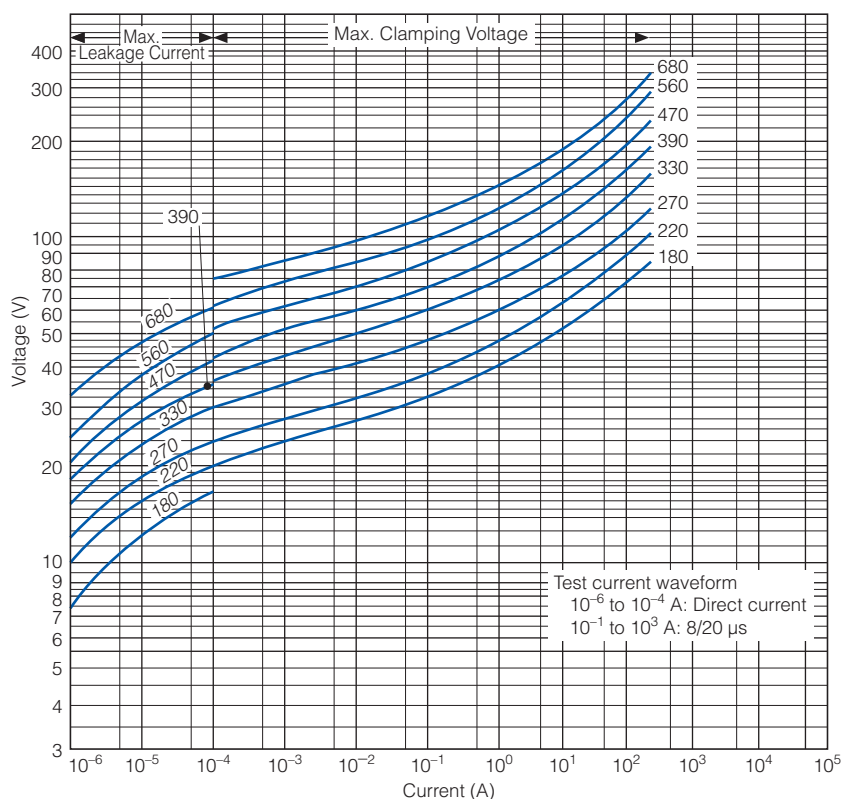




## Typical Characteristics

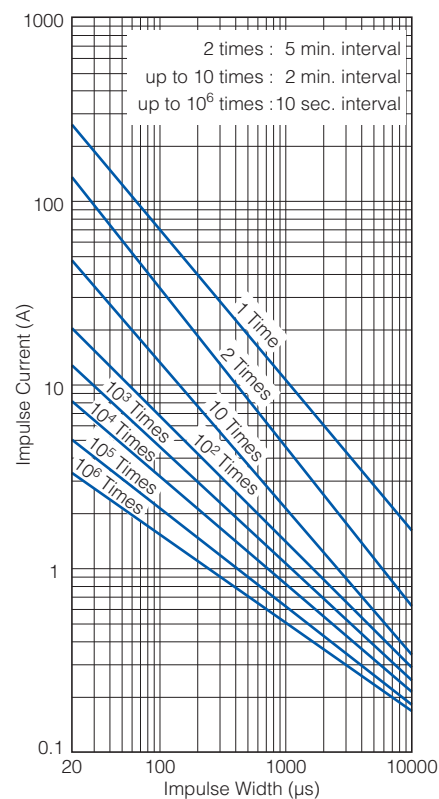
### Voltage vs. Current

ERZV05D180 to ERZV05D680

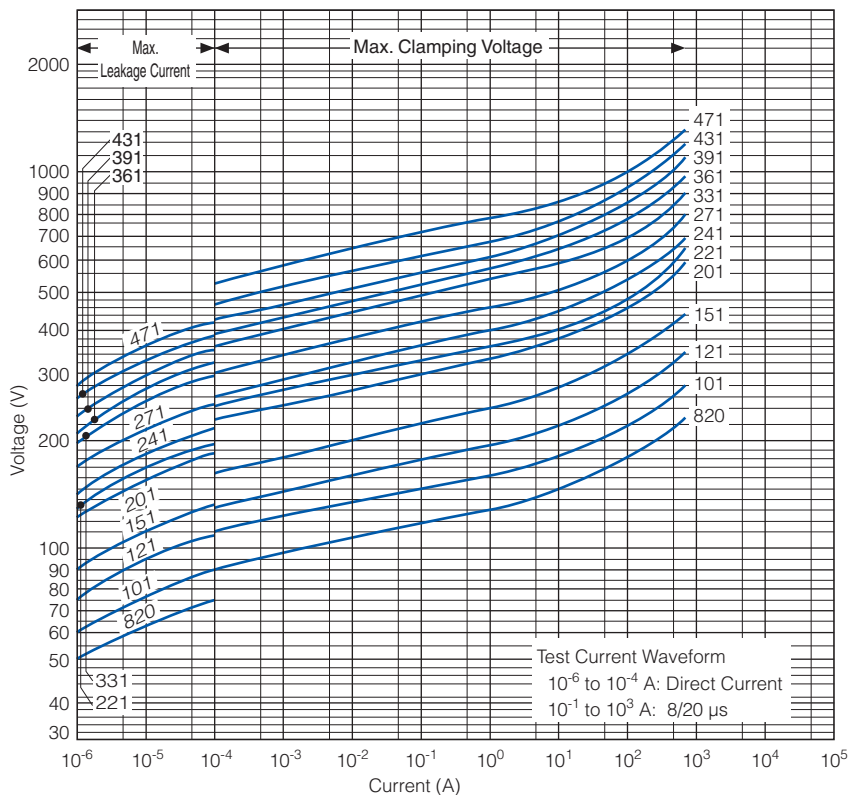


### Impulse Derating (Relation between impulse width and impulse current multiple)

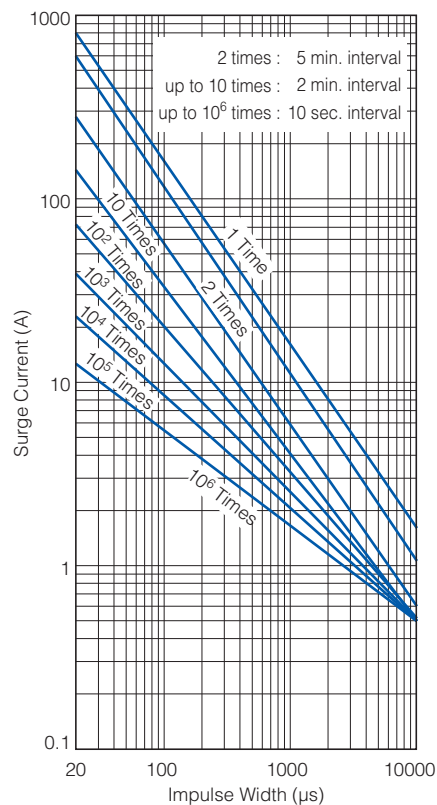
ERZV05D180 to ERZV05D680



ERZV05D820 to ERZV05D471



ERZV05D820 to ERZV05D471



## 7 Series

### Ratings and Characteristics

● Operating Temperature Range : -40 to 85 °C ● Storage Temperature Range : -40 to 125 °C

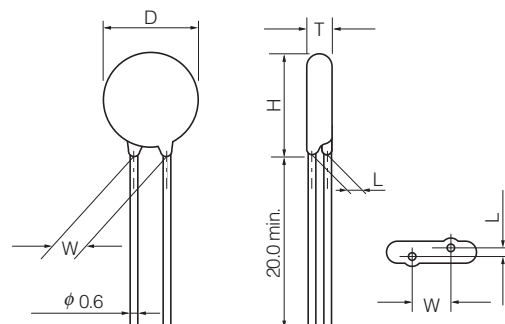
| Part No.   | Varistor Voltage     | Maximum Allowable Voltage |        | Clamping Voltage (max.)<br>**I <sub>p</sub> | Rated Power | Maximum Energy |        | Maximum Peak Current (8/20 μs) |         | Capacitance (max.)<br>at 1 kHz (pF) |
|------------|----------------------|---------------------------|--------|---------------------------------------------|-------------|----------------|--------|--------------------------------|---------|-------------------------------------|
|            |                      | ACrms (V)                 | DC (V) |                                             |             | (10/1000 μs)   | (2 ms) | 1 time                         | 2 times |                                     |
|            | V <sub>1mA</sub> (V) |                           |        | (V)                                         | (W)         | (J)            | (J)    | (A)                            | (A)     |                                     |
| ERZV07D180 | 18(16 to 20)         | 11                        | 14     | 36                                          | 0.02        | 1.1            | 0.9    | 500                            | 250     | 3800                                |
| ERZV07D220 | 22(20 to 24)         | 14                        | 18     | 43                                          | 0.02        | 1.3            | 1.1    | 500                            | 250     | 3600                                |
| ERZV07D270 | 27(24 to 30)         | 17                        | 22     | 53                                          | 0.02        | 1.6            | 1.3    | 500                            | 250     | 3400                                |
| ERZV07D330 | 33(30 to 36)         | 20                        | 26     | 65                                          | 0.02        | 2.0            | 1.6    | 500                            | 250     | 2900                                |
| ERZV07D390 | 39(35 to 43)         | 25                        | 31     | 77                                          | 0.02        | 2.4            | 1.9    | 500                            | 250     | 1600                                |
| ERZV07D470 | 47(42 to 52)         | 30                        | 38     | 93                                          | 0.02        | 2.8            | 2.3    | 500                            | 250     | 1550                                |
| ERZV07D560 | 56(50 to 62)         | 35                        | 45     | 110                                         | 0.02        | 3.4            | 2.7    | 500                            | 250     | 1500                                |
| ERZV07D680 | 68(61 to 75)         | 40                        | 56     | 135                                         | 0.02        | 4.1            | 3.3    | 500                            | 250     | 1200                                |
| ERZV07D820 | 82(74 to 90)         | 50                        | 65     | 135                                         | 0.25        | 7              | 5      | 1750                           | 1250    | 810                                 |
| ERZV07D101 | 100(90 to 110)       | 60                        | 85     | 165                                         | 0.25        | 8.5            | 6      | 1750                           | 1250    | 700                                 |
| ERZV07D121 | 120(108 to 132)      | 75                        | 100    | 200                                         | 0.25        | 10             | 7      | 1750                           | 1250    | 590                                 |
| ERZV07D151 | 150(135 to 165)      | 95                        | 125    | 250                                         | 0.25        | 13             | 9      | 1750                           | 1250    | 500                                 |
| ERZV07D201 | 200(185 to 225)      | 130                       | 170    | 340                                         | 0.25        | 17.5           | 12.5   | 1750                           | 1250    | 200                                 |
| ERZV07D221 | 220(198 to 242)      | 140                       | 180    | 360                                         | 0.25        | 19             | 13.5   | 1750                           | 1250    | 190                                 |
| ERZV07D241 | 240(216 to 264)      | 150                       | 200    | 395                                         | 0.25        | 21             | 15     | 1750                           | 1250    | 170                                 |
| ERZV07D271 | 270(247 to 303)      | 175                       | 225    | 455                                         | 0.25        | 24             | 17     | 1750                           | 1250    | 150                                 |
| ERZV07D331 | 330(297 to 363)      | 210                       | 270    | 545                                         | 0.25        | 28             | 20     | 1750                           | 1250    | 130                                 |
| ERZV07D361 | 360(324 to 396)      | 230                       | 300    | 595                                         | 0.25        | 32             | 23     | 1750                           | 1250    | 130                                 |
| ERZV07D391 | 390(351 to 429)      | 250                       | 320    | 650                                         | 0.25        | 35             | 25     | 1750                           | 1250    | 130                                 |
| ERZV07D431 | 430(387 to 473)      | 275                       | 350    | 710                                         | 0.25        | 40             | 27.5   | 1750                           | 1250    | 120                                 |
| ERZV07D471 | 470(423 to 517)      | 300                       | 385    | 775                                         | 0.25        | 42             | 30     | 1750                           | 1250    | 100                                 |
| ERZV07D511 | 510(459 to 561)      | 320                       | 410    | 845                                         | 0.25        | 45             | 32     | 1750                           | 1250    | 90*                                 |

\* Measured at 1 MHz \*\*I<sub>p</sub> Measuring current of clamping voltage 180 to 680 : 25 A, 820 to 511 : 10 A

### Dimensions in mm (not to scale)

\* Refer to page 24 to 26 about leads cut type and taping.

| Part No.   | D max. | T max. | W±1.0 | H max. | L±1.0 |
|------------|--------|--------|-------|--------|-------|
| ERZV07D180 | 8.5    | 4.5    | 5.0   | 11.5   | 1.3   |
| ERZV07D220 | 8.5    | 4.6    | 5.0   | 11.5   | 1.4   |
| ERZV07D270 | 8.5    | 4.7    | 5.0   | 11.5   | 1.5   |
| ERZV07D330 | 8.5    | 4.9    | 5.0   | 11.5   | 1.7   |
| ERZV07D390 | 8.5    | 4.8    | 5.0   | 11.5   | 1.6   |
| ERZV07D470 | 8.5    | 4.9    | 5.0   | 11.5   | 1.7   |
| ERZV07D560 | 8.5    | 5.0    | 5.0   | 11.5   | 1.8   |
| ERZV07D680 | 8.5    | 5.2    | 5.0   | 11.5   | 2.0   |
| ERZV07D820 | 8.5    | 4.1    | 5.0   | 11.5   | 1.4   |
| ERZV07D101 | 8.5    | 4.3    | 5.0   | 11.5   | 1.6   |
| ERZV07D121 | 8.5    | 4.5    | 5.0   | 11.5   | 1.8   |
| ERZV07D151 | 8.5    | 4.8    | 5.0   | 11.5   | 2.1   |
| ERZV07D201 | 8.5    | 4.4    | 5.0   | 11.5   | 1.7   |
| ERZV07D221 | 8.5    | 4.5    | 5.0   | 11.5   | 1.8   |
| ERZV07D241 | 8.5    | 4.6    | 5.0   | 11.5   | 1.9   |
| ERZV07D271 | 8.5    | 4.8    | 5.0   | 11.5   | 2.1   |
| ERZV07D331 | 8.5    | 5.1    | 5.0   | 11.5   | 2.4   |
| ERZV07D361 | 8.5    | 5.3    | 5.0   | 11.5   | 2.5   |
| ERZV07D391 | 8.5    | 5.4    | 5.0   | 11.5   | 2.7   |
| ERZV07D431 | 8.5    | 5.6    | 5.0   | 11.5   | 2.9   |
| ERZV07D471 | 8.5    | 5.8    | 5.0   | 11.5   | 3.1   |
| ERZV07D511 | 8.5    | 6.0    | 5.0   | 11.5   | 3.3   |

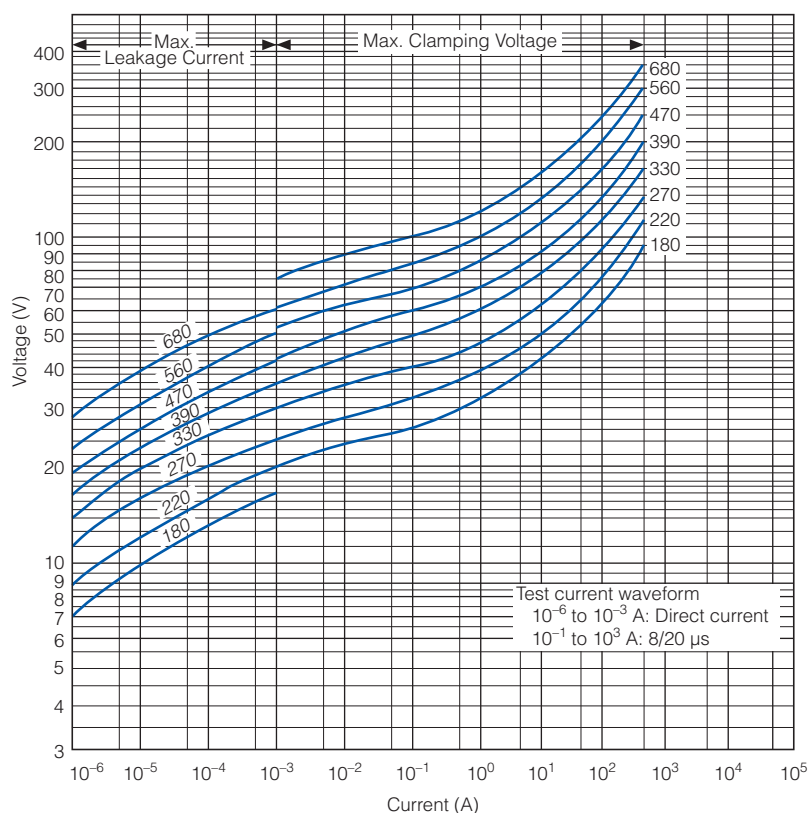




## Typical Characteristics

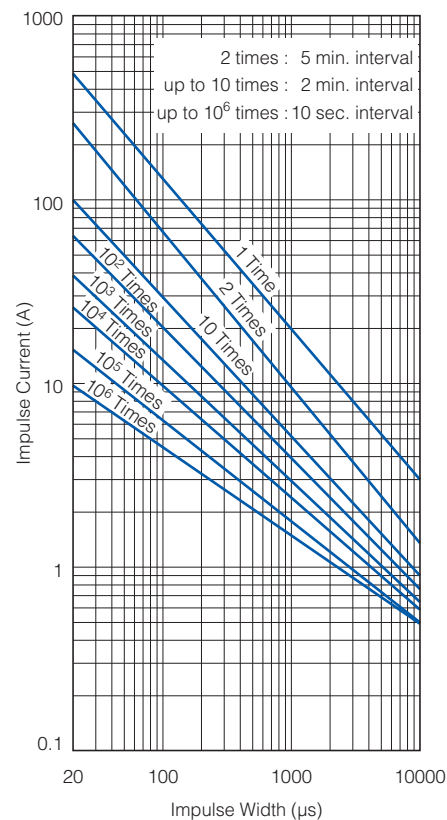
### Voltage vs. Current

ERZV07D180 to ERZV07D680

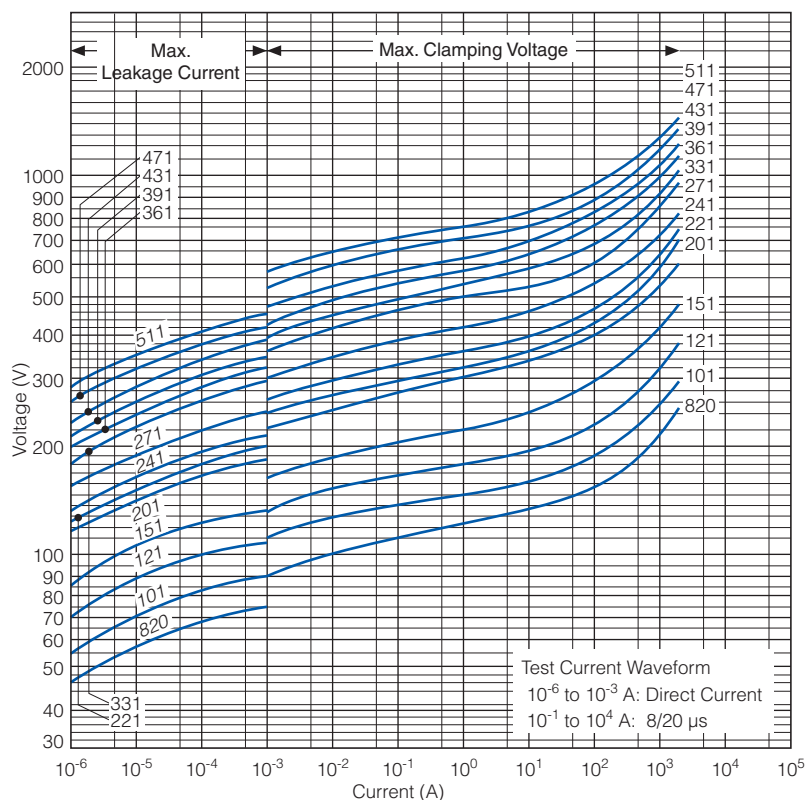


### Impulse Derating (Relation between impulse width and impulse current multiple)

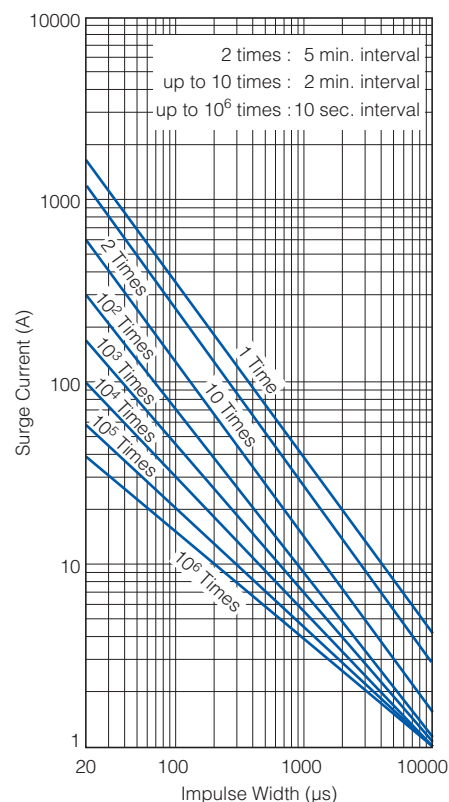
ERZV07D180 to ERZV07D680



ERZV07D820 to ERZV07D511



ERZV07D820 to ERZV07D511



## 9 Series

### Ratings and Characteristics

● Operating Temperature Range : -40 to 85 °C ● Storage Temperature Range : -40 to 125 °C

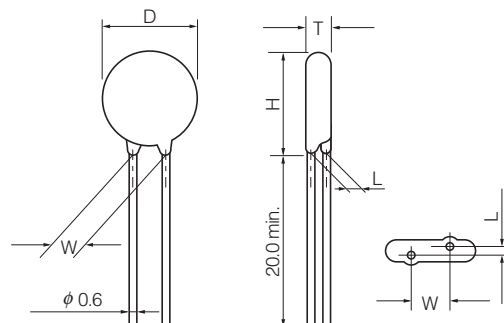
| Part No.   | Varistor Voltage     | Maximum Allowable Voltage |        | Clamping Voltage (max.)<br>*Ip | Rated Power | Maximum Energy |        | Maximum Peak Current (8/20 μs) |         | Capacitance (max.)<br>at 1 kHz (pF) |
|------------|----------------------|---------------------------|--------|--------------------------------|-------------|----------------|--------|--------------------------------|---------|-------------------------------------|
|            |                      | ACrms (V)                 | DC (V) |                                |             | (10/1000 μs)   | (2 ms) | 1 time                         | 2 times |                                     |
|            | V <sub>1mA</sub> (V) |                           |        | (V)                            | (W)         | (J)            | (J)    | (A)                            | (A)     |                                     |
| ERZV09D180 | 18(16 to 20)         | 11                        | 14     | 36                             | 0.05        | 2.6            | 2.2    | 1000                           | 500     | 16000                               |
| ERZV09D220 | 22(20 to 24)         | 14                        | 18     | 43                             | 0.05        | 3.2            | 2.6    | 1000                           | 500     | 11000                               |
| ERZV09D270 | 27(24 to 30)         | 17                        | 22     | 53                             | 0.05        | 3.9            | 3.2    | 1000                           | 500     | 8000                                |
| ERZV09D330 | 33(30 to 36)         | 20                        | 26     | 65                             | 0.05        | 4.8            | 4.0    | 1000                           | 500     | 6300                                |
| ERZV09D390 | 39(35 to 43)         | 25                        | 31     | 77                             | 0.05        | 5.6            | 4.7    | 1000                           | 500     | 5200                                |
| ERZV09D470 | 47(42 to 52)         | 30                        | 38     | 93                             | 0.05        | 6.8            | 5.6    | 1000                           | 500     | 4600                                |
| ERZV09D560 | 56(50 to 62)         | 35                        | 45     | 110                            | 0.05        | 8.1            | 6.7    | 1000                           | 500     | 3750                                |
| ERZV09D680 | 68(61 to 75)         | 40                        | 56     | 135                            | 0.05        | 9.8            | 8.2    | 1000                           | 500     | 2800                                |
| ERZV09D820 | 82(74 to 90)         | 50                        | 65     | 135                            | 0.4         | 14             | 10     | 3500                           | 2500    | 2000                                |
| ERZV09D101 | 100(90 to 110)       | 60                        | 85     | 165                            | 0.4         | 17             | 12     | 3500                           | 2500    | 1700                                |
| ERZV09D121 | 120(108 to 132)      | 75                        | 100    | 200                            | 0.4         | 20             | 14.5   | 3500                           | 2500    | 1400                                |
| ERZV09D151 | 150(135 to 165)      | 95                        | 125    | 250                            | 0.4         | 25             | 18     | 3500                           | 2500    | 1100                                |
| ERZV09D201 | 200(185 to 225)      | 130                       | 170    | 340                            | 0.4         | 35             | 25     | 3500                           | 2500    | 430                                 |
| ERZV09D221 | 220(198 to 242)      | 140                       | 180    | 360                            | 0.4         | 39             | 27.5   | 3500                           | 2500    | 410                                 |
| ERZV09D241 | 240(216 to 264)      | 150                       | 200    | 395                            | 0.4         | 42             | 30     | 3500                           | 2500    | 380                                 |
| ERZV09D271 | 270(247 to 303)      | 175                       | 225    | 455                            | 0.4         | 49             | 35     | 3500                           | 2500    | 350                                 |
| ERZV09D331 | 330(297 to 363)      | 210                       | 270    | 545                            | 0.4         | 58             | 42     | 3500                           | 2500    | 300                                 |
| ERZV09D361 | 360(324 to 396)      | 230                       | 300    | 595                            | 0.4         | 65             | 45     | 3500                           | 2500    | 300                                 |
| ERZV09D391 | 390(351 to 429)      | 250                       | 320    | 650                            | 0.4         | 70             | 50     | 3500                           | 2500    | 300                                 |
| ERZV09D431 | 430(387 to 473)      | 275                       | 350    | 710                            | 0.4         | 80             | 55     | 3500                           | 2500    | 270                                 |
| ERZV09D471 | 470(423 to 517)      | 300                       | 385    | 775                            | 0.4         | 85             | 60     | 3500                           | 2500    | 230                                 |
| ERZV09D511 | 510(459 to 561)      | 320                       | 410    | 845                            | 0.4         | 92             | 67     | 3500                           | 2500    | 210                                 |

\*Ip Measuring current of clamping voltage 180 to 680 : 5 A, 820 to 511 : 25 A

### Dimensions in mm (not to scale)

\* Refer to page 24 to 26 about leads cut type and taping.

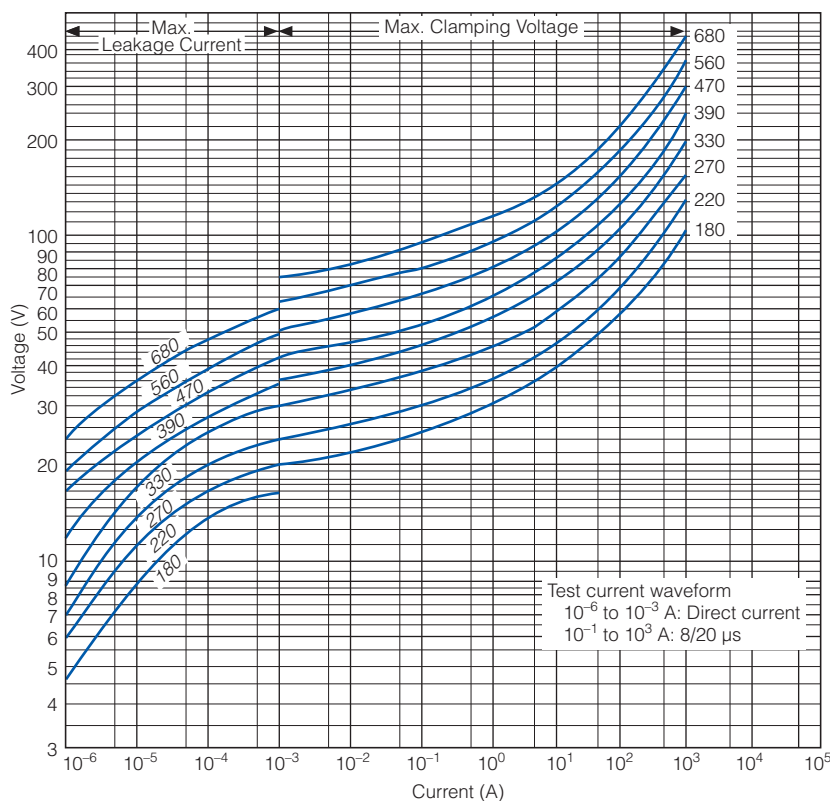
| Part No.   | D max. | T max. | W±1.0 | H max. | L±1.0 |
|------------|--------|--------|-------|--------|-------|
| ERZV09D180 | 11.5   | 3.8    | 5.0   | 14.0   | 1.3   |
| ERZV09D220 | 11.5   | 4.0    | 5.0   | 14.0   | 1.4   |
| ERZV09D270 | 11.5   | 4.2    | 5.0   | 14.0   | 1.5   |
| ERZV09D330 | 11.5   | 4.5    | 5.0   | 14.0   | 1.7   |
| ERZV09D390 | 11.5   | 4.0    | 5.0   | 14.0   | 1.7   |
| ERZV09D470 | 11.5   | 4.2    | 5.0   | 14.0   | 1.8   |
| ERZV09D560 | 11.5   | 4.4    | 5.0   | 14.0   | 1.9   |
| ERZV09D680 | 11.5   | 4.5    | 5.0   | 14.0   | 2.2   |
| ERZV09D820 | 11.5   | 3.8    | 5.0   | 14.0   | 1.6   |
| ERZV09D101 | 11.5   | 3.9    | 5.0   | 14.0   | 1.8   |
| ERZV09D121 | 11.5   | 4.1    | 5.0   | 14.0   | 2.0   |
| ERZV09D151 | 11.5   | 4.4    | 5.0   | 14.0   | 2.2   |
| ERZV09D201 | 11.5   | 4.1    | 5.0   | 14.0   | 1.7   |
| ERZV09D221 | 11.5   | 4.2    | 5.0   | 14.0   | 1.8   |
| ERZV09D241 | 11.5   | 4.3    | 5.0   | 14.0   | 1.9   |
| ERZV09D271 | 11.5   | 4.5    | 5.0   | 14.0   | 2.0   |
| ERZV09D331 | 11.5   | 4.8    | 5.0   | 14.0   | 2.3   |
| ERZV09D361 | 11.5   | 5.0    | 5.0   | 14.0   | 2.5   |
| ERZV09D391 | 11.5   | 5.1    | 5.0   | 14.0   | 2.6   |
| ERZV09D431 | 11.5   | 5.3    | 5.0   | 14.0   | 2.8   |
| ERZV09D471 | 11.5   | 5.6    | 5.0   | 14.0   | 3.1   |
| ERZV09D511 | 11.5   | 5.8    | 5.0   | 14.0   | 3.2   |



## Typical Characteristics

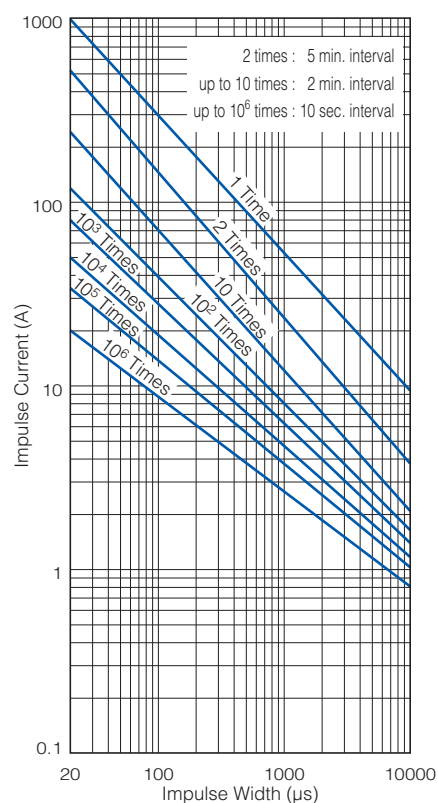
### Voltage vs. Current

ERZV09D180 to ERZV09D680

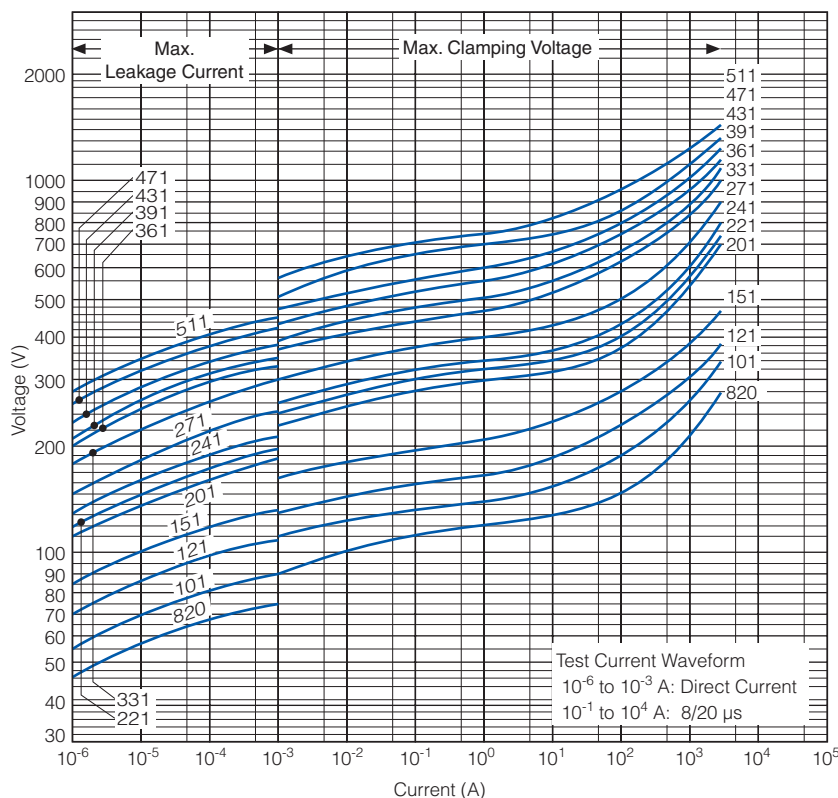


### Impulse Derating (Relation between impulse width and impulse current multiple)

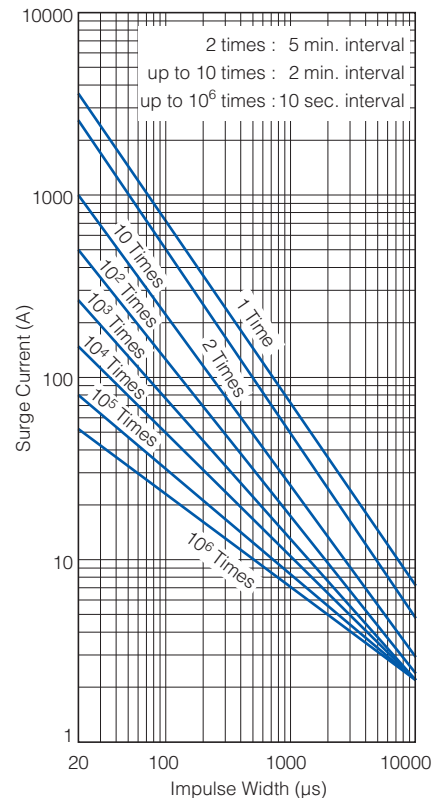
ERZV09D180 to ERZV09D680



ERZV09D820 to ERZV09D511



ERZV09D820 to ERZV09D511



## 10 Series

### Ratings and Characteristics

● Operating Temperature Range : -40 to 85 °C ● Storage Temperature Range : -40 to 125 °C

| Part No.     | Varistor Voltage      | Maximum Allowable Voltage |        | Clamping Voltage (max.)<br>**I <sub>p</sub> | Rated Power | Maximum Energy |        | Maximum Peak Current (8/20 μs) |         | Capacitance (max.)<br>at 1 kHz (pF) |
|--------------|-----------------------|---------------------------|--------|---------------------------------------------|-------------|----------------|--------|--------------------------------|---------|-------------------------------------|
|              |                       |                           |        |                                             |             | (10/1000 μs)   | (2 ms) | 1 time                         | 2 times |                                     |
|              | V <sub>1 mA</sub> (V) | ACrms (V)                 | DC (V) | (V)                                         | (W)         | (J)            | (J)    | (A)                            | (A)     |                                     |
| ERZV10D180   | 18(16 to 20)          | 11                        | 14     | 36                                          | 0.05        | 2.6            | 2.2    | 1000                           | 500     | 16000                               |
| ERZV10D220   | 22(20 to 24)          | 14                        | 18     | 43                                          | 0.05        | 3.2            | 2.6    | 1000                           | 500     | 11000                               |
| ERZV10D270   | 27(24 to 30)          | 17                        | 22     | 53                                          | 0.05        | 3.9            | 3.2    | 1000                           | 500     | 8000                                |
| ERZV10D330   | 33(30 to 36)          | 20                        | 26     | 65                                          | 0.05        | 4.8            | 4.0    | 1000                           | 500     | 6300                                |
| ERZV10D390   | 39(35 to 43)          | 25                        | 31     | 77                                          | 0.05        | 5.6            | 4.7    | 1000                           | 500     | 5200                                |
| ERZV10D470   | 47(42 to 52)          | 30                        | 38     | 93                                          | 0.05        | 6.8            | 5.6    | 1000                           | 500     | 4600                                |
| ERZV10D560   | 56(50 to 62)          | 35                        | 45     | 110                                         | 0.05        | 8.1            | 6.7    | 1000                           | 500     | 3750                                |
| ERZV10D680   | 68(61 to 75)          | 40                        | 56     | 135                                         | 0.05        | 9.8            | 8.2    | 1000                           | 500     | 2800                                |
| ERZV10D820   | 82(74 to 90)          | 50                        | 65     | 135                                         | 0.4         | 14             | 10     | 3500                           | 2500    | 2000                                |
| ERZV10D101   | 100(90 to 110)        | 60                        | 85     | 165                                         | 0.4         | 17             | 12     | 3500                           | 2500    | 1700                                |
| ERZV10D121   | 120(108 to 132)       | 75                        | 100    | 200                                         | 0.4         | 20             | 14.5   | 3500                           | 2500    | 1400                                |
| ERZV10D151   | 150(135 to 165)       | 95                        | 125    | 250                                         | 0.4         | 25             | 18     | 3500                           | 2500    | 1100                                |
| ERZV10D201   | 200(185 to 225)       | 130                       | 170    | 340                                         | 0.4         | 35             | 25     | 3500                           | 2500    | 430                                 |
| ERZV10D221   | 220(198 to 242)       | 140                       | 180    | 360                                         | 0.4         | 39             | 27.5   | 3500                           | 2500    | 410                                 |
| ERZV10D241   | 240(216 to 264)       | 150                       | 200    | 395                                         | 0.4         | 42             | 30     | 3500                           | 2500    | 380                                 |
| ERZV10D271   | 270(247 to 303)       | 175                       | 225    | 455                                         | 0.4         | 49             | 35     | 3500                           | 2500    | 350                                 |
| ERZV10D331   | 330(297 to 363)       | 210                       | 270    | 545                                         | 0.4         | 58             | 42     | 3500                           | 2500    | 300                                 |
| ERZV10D361   | 360(324 to 396)       | 230                       | 300    | 595                                         | 0.4         | 65             | 45     | 3500                           | 2500    | 300                                 |
| ERZV10D391   | 390(351 to 429)       | 250                       | 320    | 650                                         | 0.4         | 70             | 50     | 3500                           | 2500    | 300                                 |
| ERZV10D431   | 430(387 to 473)       | 275                       | 350    | 710                                         | 0.4         | 80             | 55     | 3500                           | 2500    | 270                                 |
| ERZV10D471   | 470(423 to 517)       | 300                       | 385    | 775                                         | 0.4         | 85             | 60     | 3500                           | 2500    | 230                                 |
| ERZV10D511   | 510(459 to 561)       | 320                       | 410    | 845                                         | 0.4         | 92             | 67     | 3500                           | 2500    | 210                                 |
| ERZV10D561   | 560(504 to 616)       | 350                       | 450    | 930                                         | 0.4         | 92             | 67     | 3500                           | 2500    | 200                                 |
| ERZV10D621   | 620(558 to 682)       | 385                       | 505    | 1025                                        | 0.4         | 92             | 67     | 3500                           | 2500    | 190                                 |
| ERZV10D681   | 680(612 to 748)       | 420                       | 560    | 1120                                        | 0.4         | 92             | 67     | 3500                           | 2500    | 170                                 |
| ERZV10D751   | 750(675 to 825)       | 460                       | 615    | 1240                                        | 0.4         | 100            | 70     | 3500                           | 2500    | 160                                 |
| ERZV10D821   | 820(738 to 902)       | 510                       | 670    | 1355                                        | 0.4         | 110            | 80     | 3500                           | 2500    | 140                                 |
| ERZV10D911   | 910(819 to 1001)      | 550                       | 745    | 1500                                        | 0.4         | 130            | 90     | 3500                           | 2500    | 120                                 |
| ERZV10D102   | 1000(900 to 1100)     | 625                       | 825    | 1650                                        | 0.4         | 140            | 100    | 3500                           | 2500    | 110                                 |
| ERZV10D112   | 1100(990 to 1210)     | 680                       | 895    | 1815                                        | 0.4         | 155            | 110    | 3500                           | 2500    | 110                                 |
| ERZV10D182CS | 1800(1700 to 1980)    | 1000                      | 1465   | 2970                                        | 0.4         | 247            | 183    | 3500                           | 2500    | 70*                                 |

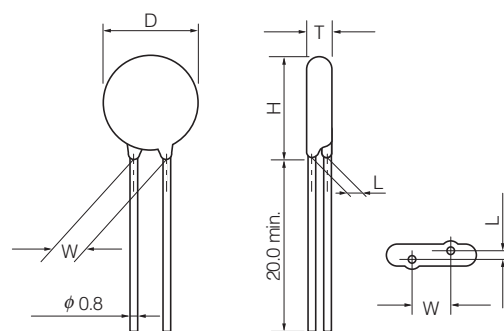
\* Measured at 1 MHz \*\*I<sub>p</sub> Measuring current of clamping voltage 180 to 680 : 5 A, 820 to 182 : 25 A

## Dimensions in mm (not to scale)

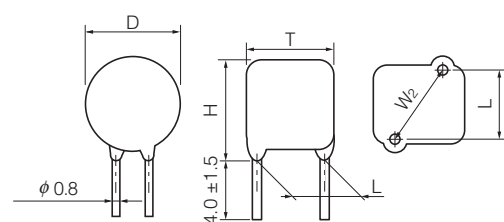
\* Refer to page 24 to 26 about leads cut type and taping.

| Part No.     | D max. | T max. | W±1.0 | H max. | L±1.0      |
|--------------|--------|--------|-------|--------|------------|
| ERZV10D180   | 11.5   | 4.6    | 7.5   | 14.5   | 1.3        |
| ERZV10D220   | 11.5   | 4.7    | 7.5   | 14.5   | 1.4        |
| ERZV10D270   | 11.5   | 4.8    | 7.5   | 14.5   | 1.5        |
| ERZV10D330   | 11.5   | 5.0    | 7.5   | 14.5   | 1.7        |
| ERZV10D390   | 11.5   | 4.9    | 7.5   | 14.5   | 1.6        |
| ERZV10D470   | 11.5   | 5.0    | 7.5   | 14.5   | 1.7        |
| ERZV10D560   | 11.5   | 5.1    | 7.5   | 14.5   | 1.8        |
| ERZV10D680   | 11.5   | 5.3    | 7.5   | 14.5   | 2.0        |
| ERZV10D820   | 11.5   | 4.5    | 7.5   | 14.5   | 1.6        |
| ERZV10D101   | 11.5   | 4.7    | 7.5   | 14.5   | 1.8        |
| ERZV10D121   | 11.5   | 4.9    | 7.5   | 14.5   | 2.0        |
| ERZV10D151   | 11.5   | 5.2    | 7.5   | 14.5   | 2.3        |
| ERZV10D201   | 11.5   | 4.8    | 7.5   | 14.5   | 1.9        |
| ERZV10D221   | 11.5   | 4.9    | 7.5   | 14.5   | 2.0        |
| ERZV10D241   | 11.5   | 5.0    | 7.5   | 14.5   | 2.1        |
| ERZV10D271   | 11.5   | 5.2    | 7.5   | 14.5   | 2.3        |
| ERZV10D331   | 11.5   | 5.5    | 7.5   | 14.5   | 2.6        |
| ERZV10D361   | 11.5   | 5.7    | 7.5   | 14.5   | 2.8        |
| ERZV10D391   | 11.5   | 5.8    | 7.5   | 14.5   | 2.9        |
| ERZV10D431   | 11.5   | 6.0    | 7.5   | 14.5   | 3.1        |
| ERZV10D471   | 11.5   | 6.2    | 7.5   | 14.5   | 3.3        |
| ERZV10D511   | 11.5   | 6.4    | 7.5   | 14.5   | 3.5        |
| ERZV10D561   | 12.5   | 6.7    | 7.5   | 15.5   | 3.8        |
| ERZV10D621   | 12.5   | 7.1    | 7.5   | 15.5   | 4.2        |
| ERZV10D681   | 12.5   | 7.4    | 7.5   | 15.5   | 4.5        |
| ERZV10D751   | 12.5   | 7.8    | 7.5   | 15.5   | 4.9        |
| ERZV10D821   | 12.5   | 8.1    | 7.5   | 15.5   | 5.2        |
| ERZV10D911   | 12.5   | 8.6    | 7.5   | 15.5   | 5.7        |
| ERZV10D102   | 12.5   | 9.1    | 7.5   | 15.5   | 6.2        |
| ERZV10D112   | 12.5   | 9.7    | 7.5   | 15.5   | 6.8        |
| ERZV10D182CS | 13.5   | 14.4   | 11.0* | 16.5   | 10.0(±1.5) |

\*: W<sub>2</sub>



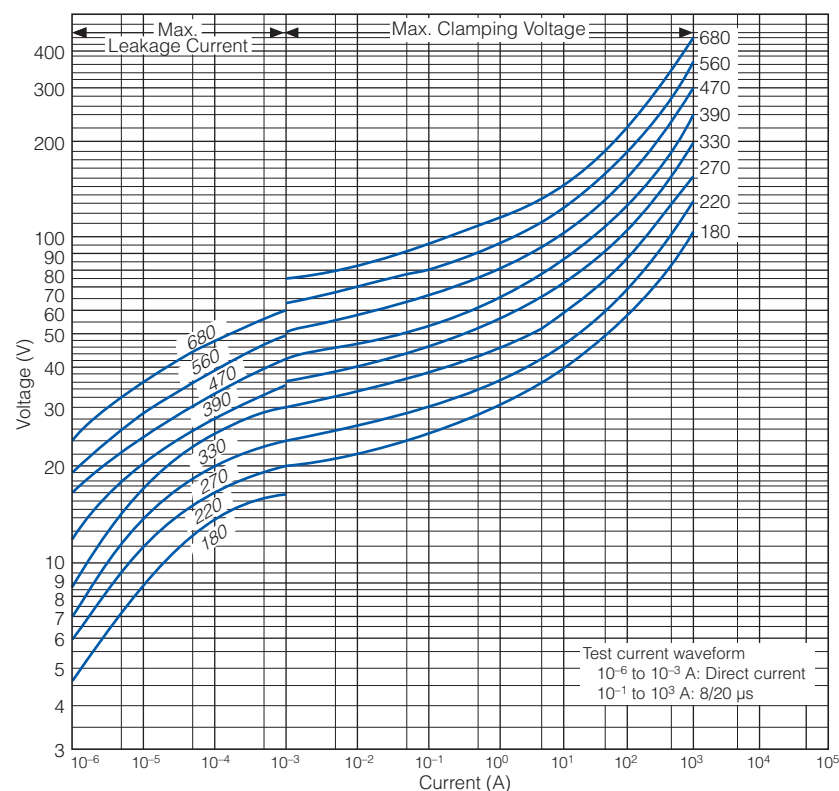
(ERZV10D182CS)



## Typical Characteristics

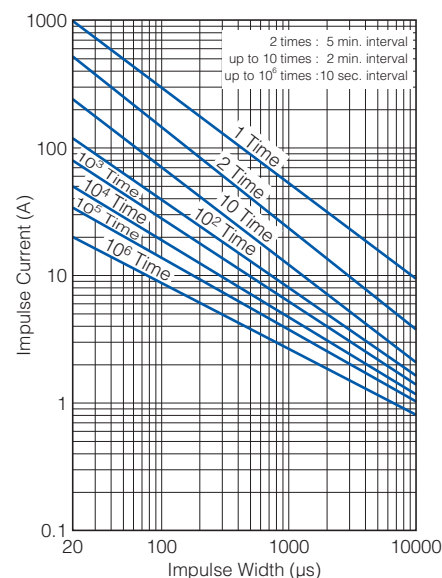
### Voltage vs. Current

ERZV10D180 to ERZV10D680



### Impulse Derating (Relation between impulse width and impulse current multiple)

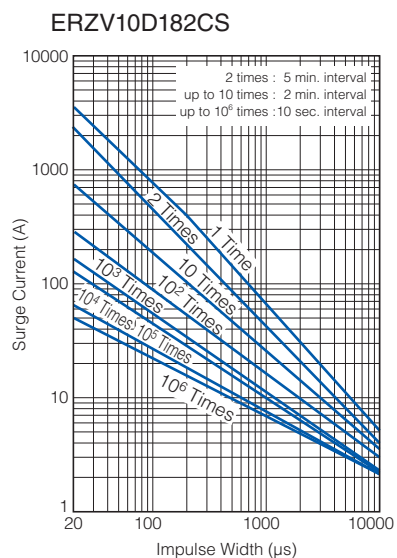
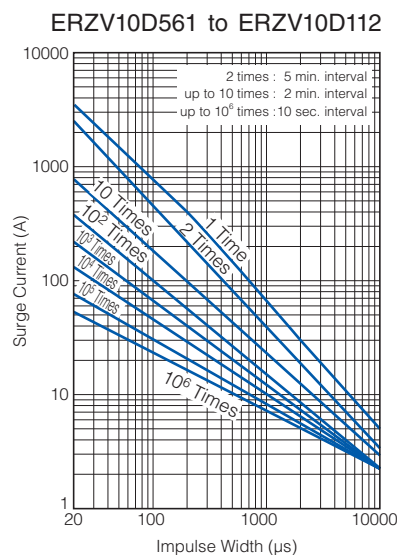
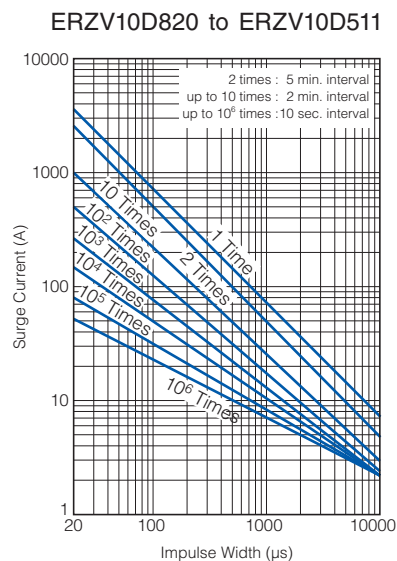
ERZV10D180 to ERZV10D680





## Voltage vs. Current

**Impulse Derating** (Relation between impulse width and impulse current multiple)





## 14 Series

### Ratings and Characteristics

- Operating Temperature Range : -40 to 85 °C    ● Storage Temperature Range : -40 to 125 °C

| Part No.     | Varistor Voltage      | Maximum Allowable Voltage |        | Clamping Voltage (max.)<br>*Ip | Rated Power | Maximum Energy |        | Maximum Peak Current (8/20 μs) |         | Capacitance (max.)<br>at 1 kHz (pF) |
|--------------|-----------------------|---------------------------|--------|--------------------------------|-------------|----------------|--------|--------------------------------|---------|-------------------------------------|
|              |                       |                           |        |                                |             | (10/1000 μs)   | (2 ms) | 1 time                         | 2 times |                                     |
|              | V <sub>1 mA</sub> (V) | ACrms (V)                 | DC (V) | (V)                            | (W)         | (J)            | (J)    | (A)                            | (A)     |                                     |
| ERZV14D180   | 18(16 to 20)          | 11                        | 14     | 36                             | 0.1         | 5.2            | 4.3    | 2000                           | 1000    | 25000                               |
| ERZV14D220   | 22(20 to 24)          | 14                        | 18     | 43                             | 0.1         | 6.3            | 5.3    | 2000                           | 1000    | 20000                               |
| ERZV14D270   | 27(24 to 30)          | 17                        | 22     | 53                             | 0.1         | 7.8            | 6.5    | 2000                           | 1000    | 16000                               |
| ERZV14D330   | 33(30 to 36)          | 20                        | 26     | 65                             | 0.1         | 9.5            | 7.9    | 2000                           | 1000    | 12200                               |
| ERZV14D390   | 39(35 to 43)          | 25                        | 31     | 77                             | 0.1         | 11             | 9.4    | 2000                           | 1000    | 7000                                |
| ERZV14D470   | 47(42 to 52)          | 30                        | 38     | 93                             | 0.1         | 14             | 11     | 2000                           | 1000    | 6750                                |
| ERZV14D560   | 56(50 to 62)          | 35                        | 45     | 110                            | 0.1         | 16             | 13     | 2000                           | 1000    | 6500                                |
| ERZV14D680   | 68(61 to 75)          | 40                        | 56     | 135                            | 0.1         | 20             | 16     | 2000                           | 1000    | 5500                                |
| ERZV14D820   | 82(74 to 90)          | 50                        | 65     | 135                            | 0.6         | 28             | 20     | 6000                           | 5000    | 3700                                |
| ERZV14D101   | 100(90 to 110)        | 60                        | 85     | 165                            | 0.6         | 35             | 25     | 6000                           | 5000    | 3200                                |
| ERZV14D121   | 120(108 to 132)       | 75                        | 100    | 200                            | 0.6         | 42             | 30     | 6000                           | 5000    | 2700                                |
| ERZV14D151   | 150(135 to 165)       | 95                        | 125    | 250                            | 0.6         | 53             | 37.5   | 6000                           | 5000    | 2200                                |
| ERZV14D201   | 200(185 to 225)       | 130                       | 170    | 340                            | 0.6         | 70             | 50     | 6000                           | 5000    | 770                                 |
| ERZV14D221   | 220(198 to 242)       | 140                       | 180    | 360                            | 0.6         | 78             | 55     | 6000                           | 5000    | 740                                 |
| ERZV14D241   | 240(216 to 264)       | 150                       | 200    | 395                            | 0.6         | 84             | 60     | 6000                           | 5000    | 700                                 |
| ERZV14D271   | 270(247 to 303)       | 175                       | 225    | 455                            | 0.6         | 99             | 70     | 6000                           | 5000    | 640                                 |
| ERZV14D331   | 330(297 to 363)       | 210                       | 270    | 545                            | 0.6         | 115            | 80     | 6000                           | 4500    | 580                                 |
| ERZV14D361   | 360(324 to 396)       | 230                       | 300    | 595                            | 0.6         | 130            | 90     | 6000                           | 4500    | 540                                 |
| ERZV14D391   | 390(351 to 429)       | 250                       | 320    | 650                            | 0.6         | 140            | 100    | 6000                           | 4500    | 500                                 |
| ERZV14D431   | 430(387 to 473)       | 275                       | 350    | 710                            | 0.6         | 155            | 110    | 6000                           | 4500    | 450                                 |
| ERZV14D471   | 470(423 to 517)       | 300                       | 385    | 775                            | 0.6         | 175            | 125    | 6000                           | 4500    | 400                                 |
| ERZV14D511   | 510(459 to 561)       | 320                       | 410    | 845                            | 0.6         | 190            | 136    | 6000                           | 4500    | 350                                 |
| ERZV14D561   | 560(504 to 616)       | 350                       | 450    | 930                            | 0.6         | 190            | 136    | 5000                           | 4500    | 340                                 |
| ERZV14D621   | 620(558 to 682)       | 385                       | 505    | 1025                           | 0.6         | 190            | 136    | 5000                           | 4500    | 330                                 |
| ERZV14D681   | 680(612 to 748)       | 420                       | 560    | 1120                           | 0.6         | 190            | 136    | 5000                           | 4500    | 320                                 |
| ERZV14D751   | 750(675 to 825)       | 460                       | 615    | 1240                           | 0.6         | 210            | 150    | 5000                           | 4500    | 310                                 |
| ERZV14D821   | 820(738 to 902)       | 510                       | 670    | 1355                           | 0.6         | 235            | 165    | 5000                           | 4500    | 280                                 |
| ERZV14D911   | 910(819 to 1001)      | 550                       | 745    | 1500                           | 0.6         | 255            | 180    | 5000                           | 4500    | 250                                 |
| ERZV14D102   | 1000(900 to 1100)     | 625                       | 825    | 1650                           | 0.6         | 280            | 200    | 5000                           | 4500    | 230                                 |
| ERZV14D112   | 1100(990 to 1210)     | 680                       | 895    | 1815                           | 0.6         | 310            | 220    | 5000                           | 4500    | 210                                 |
| ERZV14D182CS | 1800(1700 to 1980)    | 1000                      | 1465   | 2970                           | 0.6         | 510            | 360    | 5000                           | 4500    | 120                                 |

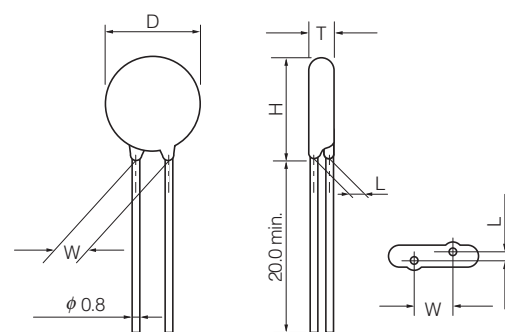
\*Ip Measuring current of clamping voltage 180 to 680 : 10 A, 820 to 182 : 50 A

## Dimensions in mm (not to scale)

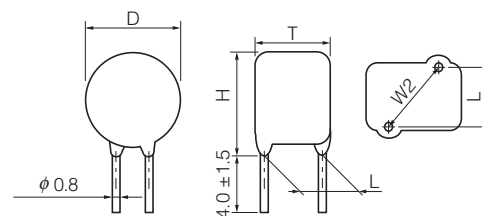
\* Refer to page 24 to 26 about leads cut type and taping.

| Part No.     | D max. | T max. | W±1.0 | H max. | L±1.0      |
|--------------|--------|--------|-------|--------|------------|
| ERZV14D180   | 15.5   | 4.6    | 7.5   | 18.5   | 1.3        |
| ERZV14D220   | 15.5   | 4.7    | 7.5   | 18.5   | 1.4        |
| ERZV14D270   | 15.5   | 4.8    | 7.5   | 18.5   | 1.5        |
| ERZV14D330   | 15.5   | 5.0    | 7.5   | 18.5   | 1.7        |
| ERZV14D390   | 15.5   | 4.9    | 7.5   | 18.5   | 1.6        |
| ERZV14D470   | 15.5   | 5.0    | 7.5   | 18.5   | 1.7        |
| ERZV14D560   | 15.5   | 5.1    | 7.5   | 18.5   | 1.8        |
| ERZV14D680   | 15.5   | 5.3    | 7.5   | 18.5   | 2.0        |
| ERZV14D820   | 15.5   | 4.5    | 7.5   | 18.5   | 1.6        |
| ERZV14D101   | 15.5   | 4.7    | 7.5   | 18.5   | 1.8        |
| ERZV14D121   | 15.5   | 4.9    | 7.5   | 18.5   | 2.0        |
| ERZV14D151   | 15.5   | 5.2    | 7.5   | 18.5   | 2.3        |
| ERZV14D201   | 15.5   | 4.8    | 7.5   | 18.5   | 1.9        |
| ERZV14D221   | 15.5   | 4.9    | 7.5   | 18.5   | 2.0        |
| ERZV14D241   | 15.5   | 5.0    | 7.5   | 18.5   | 2.1        |
| ERZV14D271   | 15.5   | 5.2    | 7.5   | 18.5   | 2.3        |
| ERZV14D331   | 15.5   | 5.5    | 7.5   | 18.5   | 2.6        |
| ERZV14D361   | 15.5   | 5.7    | 7.5   | 18.5   | 2.8        |
| ERZV14D391   | 15.5   | 5.8    | 7.5   | 18.5   | 2.9        |
| ERZV14D431   | 15.5   | 6.0    | 7.5   | 18.5   | 3.1        |
| ERZV14D471   | 15.5   | 6.2    | 7.5   | 18.5   | 3.3        |
| ERZV14D511   | 15.5   | 6.4    | 7.5   | 18.5   | 3.5        |
| ERZV14D561   | 16.0   | 6.7    | 7.5   | 19.0   | 3.8        |
| ERZV14D621   | 16.0   | 7.1    | 7.5   | 19.0   | 4.2        |
| ERZV14D681   | 16.0   | 7.4    | 7.5   | 19.0   | 4.5        |
| ERZV14D751   | 16.0   | 7.8    | 7.5   | 19.0   | 4.9        |
| ERZV14D821   | 16.0   | 8.1    | 7.5   | 19.0   | 5.2        |
| ERZV14D911   | 16.0   | 8.6    | 7.5   | 19.0   | 5.7        |
| ERZV14D102   | 16.0   | 9.1    | 7.5   | 19.0   | 6.2        |
| ERZV14D112   | 16.0   | 9.7    | 7.5   | 19.0   | 6.8        |
| ERZV14D182CS | 17.0   | 14.4   | 15.0* | 20.5   | 10.5(±2.0) |

\*: W<sub>2</sub>



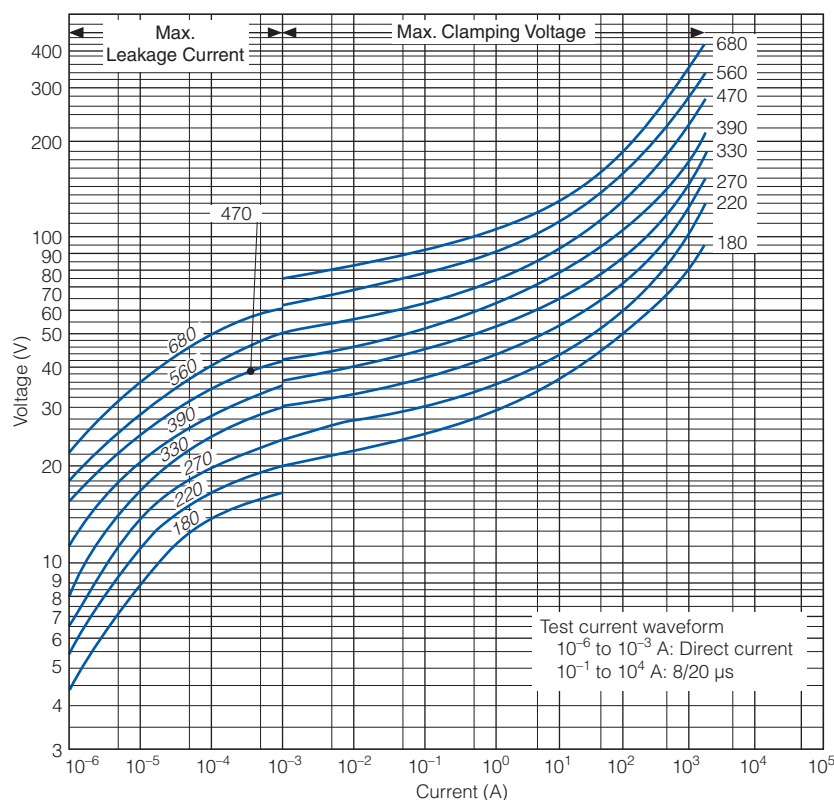
(ERZV14D182CS)



## Typical Characteristics

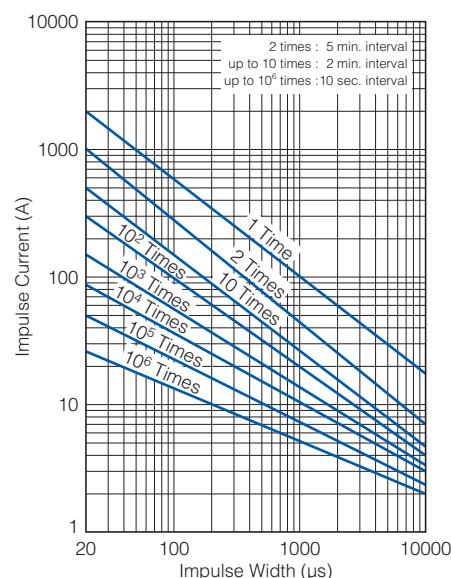
### Voltage vs. Current

ERZV14D180 to ERZV14D680



### Impulse Derating (Relation between impulse width and impulse current multiple)

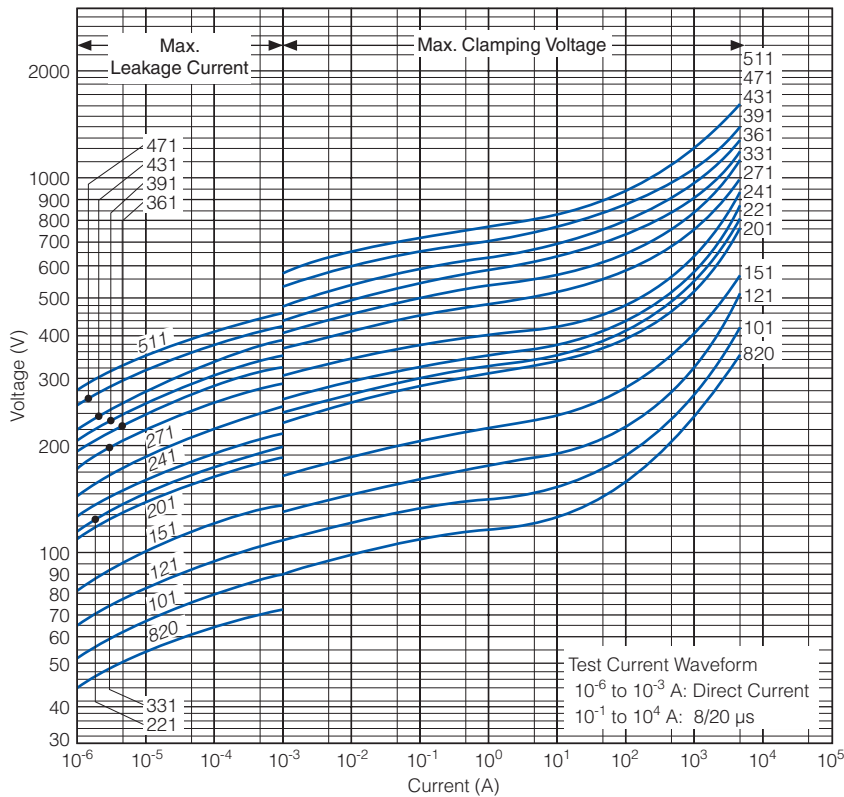
ERZV14D180 to ERZV14D680



## Typical Characteristics

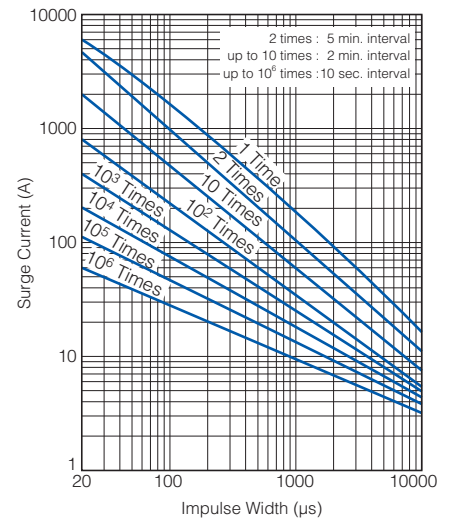
### Voltage vs. Current

ERZV14D820 to ERZV14D511

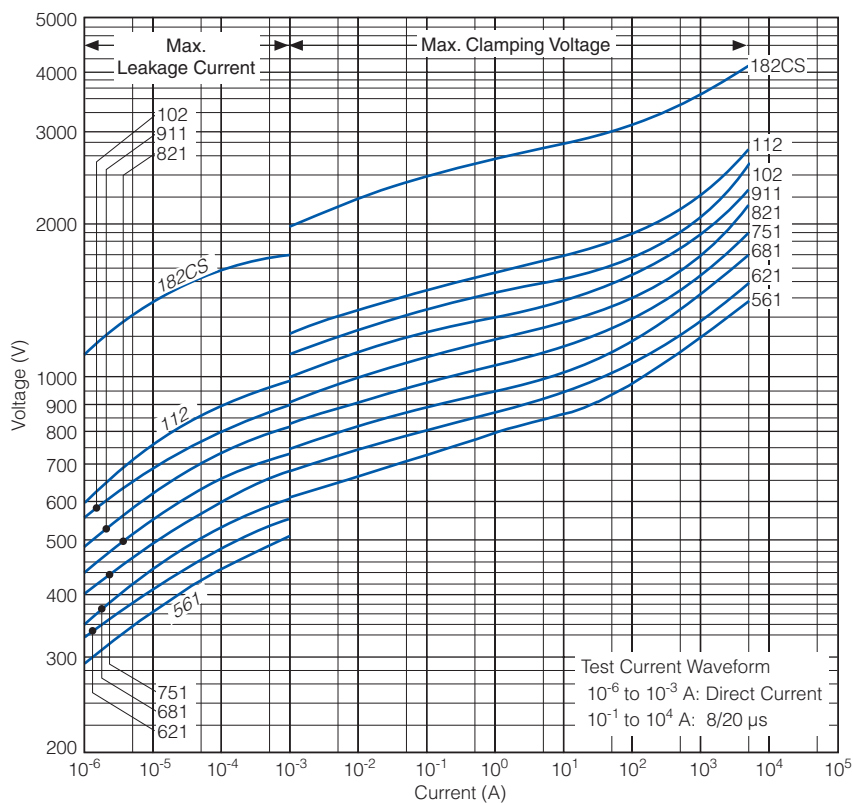


### Impulse Derating (Relation between impulse width and impulse current multiple)

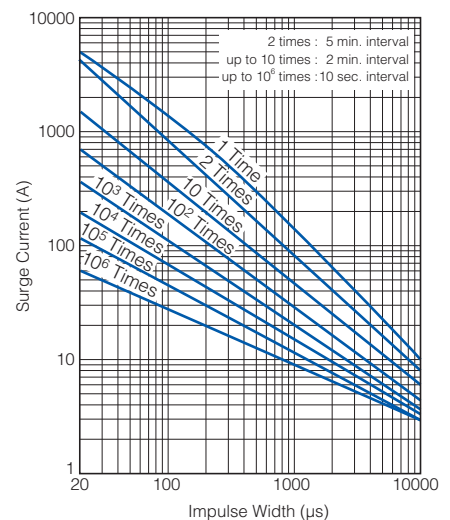
ERZV14D820 to ERZV14D511



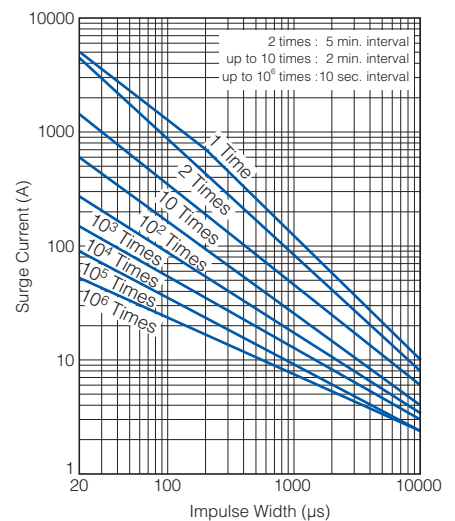
ERZV14D561 to ERZV14D182CS



ERZV14D561 to ERZV14D112



ERZV14D182CS



## 20 Series

### Ratings and Characteristics

- Operating Temperature Range : -40 to 85 °C    ● Storage Temperature Range : -40 to 125 °C

| Part No.   | Varistor Voltage      | Maximum Allowable Voltage |        | Clamping Voltage (max.)<br>*Ip | Rated Power | Maximum Energy |        | Maximum Peak Current (8/20 μs) |         | Capacitance (max.)<br>at 1 kHz (pF) |
|------------|-----------------------|---------------------------|--------|--------------------------------|-------------|----------------|--------|--------------------------------|---------|-------------------------------------|
|            |                       |                           |        |                                |             | (10/1000 μs)   | (2 ms) | 1 time                         | 2 times |                                     |
|            | V <sub>1 mA</sub> (V) | ACrms (V)                 | DC (V) | (V)                            | (W)         | (J)            | (J)    | (A)                            | (A)     |                                     |
| ERZV20D180 | 18(16 to 20)          | 11                        | 14     | 36                             | 0.2         | 13             | 12     | 3000                           | 2000    | 40000                               |
| ERZV20D220 | 22(20 to 24)          | 14                        | 18     | 43                             | 0.2         | 16             | 14     | 3000                           | 2000    | 30000                               |
| ERZV20D270 | 27(24 to 30)          | 17                        | 22     | 53                             | 0.2         | 19             | 17     | 3000                           | 2000    | 24500                               |
| ERZV20D330 | 33(30 to 36)          | 20                        | 26     | 65                             | 0.2         | 24             | 21     | 3000                           | 2000    | 20000                               |
| ERZV20D390 | 39(35 to 43)          | 25                        | 31     | 77                             | 0.2         | 28             | 25     | 3000                           | 2000    | 13800                               |
| ERZV20D470 | 47(42 to 52)          | 30                        | 38     | 93                             | 0.2         | 34             | 30     | 3000                           | 2000    | 13500                               |
| ERZV20D560 | 56(50 to 62)          | 35                        | 45     | 110                            | 0.2         | 41             | 36     | 3000                           | 2000    | 12200                               |
| ERZV20D680 | 68(61 to 75)          | 40                        | 56     | 135                            | 0.2         | 49             | 44     | 3000                           | 2000    | 11500                               |
| ERZV20D820 | 82(74 to 90)          | 50                        | 65     | 135                            | 1.0         | 56             | 40     | 10000                          | 7000    | 7500                                |
| ERZV20D101 | 100(90 to 110)        | 60                        | 85     | 165                            | 1.0         | 70             | 50     | 10000                          | 7000    | 6500                                |
| ERZV20D121 | 120(108 to 132)       | 75                        | 100    | 200                            | 1.0         | 85             | 60     | 10000                          | 7000    | 5500                                |
| ERZV20D151 | 150(135 to 165)       | 95                        | 125    | 250                            | 1.0         | 106            | 75     | 10000                          | 7000    | 4500                                |
| ERZV20D201 | 200(185 to 225)       | 130                       | 170    | 340                            | 1.0         | 140            | 100    | 10000                          | 7000    | 1700                                |
| ERZV20D221 | 220(198 to 242)       | 140                       | 180    | 360                            | 1.0         | 155            | 110    | 10000                          | 7000    | 1600                                |
| ERZV20D241 | 240(216 to 264)       | 150                       | 200    | 395                            | 1.0         | 168            | 120    | 10000                          | 7000    | 1500                                |
| ERZV20D271 | 270(247 to 303)       | 175                       | 225    | 455                            | 1.0         | 190            | 135    | 10000                          | 7000    | 1300                                |
| ERZV20D331 | 330(297 to 363)       | 210                       | 270    | 545                            | 1.0         | 228            | 160    | 10000                          | 6500    | 1100                                |
| ERZV20D361 | 360(324 to 396)       | 230                       | 300    | 595                            | 1.0         | 255            | 180    | 10000                          | 6500    | 1100                                |
| ERZV20D391 | 390(351 to 429)       | 250                       | 320    | 650                            | 1.0         | 275            | 195    | 10000                          | 6500    | 1100                                |
| ERZV20D431 | 430(387 to 473)       | 275                       | 350    | 710                            | 1.0         | 303            | 215    | 10000                          | 6500    | 1000                                |
| ERZV20D471 | 470(423 to 517)       | 300                       | 385    | 775                            | 1.0         | 350            | 250    | 10000                          | 6500    | 900                                 |
| ERZV20D511 | 510(459 to 561)       | 320                       | 410    | 845                            | 1.0         | 382            | 273    | 10000                          | 6500    | 800                                 |
| ERZV20D561 | 560(504 to 616)       | 350                       | 450    | 930                            | 1.0         | 382            | 273    | 7500                           | 6500    | 750                                 |
| ERZV20D621 | 620(558 to 682)       | 385                       | 505    | 1025                           | 1.0         | 382            | 273    | 7500                           | 6500    | 700                                 |
| ERZV20D681 | 680(612 to 748)       | 420                       | 560    | 1120                           | 1.0         | 382            | 273    | 7500                           | 6500    | 650                                 |
| ERZV20D751 | 750(675 to 825)       | 460                       | 615    | 1240                           | 1.0         | 420            | 300    | 7500                           | 6500    | 600                                 |
| ERZV20D821 | 820(738 to 902)       | 510                       | 670    | 1355                           | 1.0         | 460            | 325    | 7500                           | 6500    | 530                                 |
| ERZV20D911 | 910(819 to 1001)      | 550                       | 745    | 1500                           | 1.0         | 510            | 360    | 7500                           | 6500    | 500                                 |
| ERZV20D102 | 1000(900 to 1100)     | 625                       | 825    | 1650                           | 1.0         | 565            | 400    | 7500                           | 6500    | 450                                 |
| ERZV20D112 | 1100(990 to 1210)     | 680                       | 895    | 1815                           | 1.0         | 620            | 440    | 7500                           | 6500    | 400                                 |
| ERZV20D182 | 1800(1700 to 1980)    | 1000                      | 1465   | 2970                           | 1.0         | 1020           | 720    | 7500                           | 6500    | 250                                 |

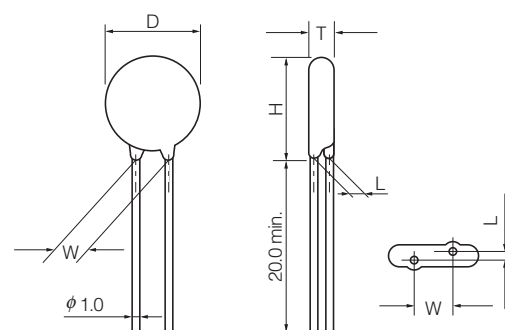
\*Ip Measuring current of clamping voltage 180 to 680 : 20 A, 820 to 182 : 100 A

## Dimensions in mm (not to scale)

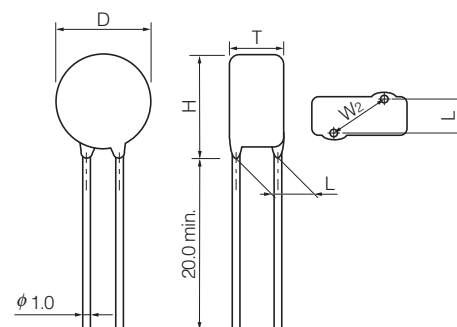
\* Refer to page 24 to 26 about leads cut type and taping.

| Part No.   | D max. | T max. | W±1.0 | H max. | L±1.0      |
|------------|--------|--------|-------|--------|------------|
| ERZV20D180 | 21.5   | 5.1    | 10.0  | 24.5   | 1.5        |
| ERZV20D220 | 21.5   | 5.2    | 10.0  | 24.5   | 1.6        |
| ERZV20D270 | 21.5   | 5.3    | 10.0  | 24.5   | 1.7        |
| ERZV20D330 | 21.5   | 5.5    | 10.0  | 24.5   | 1.9        |
| ERZV20D390 | 21.5   | 5.5    | 10.0  | 24.5   | 1.9        |
| ERZV20D470 | 21.5   | 5.6    | 10.0  | 24.5   | 2.0        |
| ERZV20D560 | 21.5   | 5.7    | 10.0  | 24.5   | 2.1        |
| ERZV20D680 | 21.5   | 5.8    | 10.0  | 24.5   | 2.2        |
| ERZV20D820 | 21.5   | 4.9    | 10.0  | 24.5   | 1.8        |
| ERZV20D101 | 21.5   | 5.1    | 10.0  | 24.5   | 2.0        |
| ERZV20D121 | 21.5   | 5.3    | 10.0  | 24.5   | 2.2        |
| ERZV20D151 | 21.5   | 5.6    | 10.0  | 24.5   | 2.5        |
| ERZV20D201 | 21.5   | 5.2    | 10.0  | 24.5   | 2.1        |
| ERZV20D221 | 21.5   | 5.3    | 10.0  | 24.5   | 2.2        |
| ERZV20D241 | 21.5   | 5.4    | 10.0  | 24.5   | 2.3        |
| ERZV20D271 | 21.5   | 5.6    | 10.0  | 24.5   | 2.5        |
| ERZV20D331 | 21.5   | 5.9    | 10.0  | 24.5   | 2.8        |
| ERZV20D361 | 21.5   | 6.1    | 10.0  | 24.5   | 3.0        |
| ERZV20D391 | 21.5   | 6.2    | 10.0  | 24.5   | 3.1        |
| ERZV20D431 | 21.5   | 6.4    | 10.0  | 24.5   | 3.3        |
| ERZV20D471 | 21.5   | 6.6    | 10.0  | 24.5   | 3.5        |
| ERZV20D511 | 21.5   | 6.8    | 10.0  | 24.5   | 3.7        |
| ERZV20D561 | 22.5   | 7.1    | 10.0  | 25.5   | 4.2        |
| ERZV20D621 | 22.5   | 7.5    | 10.0  | 25.5   | 4.4        |
| ERZV20D681 | 22.5   | 7.8    | 10.0  | 25.5   | 4.7        |
| ERZV20D751 | 22.5   | 8.2    | 10.0  | 25.5   | 5.1        |
| ERZV20D821 | 22.5   | 8.5    | 10.0  | 25.5   | 5.4        |
| ERZV20D911 | 22.5   | 9.0    | 10.0  | 25.5   | 5.9        |
| ERZV20D102 | 22.5   | 9.5    | 10.0  | 25.5   | 6.4        |
| ERZV20D112 | 22.5   | 10.1   | 10.0  | 25.5   | 7.0        |
| ERZV20D182 | 23.5   | 14.8   | 15.0* | 28.0   | 10.7(±2.0) |

\*: W<sub>2</sub>



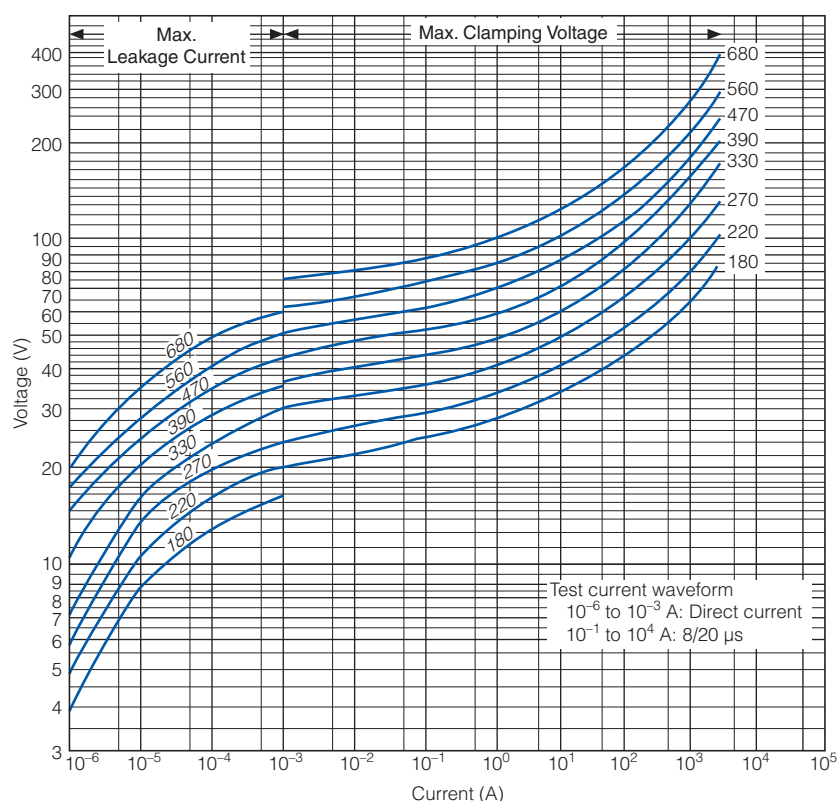
(ERZV20D182)



## Typical Characteristics

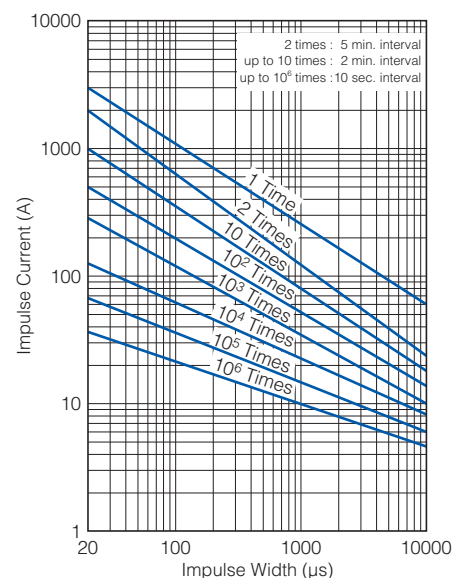
### Voltage vs. Current

ERZV20D180 to ERZV20D680



### Impulse Derating (Relation between impulse width and impulse current multiple)

ERZV20D180 to ERZV20D680

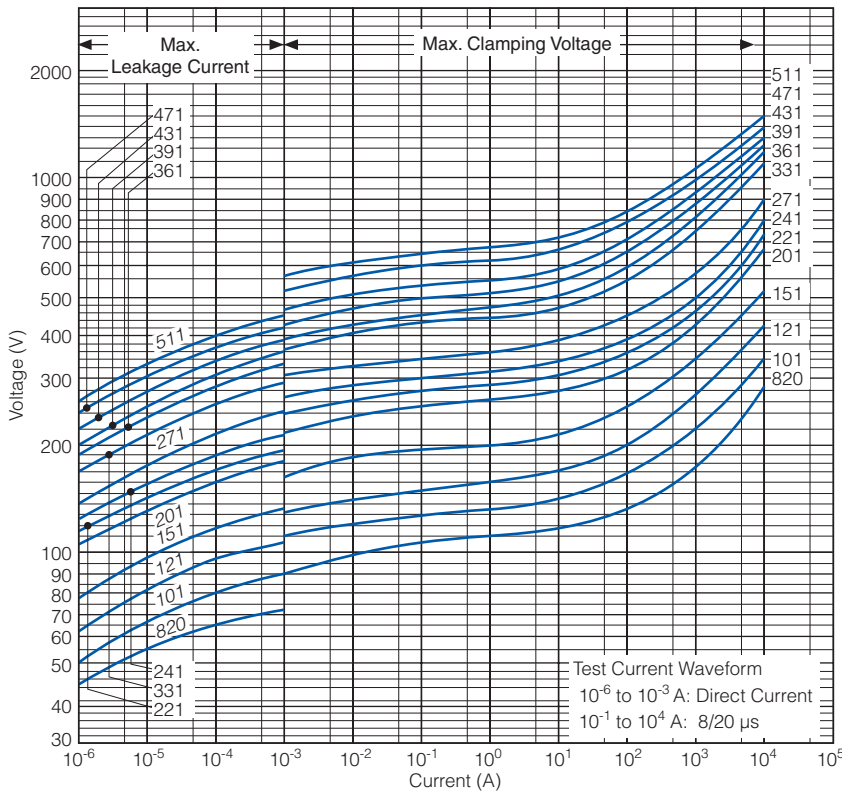




## Typical Characteristics

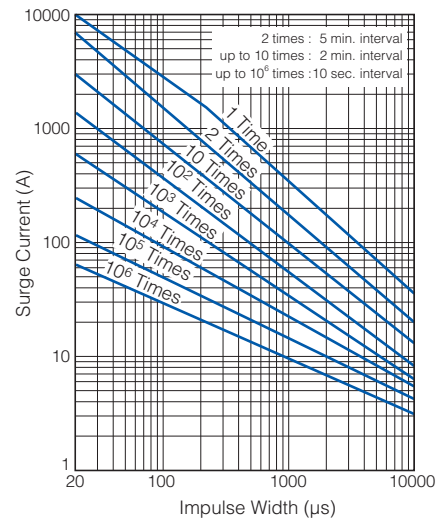
### Voltage vs. Current

ERZV20D820 to ERZV20D511

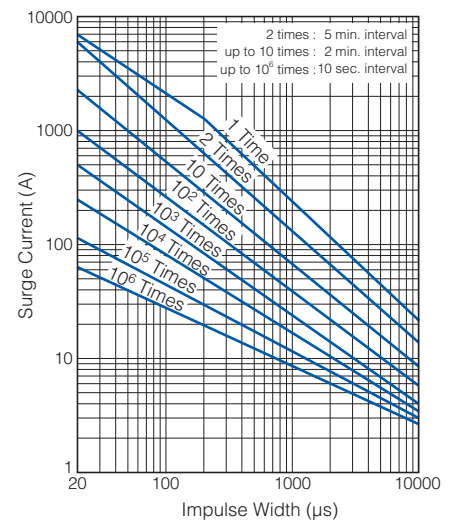


### Impulse Derating (Relation between impulse width and impulse current multiple)

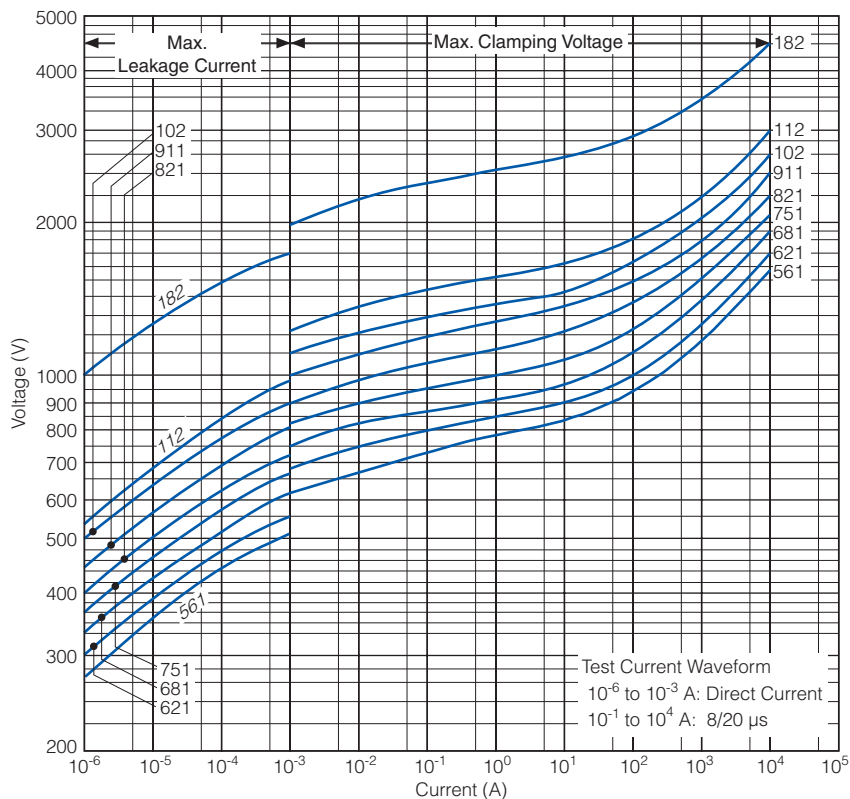
ERZV20D820 to ERZV20D511



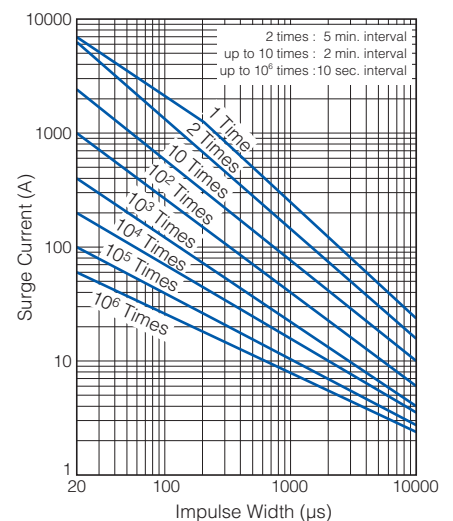
ERZV20D561 to ERZV20D112



ERZV20D561 to ERZV20D182



ERZV20D182



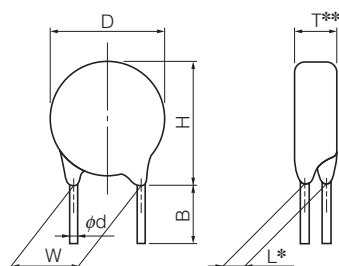


## Straight Leads Cut Type (Bulk Type)

### Ratings and Characteristics

\* Refer to bulk standard type part no. (P9 to P23).

### Dimensions in mm (not to scale)



notes \* Dimension “L”: Conforms to each individual specification.  
\*\* Dimension “T”: Conforms to each individual specification.

Unit : mm

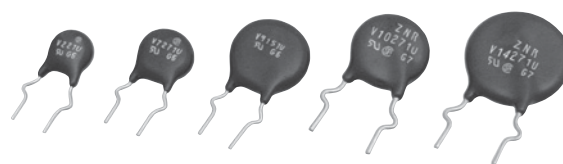
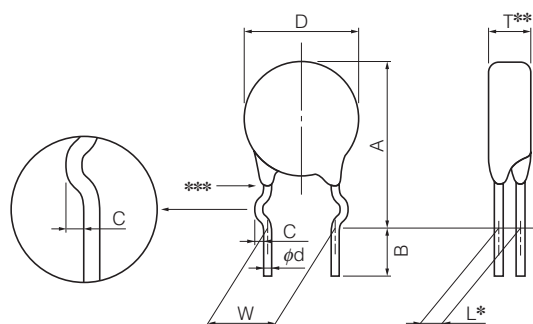
| Series                     | 5                                      | 7                                      | 9                                      | 10                                     |                                        |                                        | 14                                     |                                        |                                        |
|----------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| Symbol                     | 180 to 471                             | 180 to 511                             | 180 to 511                             | 180 to 511                             | 561 to 751                             | 821 to 112                             | 180 to 511                             | 561 to 751                             | 821 to 112                             |
| D                          | 7.0 max.                               | 8.5 max.                               | 11.5 max.                              | 11.5 max.                              | 12.5 max.                              | 12.5 max.                              | 15.5 max.                              | 16.0 max.                              | 16.0 max.                              |
| H                          | 10.0 max.                              | 11.5 max.                              | 14.0 max.                              | 14.5 max.                              | 15.5 max.                              | 15.5 max.                              | 18.5 max.                              | 19.0 max.                              | 19.0 max.                              |
| W                          | 5.0±1.0                                | 5.0±1.0                                | 5.0±1.0                                | 7.5±1.0                                | 7.5±1.0                                | 7.5±1.0                                | 7.5±1.0                                | 7.5±1.0                                | 7.5±1.0                                |
| ϕd                         | 0.60 <sup>+0.06</sup> <sub>-0.05</sub> | 0.60 <sup>+0.06</sup> <sub>-0.05</sub> | 0.60 <sup>+0.06</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> |
| B                          | 4.0±1.0                                | 4.0±1.0                                | 4.0±1.0                                | 4.0±1.0                                | 4.0±1.0                                | 4.0±1.5                                | 4.0±1.0                                | 4.0±1.0                                | 4.0±1.5                                |
| Standard Products Part No. | ERZV05D□□□CS                           | ERZV07D□□□CS                           | ERZV09D□□□CS                           | ERZV10D□□□CS                           | ERZV10D□□□CS                           | ERZV10D□□□C1                           | ERZV14D□□□CS                           | ERZV14D□□□CS                           | ERZV14D□□□C1                           |

## Crimped Leads Cut Type (Bulk Type)

### Ratings and Characteristics

\* Refer to bulk standard type part no. (P9 to P23).

### Dimensions in mm (not to scale)



notes \* Dimension “L”: Conforms to each individual specification.  
\*\* Dimension “T”: Conforms to each individual specification.  
\*\*\* Resin extenstions : No resin below the center of the hook.

Unit : mm

| Series                     | 5                                      | 7                                      | 9                                      | 10                                     |                                        |                                        | 14                                     |                                        |                                        |
|----------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| Symbol                     | 180 to 471                             | 180 to 511                             | 180 to 511                             | 180 to 511                             | 561 to 751                             | 821 to 112                             | 180 to 511                             | 561 to 751                             | 821 to 112                             |
| A                          | 13.0 max.                              | 14.5 max.                              | 17.5 max.                              | 17.5 max.                              | 19.0 max.                              | 20.0 max.                              | 21.0 max.                              | 22.0 max.                              | 23.5 max.                              |
| D                          | 7.0 max.                               | 8.5 max.                               | 11.5 max.                              | 11.5 max.                              | 12.5 max.                              | 12.5 max.                              | 15.5 max.                              | 16.0 max.                              | 16.0 max.                              |
| C                          | 1.2±0.4                                | 1.2±0.4                                | 1.2±0.4                                | 1.4±0.4                                | 1.4±0.4                                | 1.4±0.4                                | 1.4±0.4                                | 1.4±0.4                                | 1.4±0.4                                |
| W                          | 5.0±1.0                                | 5.0±1.0                                | 5.0±1.0                                | 7.5±1.0                                | 7.5±1.0                                | 7.5±1.0                                | 7.5±1.0                                | 7.5±1.0                                | 7.5±1.0                                |
| ϕd                         | 0.60 <sup>+0.06</sup> <sub>-0.05</sub> | 0.60 <sup>+0.06</sup> <sub>-0.05</sub> | 0.60 <sup>+0.06</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> |
| B                          | 4.0±1.0                                | 4.0±1.0                                | 4.0±1.0                                | 4.0±1.0                                | 4.0±1.0                                | 4.0±1.5                                | 4.0±1.0                                | 4.0±1.0                                | 4.0±1.5                                |
| Standard Products Part No. | ERZV05V□□□CS                           | ERZV07V□□□CS                           | ERZV09V□□□CS                           | ERZV10V□□□CS                           | ERZV10V□□□CS                           | ERZV10V□□□C1                           | ERZV14V□□□CS                           | ERZV14V□□□CS                           | ERZV14V□□□C1                           |

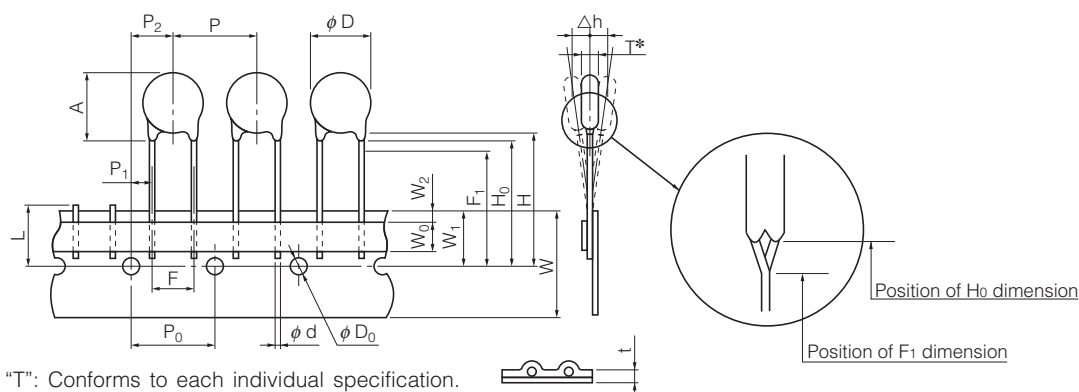
## Taping Specifications for Automated Assembly (Straight Leads and Taping)

### Ratings and Characteristics

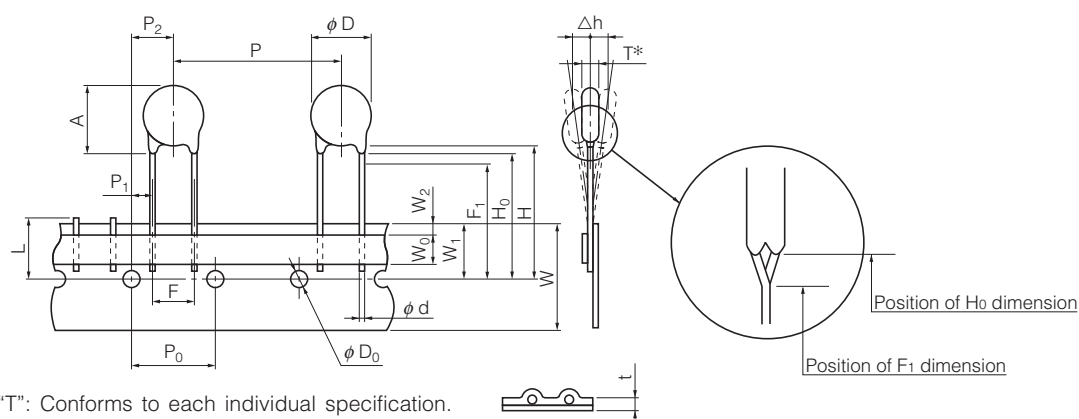
\* Refer to bulk standard type part no. (P9 to P23).

### Taping Dimensions in mm (not to scale)

Type I-II



Type III-IV



Unit : mm

| Series                     | 5          | 7                                      | 9                                      | 10                                     |                                         |                                         | 14                                     |                                         |                                         |
|----------------------------|------------|----------------------------------------|----------------------------------------|----------------------------------------|-----------------------------------------|-----------------------------------------|----------------------------------------|-----------------------------------------|-----------------------------------------|
| Varistor Voltage           | 180 to 471 | 180 to 511                             | 180 to 511                             | 180 to 331                             | 361 to 511                              | 561 to 112                              | 180 to 331                             | 361 to 511                              | 561 to 112                              |
| Symbol                     | Type       | Type I                                 | Type I                                 | Type I                                 | Type II                                 | Type II                                 | Type III                               | Type IV                                 | Type IV                                 |
| P                          |            | 12.7±1.0                               | 12.7±1.0                               | 12.7±1.0                               | 15.0±1.0                                | 15.0±1.0                                | 15.0±1.0                               | 30.0±1.0                                | 30.0±1.0                                |
| P <sub>0</sub>             |            | 12.7±0.3                               | 12.7±0.3                               | 12.7±0.3                               | 15.0±0.3                                | 15.0±0.3                                | 15.0±0.3                               | 15.0±0.3                                | 15.0±0.3                                |
| P <sub>1</sub>             |            | 3.85±0.70                              | 3.85±0.70                              | 3.85±0.70                              | 3.75±0.70                               | 3.75±0.70                               | 3.75±0.70                              | 3.75±0.70                               | 3.75±0.70                               |
| P <sub>2</sub>             |            | 6.35±1.30                              | 6.35±1.30                              | 6.35±1.30                              | 7.5±1.3                                 | 7.5±1.3                                 | 7.5±1.3                                | 7.5±1.3                                 | 7.5±1.3                                 |
| ϕ d                        |            | 0.60 <sup>+0.06</sup> <sub>-0.05</sub> | 0.60 <sup>+0.06</sup> <sub>-0.05</sub> | 0.60 <sup>+0.06</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub>  | 0.80 <sup>+0.08</sup> <sub>-0.05</sub>  | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub>  | 0.80 <sup>+0.08</sup> <sub>-0.05</sub>  |
| F                          |            | 5.0±0.5                                | 5.0±0.5                                | 5.0±0.5                                | 7.5±0.5                                 | 7.5±0.5                                 | 7.5±0.5                                | 7.5±0.5                                 | 7.5±0.5                                 |
| Δh                         |            | 0±2                                    | 0±2                                    | 0±2                                    | 0±2                                     | 0±2                                     | 0±2                                    | 0±2                                     | 0±2                                     |
| W                          |            | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>   | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>   | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>   | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>    | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>    | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>   | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>    | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>    |
| W <sub>0</sub>             |            | 5.0 min.                               | 5.0 min.                               | 5.0 min.                               | 5.0 min.                                | 5.0 min.                                | 5.0 min.                               | 5.0 min.                                | 5.0 min.                                |
| W <sub>1</sub>             |            | 9.0±0.5                                | 9.0±0.5                                | 9.0±0.5                                | 9.0±0.5                                 | 9.0±0.5                                 | 9.0±0.5                                | 9.0±0.5                                 | 9.0±0.5                                 |
| W <sub>2</sub>             |            | 3 max.                                 | 3 max.                                 | 3 max.                                 | 3 max.                                  | 3 max.                                  | 3 max.                                 | 3 max.                                  | 3 max.                                  |
| H                          |            | Approx. 20                             | Approx. 20                             | Approx. 20                             | Approx. 22                              | Approx. 22                              | Approx. 22                             | Approx. 22                              | Approx. 22                              |
| H <sub>0</sub>             |            | 17.0±0.5                               | 17.0±0.5                               | 17.0±0.5                               | 18.0 <sup>+2.0</sup> <sub>-0.5</sub>    | —                                       | 18.0 <sup>+2.0</sup> <sub>-0.5</sub>   | —                                       | —                                       |
| F <sub>1</sub>             |            | —                                      | —                                      | —                                      | 16.00 <sup>+0.75</sup> <sub>-0.50</sub> | 16.00 <sup>+0.75</sup> <sub>-0.50</sub> | —                                      | 16.00 <sup>+0.75</sup> <sub>-0.50</sub> | 16.00 <sup>+0.75</sup> <sub>-0.50</sub> |
| ϕ D <sub>0</sub>           |            | ϕ 4.0±0.2                              | ϕ 4.0±0.2                              | ϕ 4.0±0.2                              | ϕ 4.0±0.2                               | ϕ 4.0±0.2                               | ϕ 4.0±0.2                              | ϕ 4.0±0.2                               | ϕ 4.0±0.2                               |
| t                          |            | 0.6±0.3                                | 0.6±0.3                                | 0.6±0.3                                | 0.6±0.3                                 | 0.6±0.3                                 | 0.6±0.3                                | 0.6±0.3                                 | 0.6±0.3                                 |
| L                          |            | 11 max.                                | 11 max.                                | 11 max.                                | 11 max.                                 | 11 max.                                 | 11 max.                                | 11 max.                                 | 11 max.                                 |
| ϕ D                        |            | 7.0 max.                               | 8.5 max.                               | 11.5 max.                              | 11.5 max.                               | 12.5 max.                               | 15.5 max.                              | 15.5 max.                               | 16.0 max.                               |
| A                          |            | 10.0 max.                              | 11.5 max.                              | 14.0 max.                              | 14.5 max.                               | 15.5 max.                               | 18.5 max.                              | 18.5 max.                               | 19.0 max.                               |
| Standard Products Part No. |            | ERZVA5D□□□                             | ERZVA7D□□□                             | ERZVA9D□□□                             | ERZVGAD□□□                              | ERZVGAD□□□                              | ERZVGAD□□□                             | ERZVGED□□□                              | ERZVGED□□□                              |

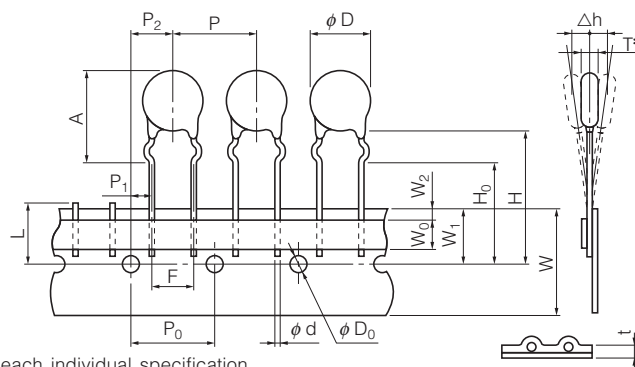
## Taping Specifications for Automated Assembly (Crimped Leads and Taping)

### Ratings and Characteristics

\* Refer to bulk standard type part no. (P9 to P23).

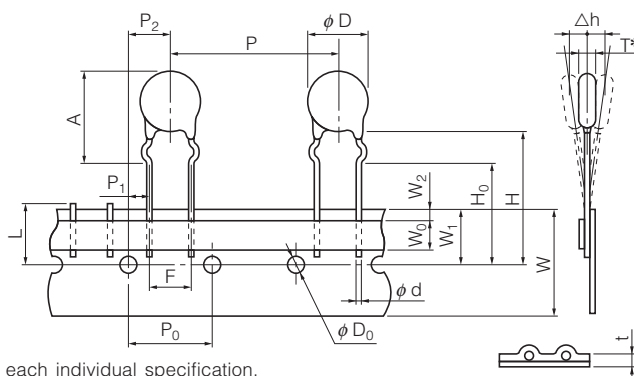
### Taping Dimensions in mm (not to scale)

Type I



\* Dimension "T": Conforms to each individual specification.

Type II



\* Dimension "T": Conforms to each individual specification.

Unit : mm

| Series                     | 5                                      | 7                                      | 9                                      | 10                                     |                                        |                                        | 14                                     |                                        |                                        |
|----------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| Varistor Voltage           | 180 to 471                             | 180 to 511                             | 180 to 511                             | 180 to 331                             | 361 to 511                             | 561 to 112                             | 180 to 331                             | 361 to 511                             | 561 to 112                             |
| Symbol                     | Type                                   | Type I                                 | Type I                                 | Type I                                 | Type I                                 | Type I                                 | Type II                                | Type II                                | Type II                                |
| P                          | 12.7±1.0                               | 12.7±1.0                               | 12.7±1.0                               | 15.0±1.0                               | 15.0±1.0                               | 15.0±1.0                               | 30.0±1.0                               | 30.0±1.0                               | 30.0±1.0                               |
| P <sub>0</sub>             | 12.7±0.3                               | 12.7±0.3                               | 12.7±0.3                               | 15.0±0.3                               | 15.0±0.3                               | 15.0±0.3                               | 15.0±0.3                               | 15.0±0.3                               | 15.0±0.3                               |
| P <sub>1</sub>             | 3.85±0.70                              | 3.85±0.70                              | 3.85±0.70                              | 3.75±0.70                              | 3.75±0.70                              | 3.75±0.70                              | 3.75±0.70                              | 3.75±0.70                              | 3.75±0.70                              |
| P <sub>2</sub>             | 6.35±1.30                              | 6.35±1.30                              | 6.35±1.30                              | 7.5±1.3                                | 7.5±1.3                                | 7.5±1.3                                | 7.5±1.3                                | 7.5±1.3                                | 7.5±1.3                                |
| ϕ d                        | 0.60 <sup>+0.06</sup> <sub>-0.05</sub> | 0.60 <sup>+0.06</sup> <sub>-0.05</sub> | 0.60 <sup>+0.06</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> | 0.80 <sup>+0.08</sup> <sub>-0.05</sub> |
| F                          | 5.0±0.5                                | 5.0±0.5                                | 5.0±0.5                                | 7.5±0.5                                | 7.5±0.5                                | 7.5±0.5                                | 7.5±0.5                                | 7.5±0.5                                | 7.5±0.5                                |
| Δh                         | 0±2                                    | 0±2                                    | 0±2                                    | 0±2                                    | 0±2                                    | 0±2                                    | 0±2                                    | 0±2                                    | 0±2                                    |
| W                          | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>   | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>   | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>   | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>   | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>   | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>   | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>   | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>   | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>   |
| W <sub>0</sub>             | 5.0 min.                               | 5.0 min.                               | 5.0 min.                               | 5.0 min.                               | 5.0 min.                               | 5.0 min.                               | 5.0 min.                               | 5.0 min.                               | 5.0 min.                               |
| W <sub>1</sub>             | 9.0±0.5                                | 9.0±0.5                                | 9.0±0.5                                | 9.0±0.5                                | 9.0±0.5                                | 9.0±0.5                                | 9.0±0.5                                | 9.0±0.5                                | 9.0±0.5                                |
| W <sub>2</sub>             | 3 max.                                 | 3 max.                                 | 3 max.                                 | 3 max.                                 | 3 max.                                 | 3 max.                                 | 3 max.                                 | 3 max.                                 | 3 max.                                 |
| H                          | Approx. 22                             | Approx. 22                             | Approx. 22                             | Approx. 22                             | Approx. 22                             | Approx. 22                             | Approx. 22                             | Approx. 22                             | Approx. 22                             |
| H <sub>0</sub>             | 17.0±0.5                               | 17.0±0.5                               | 17.0±0.5                               | 16.0±0.5                               | 16.0±0.5                               | 16.0±0.5                               | 16.0±0.5                               | 16.0±0.5                               | 16.0±0.5                               |
| ϕ D <sub>0</sub>           | ϕ4.0±0.2                               | ϕ4.0±0.2                               | ϕ4.0±0.2                               | ϕ4.0±0.2                               | ϕ4.0±0.2                               | ϕ4.0±0.2                               | ϕ4.0±0.2                               | ϕ4.0±0.2                               | ϕ4.0±0.2                               |
| t                          | 0.6±0.3                                | 0.6±0.3                                | 0.6±0.3                                | 0.6±0.3                                | 0.6±0.3                                | 0.6±0.3                                | 0.6±0.3                                | 0.6±0.3                                | 0.6±0.3                                |
| L                          | 11 max.                                | 11 max.                                | 11 max.                                | 11 max.                                | 11 max.                                | 11 max.                                | 11 max.                                | 11 max.                                | 11 max.                                |
| ϕ D                        | 7.0 max.                               | 8.5 max.                               | 11.5 max.                              | 11.5 max.                              | 11.5 max.                              | 12.5 max.                              | 15.5 max.                              | 15.5 max.                              | 16.0 max.                              |
| A                          | 13.0 max.                              | 14.5 max.                              | 17.5 max.                              | 17.5 max.                              | 17.5 max.                              | *(refer)                               | 21.0 max.                              | 21.0 max.                              | *(refer)                               |
| Standard Products Part No. | ERZVA5V□□□                             | ERZVA7V□□□                             | ERZVA9V□□□                             | ERZVEAV□□□                             | ERZVEAV□□□                             | ERZVEAV□□□                             | ERZVEEV□□□                             | ERZVEEV□□□                             | ERZVEEV□□□                             |

\* Dimension "A"

|            | 10 Series | 14 Series |
|------------|-----------|-----------|
| ERZV□□V561 | 19.0 max. | 22.0 max. |
| ERZV□□V621 | 19.0 max. | 22.0 max. |
| ERZV□□V681 | 19.0 max. | 22.0 max. |
| ERZV□□V751 | 19.0 max. | 22.0 max. |

|            | 10 Series | 14 Series |
|------------|-----------|-----------|
| ERZV□□V821 | 20.0 max. | 23.5 max. |
| ERZV□□V911 | 20.0 max. | 23.5 max. |
| ERZV□□V102 | 20.0 max. | 23.5 max. |
| ERZV□□V112 | 20.0 max. | 23.5 max. |