

# Z10D Series

Specifications

| Part No.  | Varistor Voltage     | Maximum Allowable Voltage |       | Clamping Voltage (max.) | Rated Power | Maximum Energy |       | Maximum Peak Current (8/20μs) |         | Capacitance (max.) 1kHz |
|-----------|----------------------|---------------------------|-------|-------------------------|-------------|----------------|-------|-------------------------------|---------|-------------------------|
|           |                      |                           |       |                         |             | (10/1000μs)    | (2ms) | 1 time                        | 2 times |                         |
|           | V <sub>1mA</sub> (V) | AC <sub>rms</sub> (V)     | DC(V) | V(V)                    | (W)         | (J)            | (J)   | (A)                           | (A)     | (pF)                    |
| Z10D180   | 18(16-20)            | 11                        | 14    | 36 at 5A                | 0.05        | 2.6            | 2.2   | 1000                          | 500     | 16000                   |
| Z10D220   | 22(20-24)            | 14                        | 18    | 43                      | 0.05        | 3.2            | 2.6   | 1000                          | 500     | 11000                   |
| Z10D270   | 27(24-30)            | 17                        | 22    | 53                      | 0.05        | 3.9            | 3.2   | 1000                          | 500     | 8000                    |
| Z10D330   | 33(30-36)            | 20                        | 26    | 65                      | 0.05        | 4.8            | 4.0   | 1000                          | 500     | 6300                    |
| Z10D390   | 39(35-43)            | 25                        | 31    | 77                      | 0.05        | 5.6            | 4.7   | 1000                          | 500     | 5200                    |
| Z10D470   | 47(42-52)            | 30                        | 38    | 93                      | 0.05        | 6.8            | 5.6   | 1000                          | 500     | 4600                    |
| Z10D560   | 56(50-62)            | 35                        | 45    | 110                     | 0.05        | 8.1            | 6.7   | 1000                          | 500     | 3750                    |
| Z10D680   | 68(61-75)            | 40                        | 56    | 135                     | 0.05        | 9.8            | 8.2   | 1000                          | 500     | 2800                    |
| * Z10D820 | 82(74-90)            | 50                        | 65    | 135 at 25A              | 0.4         | 14             | 10    | 3500                          | 2500    | 2000                    |
| * Z10D101 | 100(90-110)          | 60                        | 85    | 165                     | 0.4         | 17             | 12    | 3500                          | 2500    | 1700                    |
| * Z10D121 | 120(108-132)         | 75                        | 100   | 200                     | 0.4         | 20             | 14.5  | 3500                          | 2500    | 1400                    |
| * Z10D151 | 150(135-165)         | 95                        | 125   | 250                     | 0.4         | 25             | 18    | 3500                          | 2500    | 1100                    |
| * Z10D201 | 200(185-225)         | 130                       | 170   | 340                     | 0.4         | 35             | 25    | 3500                          | 2500    | 430                     |
| * Z10D221 | 220(198-242)         | 140                       | 180   | 360                     | 0.4         | 39             | 27.5  | 3500                          | 2500    | 410                     |
| * Z10D241 | 240(216-264)         | 150                       | 200   | 395                     | 0.4         | 42             | 30    | 3500                          | 2500    | 380                     |
| * Z10D271 | 270(247-303)         | 175                       | 225   | 455                     | 0.4         | 49             | 35    | 3500                          | 2500    | 350                     |
| * Z10D331 | 330(297-363)         | 210                       | 270   | 545                     | 0.4         | 58             | 42    | 3500                          | 2500    | 300                     |
| * Z10D361 | 360(324-396)         | 230                       | 300   | 595                     | 0.4         | 65             | 45    | 3500                          | 2500    | 300                     |
| * Z10D391 | 390(351-429)         | 250                       | 320   | 650                     | 0.4         | 70             | 50    | 3500                          | 2500    | 300                     |
| * Z10D431 | 430(387-473)         | 275                       | 350   | 710                     | 0.4         | 80             | 55    | 3500                          | 2500    | 270                     |
| * Z10D471 | 470(423-517)         | 300                       | 385   | 775                     | 0.4         | 85             | 60    | 3500                          | 2500    | 230                     |
| * Z10D511 | 510(459-561)         | 320                       | 410   | 845                     | 0.4         | 92             | 67    | 3500                          | 2500    | 210                     |
| * Z10D561 | 560(504-616)         | 350                       | 450   | 930                     | 0.4         | 92             | 67    | 3500                          | 2500    | 200                     |
| * Z10D681 | 680(612-748)         | 420                       | 560   | 1120                    | 0.4         | 92             | 67    | 3500                          | 2500    | 170                     |
| * Z10D751 | 750(675-825)         | 460                       | 615   | 1240                    | 0.4         | 100            | 70    | 3500                          | 2500    | 160                     |
| * Z10D821 | 820(738-902)         | 510                       | 670   | 1355                    | 0.4         | 110            | 80    | 3500                          | 2500    | 140                     |
| * Z10D911 | 910(819-1001)        | 550                       | 745   | 1500                    | 0.4         | 130            | 90    | 3500                          | 2500    | 120                     |
| * Z10D102 | 1000(900-1100)       | 625                       | 825   | 1650                    | 0.4         | 140            | 100   | 3500                          | 2500    | 110                     |

# Z15D Series

Specifications

| Part No.  | Varistor Voltage     | Maximum Allowable Voltage |       | Clamping Voltage (max.) | Rated Power | Maximum Energy |       | Maximum Peak Current (8/20μs) |         | Capacitance (max.) 1kHz |
|-----------|----------------------|---------------------------|-------|-------------------------|-------------|----------------|-------|-------------------------------|---------|-------------------------|
|           |                      |                           |       |                         |             | (10/1000μs)    | (2ms) | 1 time                        | 2 times |                         |
|           | V <sub>1mA</sub> (V) | AC <sub>rms</sub> (V)     | DC(V) | V(V)                    | (W)         | (J)            | (J)   | (A)                           | (A)     | (pF)                    |
| Z15D180   | 18(16-20)            | 11                        | 14    | 36 at 10A               | 0.1         | 5.2            | 4.3   | 2000                          | 1000    | 25000                   |
| Z15D220   | 22(20-24)            | 14                        | 18    | 43                      | 0.1         | 6.3            | 5.3   | 2000                          | 1000    | 20000                   |
| Z15D270   | 27(24-30)            | 17                        | 22    | 53                      | 0.1         | 7.8            | 6.5   | 2000                          | 1000    | 16000                   |
| Z15D330   | 33(30-36)            | 20                        | 26    | 65                      | 0.1         | 9.5            | 7.9   | 2000                          | 1000    | 12200                   |
| Z15D390   | 39(35-43)            | 25                        | 31    | 77                      | 0.1         | 11             | 9.4   | 2000                          | 1000    | 7000                    |
| Z15D470   | 47(42-52)            | 30                        | 38    | 93                      | 0.1         | 14             | 11    | 2000                          | 1000    | 6750                    |
| Z15D560   | 56(50-62)            | 35                        | 45    | 110                     | 0.1         | 16             | 13    | 2000                          | 1000    | 6500                    |
| Z15D680   | 68(61-75)            | 40                        | 56    | 135                     | 0.1         | 20             | 16    | 2000                          | 1000    | 5500                    |
| * Z15D820 | 82(74-90)            | 50                        | 65    | 135 at 50A              | 0.6         | 28             | 20    | 6000                          | 4500    | 3700                    |
| * Z15D101 | 100(90-110)          | 60                        | 85    | 165                     | 0.6         | 35             | 25    | 6000                          | 4500    | 3200                    |
| * Z15D121 | 120(108-132)         | 75                        | 100   | 200                     | 0.6         | 42             | 30    | 6000                          | 4500    | 2700                    |
| * Z15D151 | 150(135-165)         | 95                        | 125   | 250                     | 0.6         | 53             | 37.5  | 6000                          | 4500    | 2200                    |
| * Z15D201 | 200(185-225)         | 130                       | 170   | 340                     | 0.6         | 70             | 50    | 6000                          | 4500    | 770                     |
| * Z15D221 | 220(198-242)         | 140                       | 180   | 360                     | 0.6         | 78             | 55    | 6000                          | 4500    | 740                     |
| * Z15D241 | 240(216-264)         | 150                       | 200   | 395                     | 0.6         | 84             | 60    | 6000                          | 4500    | 700                     |
| * Z15D271 | 270(247-303)         | 175                       | 225   | 455                     | 0.6         | 99             | 70    | 6000                          | 4500    | 640                     |
| * Z15D331 | 330(297-363)         | 210                       | 270   | 545                     | 0.6         | 115            | 80    | 6000                          | 4500    | 580                     |
| * Z15D361 | 360(324-396)         | 230                       | 300   | 595                     | 0.6         | 130            | 90    | 6000                          | 4500    | 540                     |
| * Z15D391 | 390(351-429)         | 250                       | 320   | 650                     | 0.6         | 140            | 100   | 6000                          | 4500    | 500                     |
| * Z15D431 | 430(387-473)         | 275                       | 350   | 710                     | 0.6         | 155            | 110   | 6000                          | 4500    | 450                     |
| * Z15D471 | 470(423-517)         | 300                       | 385   | 775                     | 0.6         | 175            | 125   | 6000                          | 4500    | 400                     |
| * Z15D511 | 510(459-561)         | 320                       | 410   | 845                     | 0.6         | 190            | 136   | 6000                          | 4500    | 350                     |
| * Z15D561 | 560(504-616)         | 350                       | 450   | 930                     | 0.6         | 190            | 136   | 6000                          | 4500    | 340                     |
| * Z15D681 | 680(612-748)         | 420                       | 560   | 1120                    | 0.6         | 190            | 136   | 5000                          | 4500    | 320                     |
| * Z15D751 | 750(675-825)         | 460                       | 615   | 1240                    | 0.6         | 210            | 150   | 5000                          | 4500    | 310                     |
| * Z15D821 | 820(738-902)         | 510                       | 670   | 1355                    | 0.6         | 235            | 165   | 5000                          | 4500    | 280                     |
| * Z15D911 | 910(819-1001)        | 550                       | 745   | 1500                    | 0.6         | 255            | 180   | 5000                          | 4500    | 250                     |
| * Z15D102 | 1000(900-1100)       | 625                       | 825   | 1650                    | 0.6         | 280            | 200   | 5000                          | 4500    | 230                     |

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