

# Z21D Series

## Specifications

| Part No.  | Varistor Voltage | Maximum Allowable Voltage |       | Clamping Voltage (max.) | Rated Power | Maximum Energy    |       | Maximum Peak Current (8/20 $\mu$ s) |         | Capacitance (max.) 1kHz |
|-----------|------------------|---------------------------|-------|-------------------------|-------------|-------------------|-------|-------------------------------------|---------|-------------------------|
|           |                  | AC <sub>rms</sub> (V)     | DC(V) |                         |             | (10/1000 $\mu$ s) | (2ms) | 1 time                              | 2 times |                         |
|           |                  |                           |       |                         |             |                   |       |                                     |         |                         |
| Z21D180   | 18(16-20)        | 11                        | 14    | 36 at 20A               | 0.2         | 13                | 12    | 3000                                | 2000    | 40000                   |
| Z21D220   | 22(20-24)        | 14                        | 18    | 43                      | 0.2         | 16                | 14    | 3000                                | 2000    | 30000                   |
| Z21D270   | 27(24-30)        | 17                        | 22    | 53                      | 0.2         | 19                | 17    | 3000                                | 2000    | 24500                   |
| Z21D330   | 33(30-36)        | 20                        | 26    | 65                      | 0.2         | 24                | 21    | 3000                                | 2000    | 20000                   |
| Z21D390   | 39(35-43)        | 25                        | 31    | 77                      | 0.2         | 28                | 25    | 3000                                | 2000    | 13800                   |
| Z21D470   | 47(42-52)        | 30                        | 38    | 93                      | 0.2         | 34                | 30    | 3000                                | 2000    | 13500                   |
| Z21D560   | 56(50-62)        | 35                        | 45    | 110                     | 0.2         | 41                | 36    | 3000                                | 2000    | 12200                   |
| Z21D680   | 68(61-75)        | 40                        | 56    | 135                     | 0.2         | 49                | 44    | 3000                                | 2000    | 11500                   |
| * Z21D820 | 82(74-90)        | 50                        | 65    | 135 at 100A             | 1.0         | 56                | 40    | 10000                               | 6500    | 7500                    |
| * Z21D101 | 100(90-110)      | 60                        | 85    | 165                     | 1.0         | 70                | 50    | 10000                               | 6500    | 6500                    |
| * Z21D121 | 120(108-132)     | 75                        | 100   | 200                     | 1.0         | 85                | 60    | 10000                               | 6500    | 5500                    |
| * Z21D151 | 150(135-165)     | 95                        | 125   | 250                     | 1.0         | 106               | 75    | 10000                               | 6500    | 4500                    |
| * Z21D201 | 200(185-225)     | 130                       | 170   | 340                     | 1.0         | 140               | 100   | 10000                               | 6500    | 1700                    |
| * Z21D221 | 220(198-242)     | 140                       | 180   | 360                     | 1.0         | 155               | 110   | 10000                               | 6500    | 1600                    |
| * Z21D241 | 240(216-264)     | 150                       | 200   | 395                     | 1.0         | 168               | 120   | 10000                               | 6500    | 1500                    |
| * Z21D271 | 270(247-303)     | 175                       | 225   | 455                     | 1.0         | 190               | 135   | 10000                               | 6500    | 1300                    |
| * Z21D331 | 330(297-363)     | 210                       | 270   | 545                     | 1.0         | 228               | 160   | 10000                               | 6500    | 1100                    |
| * Z21D361 | 360(324-396)     | 230                       | 300   | 595                     | 1.0         | 255               | 180   | 10000                               | 6500    | 1100                    |
| * Z21D391 | 390(351-429)     | 250                       | 320   | 650                     | 1.0         | 275               | 195   | 10000                               | 6500    | 1100                    |
| * Z21D431 | 430(387-473)     | 275                       | 350   | 710                     | 1.0         | 303               | 215   | 10000                               | 6500    | 1000                    |
| * Z21D471 | 470(423-517)     | 300                       | 385   | 775                     | 1.0         | 350               | 250   | 10000                               | 6500    | 900                     |
| * Z21D511 | 510(459-561)     | 320                       | 410   | 845                     | 1.0         | 382               | 273   | 10000                               | 6500    | 800                     |
| * Z21D561 | 560(504-616)     | 350                       | 450   | 930                     | 1.0         | 382               | 273   | 7500                                | 6500    | 750                     |
| * Z21D681 | 680(612-748)     | 420                       | 560   | 1120                    | 1.0         | 382               | 273   | 7500                                | 6500    | 650                     |
| * Z21D751 | 750(675-825)     | 460                       | 615   | 1240                    | 1.0         | 420               | 300   | 7500                                | 6500    | 600                     |
| * Z21D821 | 820(738-902)     | 510                       | 670   | 1355                    | 1.0         | 460               | 325   | 7500                                | 6500    | 530                     |
| * Z21D911 | 910(819-1001)    | 550                       | 745   | 1500                    | 1.0         | 510               | 360   | 7500                                | 6500    | 500                     |
| * Z21D102 | 1000(900-1100)   | 625                       | 825   | 1650                    | 1.0         | 565               | 400   | 7500                                | 6500    | 450                     |

1. Operating temperature range: -40 to 85°C \* UL 1449 approved model  
 2. Storage temperature range: -40 to 125°C

## Dimensions

**Z5D**

**Z7D**

**Z10D**

**Z15D**

**Z21D**

**Crimped Leads and Taped**  
 Z5D □□□ T4C  
 Z7D □□□ T4C

**Straight Leads and Taped**  
 Z5D □□□ T4D  
 Z7D □□□ T4D

\*Dimension "T": Conforms to each individual specification  
 \*Packing quantity: 1000pcs/BOX

| Symbol         | Type I                                 | Symbol          | Type I     |
|----------------|--|-----------------|------------|
| P              | 12.7±1.0                               | W <sub>0</sub>  | 5.0min     |
| P <sub>0</sub> | 12.7±0.3                               | W <sub>1</sub>  | 9.0±0.5    |
| P <sub>1</sub> | 3.85±0.70                              | W <sub>2</sub>  | 3max       |
| P <sub>2</sub> | 6.35±1.30                              | H               | Approx. 22 |
| φd             | 0.60 <sup>+0.08</sup> <sub>-0.05</sub> | H <sub>0</sub>  | 17.0±0.5   |
| F              | 5.0±0.5                                | φD <sub>0</sub> | φ4.0±0.2   |
| Δh             | 0±2                                    | t               | 0.6±0.3    |
| W              | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>   | L               | 11max      |
| φD             | Z5D: 7max,<br>Z7D: 8.5max              |                 |            |

\*Dimension "T": Conforms to each individual specification  
 \*Packing quantity: 1000pcs/BOX

| Symbol         | Type I                                 | Symbol          | Type I                    |
|----------------|--|-----------------|---------------------------|
| P              | 12.7±1.0                               | W <sub>0</sub>  | 5.0min                    |
| P <sub>0</sub> | 12.7±0.3                               | W <sub>1</sub>  | 9.0±0.5                   |
| P <sub>1</sub> | 3.85±0.70                              | W <sub>2</sub>  | 3max                      |
| P <sub>2</sub> | 6.35±1.30                              | H               | Approx. 20                |
| φd             | 0.60 <sup>+0.08</sup> <sub>-0.05</sub> | H <sub>0</sub>  | 17.0±0.5                  |
| F              | 5.0±0.5                                | φD <sub>0</sub> | φ4.0±0.2                  |
| Δh             | 0±2                                    | t               | 0.6±0.3                   |
| W              | 18.0 <sup>+1.0</sup> <sub>-0.5</sub>   | L               | 11max                     |
| φD             |  |                 | Z5D: 7max,<br>Z7D: 8.5max |

Unit(mm)