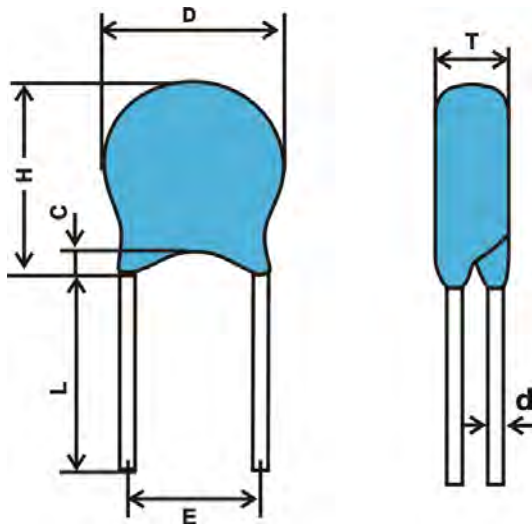


# VAR Series Zinc Oxide Varistor

## FEATURES

- ◆ Round Zinc Oxide Varistor, leaded
- ◆ Coating: epoxy resin, flame-retardant material
- ◆ Operating Temperature Range: -40°C ~+105°C
- ◆ Wide operating voltage
- ◆ Approvals: CQC, UL, VDE
- ◆ RoHS 2011/65/EU; REACH Compliant
- ◆ High energy & 6KV3KA elements on request

## DIMENSION



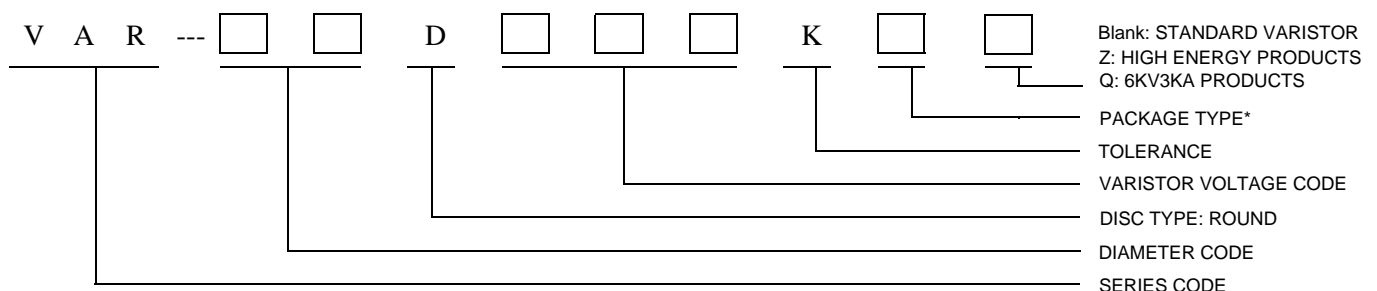
L:16mm min

| SIZE | D MAX | H MAX | d+/-0.05 | E       | c max |
|------|-------|-------|----------|---------|-------|
| 05D  | 8     | 11    | 0.5      | 5±0.8   | 2.5   |
| 07D  | 10    | 12.5  | 0.5      | 5±0.8   | 2.5   |
| 10D  | 13.5  | 16    | 0.7      | 7.5±0.8 | 2.5   |
| 14D  | 17.5  | 20    | 0.7      | 7.5±0.8 | 2.5   |
| 20D  | 24    | 26.5  | 1.0      | 10±1.0  | 2.5   |

## Thickness(max.)

| Code | 05D | 07D | 10D | 14D  | 20D  |
|------|-----|-----|-----|------|------|
| 182K | --  | --  | --  | 10.5 | 11.0 |
| 162K | --  | --  | --  | 9.5  | 10.5 |
| 152K | --  | --  | --  | 9.5  | 10.0 |
| 142K |     |     |     | 9.0  | 9.5  |
| 122K |     |     |     | 8.0  | 9.0  |
| 112K | --  | --  | 8.0 | 8.0  | 8.5  |
| 102K | --  | --  | 7.5 | 7.5  | 8.5  |
| 911K | --  | --  | 7.0 | 7.0  | 8.0  |
| 821K | --  | --  | 6.5 | 6.5  | 7.5  |
| 781K | --  | --  | 6.5 | 6.5  | 7.5  |
| 751K | --  | 6.0 | 6.5 | 6.5  | 7.5  |
| 681K | 5.5 | 5.5 | 6.0 | 6.0  | 7.0  |
| 621K | 5.5 | 5.5 | 6.0 | 6.0  | 7.0  |
| 561K | 5.0 | 5.0 | 5.5 | 5.5  | 6.5  |
| 511K | 5.0 | 5.0 | 5.5 | 5.5  | 6.5  |
| 471K | 5.0 | 5.0 | 5.5 | 5.5  | 6.0  |
| 431K | 4.5 | 4.5 | 5.0 | 5.0  | 6.0  |
| 391K | 4.5 | 4.5 | 5.0 | 5.0  | 6.0  |
| 361K | 4.5 | 4.5 | 5.0 | 5.0  | 6.0  |
| 331K | 4.5 | 4.5 | 5.0 | 5.0  | 5.5  |
| 301K | 4.0 | 4.0 | 4.5 | 4.5  | 5.5  |
| 271K | 4.0 | 4.0 | 4.5 | 4.5  | 5.5  |
| 241K | 4.0 | 4.0 | 4.5 | 4.5  | 5.5  |
| 221K | 4.0 | 4.0 | 4.5 | 4.5  | 5.0  |
| 201K | 4.0 | 4.0 | 4.5 | 4.5  | 5.0  |
| 181K | 4.5 | 4.5 | 5.0 | 5.0  | 5.5  |
| 151K | 4.5 | 4.5 | 5.0 | 5.0  | 5.5  |
| 121K | 4.5 | 4.5 | 5.0 | 5.0  | 5.5  |
| 101K | 4.5 | 4.5 | 5.0 | 5.0  | 5.5  |
| 820K | 4.5 | 4.5 | 5.0 | 5.0  | 5.0  |
| 680K | 5.0 | 5.0 | 5.5 | 5.5  | 6.0  |
| 560K | 4.5 | 4.5 | 5.0 | 5.0  | 5.5  |
| 470K | 4.5 | 4.5 | 5.0 | 5.0  | 5.5  |
| 390K | 4.5 | 4.5 | 5.0 | 5.0  | 5.5  |
| 330K | 4.5 | 4.5 | 5.0 | 5.0  | 5.5  |
| 270K | 4.5 | 4.5 | 5.0 | 5.0  | 5.5  |
| 220K | 4.5 | 4.5 | 4.5 | 4.5  | 5.0  |
| 180K | 4.0 | 4.5 | 4.5 | 4.5  | 5.0  |

## HOW TO ORDER



\*Packing Type: Code B means bulk package, standard leg length;  
 Code C means bulk package, cut leg  
 Code A means Ammo Taped in box  
 Code R means Taped & Reel  
 Code L means Long Leads

# VAR Series Zinc Oxide Varistor

## ZINC OXIDE VARISTOR 05D

### SPECIFICATION (for Standard MOVs)

| Part No     | Maximum allowable Voltage |               | Maximum Energy<br>(10/1000 $\mu$ s)<br>(J) | Maximum Peak Current<br>(8/20 $\mu$ s) | Rated Power<br>(W) | Varistor Voltage<br>$V_{1.0mA}$ (V) | Clamping Voltage (Max.) |           | Typical Capacitance<br>(reference)<br>@1KHz<br>(pF) |
|-------------|---------------------------|---------------|--|--|--------------------|-------------------------------------|-------------------------|-----------|---|
|             | AC rms<br>(V)             | DC rms<br>(V) |  |  |                    |                                     | VC<br>(V)               | Ip<br>(A) |   |
| VAR05D681K* | 420                       | 560           | 19.4                                       | 400<br>/<br>200x2                      | 0.1                | 680(612-748)                        | 1120                    | 5         | 38  |
| VAR05D621K* | 385                       | 505           | 17.7                                       |  |                    | 620(558-682)                        | 1025                    |           | 40  |
| VAR05D561K* | 350                       | 460           | 16.8                                       |  |                    | 560(504-616)                        | 920                     |           | 45  |
| VAR05D511K* | 320                       | 415           | 16.0                                       |  |                    | 510(459-561)                        | 845                     |           | 50  |
| VAR05D471K* | 300                       | 385           | 15.0                                       |  |                    | 470(423-517)                        | 810                     |           | 55  |
| VAR05D431K* | 275                       | 350           | 13.0                                       |  |                    | 430(387-473)                        | 745                     |           | 60  |
| VAR05D391K* | 250                       | 320           | 12.0                                       |  |                    | 390(351-429)                        | 675                     |           | 65  |
| VAR05D361K* | 230                       | 300           | 10.0                                       |  |                    | 360(324-396)                        | 620                     |           | 70  |
| VAR05D331K* | 210                       | 275           | 9.5  |  |                    | 330(297-363)                        | 570                     |           | 75  |
| VAR05D301K* | 190                       | 250           | 9.0  |  |                    | 300(270-330)                        | 520                     |           | 85  |
| VAR05D271K* | 175                       | 225           | 8.5  |  |                    | 270(243-297)                        | 475                     |           | 95  |
| VAR05D241K* | 150                       | 200           | 8.0  |  |                    | 240(216-264)                        | 415                     |           | 100   |
| VAR05D221K* | 140                       | 180           | 7.0  |  |                    | 220(198-242)                        | 380                     |           | 110   |
| VAR05D201K* | 130                       | 170           | 6.5  |  |                    | 200(180-220)                        | 355                     |           | 125   |
| VAR05D181K* | 115                       | 150           | 5.9  |  |                    | 180(162-198)                        | 320                     |           | 140   |
| VAR05D151K* | 95                        | 125           | 4.8  |  |                    | 150(135-165)                        | 260                     |           | 165   |
| VAR05D121K* | 75                        | 100           | 4.0  |  |                    | 120(108-132)                        | 210                     |           | 210   |
| VAR05D101K* | 60                        | 85            | 3.0  |  |                    | 100(90-110)                         | 175                     |           | 250   |
| VAR05D820K* | 50                        | 65            | 2.5  |  |                    | 82(73.8-90.2)                       | 150                     |           | 300   |
| VAR05D680K* | 40                        | 56            | 1.6  |  |                    | 100<br>/<br>50x2                    | 0.01                    |           | 68(61.2-74.8)                                       |
| VAR05D560K* | 35                        | 45            | 1.3  | 56(50.4-61.6)                          | 123                |                                     |                         | 450       |   |
| VAR05D470K* | 30                        | 38            | 1.1  | 47(42.3-51.7)                          | 104                |                                     |                         | 530       |   |
| VAR05D390K* | 25                        | 31            | 0.9  | 39(35.1-42.9)                          | 80                 |                                     |                         | 640       |   |
| VAR05D330K* | 20                        | 26            | 0.8  | 33(29.7-36.3)                          | 73                 |                                     |                         | 760       |   |
| VAR05D270K* | 17                        | 22            | 0.6  | 27(24.3-29.7)                          | 60                 |                                     |                         | 930       |   |
| VAR05D220K* | 14                        | 18            | 0.5  | 22(19.8-24.2)                          | 48                 |                                     |                         | 1150      |   |
| VAR05D180K* | 11                        | 14            | 0.4  | 18(16.2-19.8)                          | 40                 |                                     |                         | 1400      |   |

**#680K—180K Max. Clamping Voltage testing current 1A.**

Remark: "\*" mean package type: B= bulk, standard leg; A= Ammo Taped; R=T&R; C=Cut leg; L= Long leads

# VAR Series Zinc Oxide Varistor

## ZINC OXIDE VARISTOR 07D

### SPECIFICATION (for Standard MOVs)

| Part No     | Maximum allowable Voltage |               | Maximum Energy<br>(10/1000 $\mu$ s)<br>(J) | Maximum Peak Current<br>(8/20 $\mu$ s) | Rated Power<br>(W) | Varistor Voltage<br>$V_{1.0mA}$ (V) | Clamping Voltage (Max.) |           | Typical Capacitance<br>(reference)<br>@1KHz<br>(pF) |
|-------------|---------------------------|---------------|--|--|--------------------|-------------------------------------|-------------------------|-----------|---|
|             | AC rms<br>(V)             | DC rms<br>(V) |  |  |                    |                                     | VC<br>(V)               | Ip<br>(A) |   |
| VAR07D911K* | 550                       | 745           | 57.0                                       | 1200<br>/<br>600x2                     | 0.25               | 910(819-1001)                       | 1500                    | 10        | 55  |
| VAR07D821K* | 510                       | 670           | 52.0                                       |  |                    | 820(738-902)                        | 1355                    |           | 60  |
| VAR07D781K* | 485                       | 640           | 48.0                                       |  |                    | 780(702-858)                        | 1290                    |           | 65  |
| VAR07D751K* | 460                       | 615           | 45.0                                       |  |                    | 750(675-825)                        | 1240                    |           | 70  |
| VAR07D681K* | 420                       | 560           | 42.0                                       |  |                    | 680(612-748)                        | 1120                    |           | 75  |
| VAR07D621K* | 385                       | 505           | 38.0                                       |  |                    | 620(558-682)                        | 1025                    |           | 80  |
| VAR07D561K* | 350                       | 460           | 35.0                                       |  |                    | 560(504-616)                        | 925                     |           | 90  |
| VAR07D511K* | 320                       | 415           | 31.0                                       |  |                    | 510(459-561)                        | 845                     |           | 100   |
| VAR07D471K* | 300                       | 385           | 29.0                                       |  |                    | 470(423-517)                        | 775                     |           | 105   |
| VAR07D431K* | 275                       | 350           | 28.0                                       |  |                    | 430(387-473)                        | 710                     |           | 115   |
| VAR07D391K* | 250                       | 320           | 26.0                                       |  |                    | 390(351-429)                        | 650                     |           | 130   |
| VAR07D361K* | 230                       | 300           | 24.0                                       |  |                    | 360(324-396)                        | 595                     |           | 140   |
| VAR07D331K* | 210                       | 275           | 23.0                                       |  |                    | 330(297-363)                        | 550                     |           | 150   |
| VAR07D301K* | 190                       | 250           | 20.0                                       |  |                    | 300(270-330)                        | 500                     |           | 165   |
| VAR07D271K* | 175                       | 225           | 18.0                                       |  |                    | 270(243-297)                        | 455                     |           | 185   |
| VAR07D241K* | 150                       | 200           | 15.0                                       |  |                    | 240(216-264)                        | 395                     |           | 210   |
| VAR07D221K* | 140                       | 180           | 14.0                                       |  |                    | 220(198-242)                        | 360                     |           | 230   |
| VAR07D201K* | 130                       | 170           | 13.0                                       |  |                    | 200(180-220)                        | 340                     |           | 250   |
| VAR07D181K* | 115                       | 150           | 11.7                                       |  |                    | 180(162-198)                        | 300                     |           | 280   |
| VAR07D151K* | 95                        | 125           | 9.7  |  |                    | 150(135-165)                        | 250                     |           | 330   |
| VAR07D121K* | 75                        | 100           | 7.8  | 120(108-132)                           | 200                | 420                                 |                         |           |   |
| VAR07D101K* | 60                        | 85            | 6.5  | 100(90-110)                            | 165                | 500                                 |                         |           |   |
| VAR07D820K* | 50                        | 65            | 5.5  | 82(73.8-90.2)                          | 135                | 600                                 |                         |           |   |
| VAR07D680K* | 40                        | 56            | 3.6  | 250<br>/<br>125x2                      | 0.02               | 68(61.2-74.8)                       | 135                     | 2.5       | 740   |
| VAR07D560K* | 35                        | 45            | 3.1  |  |                    | 56(50.4-61.6)                       | 110                     |           | 890   |
| VAR07D470K* | 30                        | 38            | 2.5  |  |                    | 47(42.3-51.7)                       | 93                      |           | 1100  |
| VAR07D390K* | 25                        | 31            | 2.1  |  |                    | 39(35.1-42.9)                       | 77                      |           | 1300  |
| VAR07D330K* | 20                        | 26            | 1.7  |  |                    | 33(29.7-36.3)                       | 65                      |           | 1500  |
| VAR07D270K* | 17                        | 22            | 1.4  |  |                    | 27(24.3-29.7)                       | 53                      |           | 1800  |
| VAR07D220K* | 14                        | 18            | 1.1  |  |                    | 22(19.8-24.2)                       | 43                      |           | 2300  |
| VAR07D180K* | 11                        | 14            | 0.9  |  |                    | 18(16.2-19.8)                       | 36                      |           | 2800  |

#680K—180K Max. Clamping Voltage testing current 2.5A.

Remark: “\*” mean package type: B= bulk, standard leg; A= Ammo Taped; R=T&R; C=Cut leg; L= Long leads

# VAR Series Zinc Oxide Varistor

## ZINC OXIDE VARISTOR 10D

### SPECIFICATION (for Standard MOVs)

| Part No     | Maximum allowable Voltage |               | Maximum Energy<br>(10/1000 $\mu$ s)<br>(J) | Maximum Peak Current<br>(8/20 $\mu$ s) | Rated Power<br>(W) | Varistor Voltage<br>$V_{1.0mA}$ (V) | Clamping Voltage (Max.) |              | Typical Capacitance<br>(reference)<br>@1KHz<br>(pF) |
|-------------|---------------------------|---------------|--|--|--------------------|-------------------------------------|-------------------------|--------------|---|
|             | AC rms<br>(V)             | DC rms<br>(V) |  |  |                    |                                     | $V_c$<br>(V)            | $I_p$<br>(A) |   |
| VAR10D112K* | 680                       | 895           | 115.0                                      | 2500<br>/<br>1250x2                    | 0.4                | 1100(990-1210)                      | 1815                    | 25           | 90  |
| VAR10D102K* | 625                       | 825           | 102.0                                      |  |                    | 1000(900-1100)                      | 1650                    |              | 100   |
| VAR10D911K* | 550                       | 745           | 93.0                                       |  |                    | 910(819-1001)                       | 1500                    |              | 110   |
| VAR10D821K* | 510                       | 670           | 85.0                                       |  |                    | 820(738-902)                        | 1355                    |              | 120   |
| VAR10D781K* | 485                       | 640           | 80.0                                       |  |                    | 780(702-858)                        | 1290                    |              | 125   |
| VAR10D751K* | 460                       | 615           | 77.0                                       |  |                    | 750(675-825)                        | 1240                    |              | 130   |
| VAR10D681K* | 420                       | 560           | 75.0                                       |  |                    | 680(612-748)                        | 1120                    |              | 150   |
| VAR10D621K* | 385                       | 505           | 72.0                                       |  |                    | 620(558-682)                        | 1025                    |              | 160   |
| VAR10D561K* | 350                       | 460           | 70.0                                       |  |                    | 560(504-616)                        | 925                     |              | 180   |
| VAR10D511K* | 320                       | 415           | 69.0                                       |  |                    | 510(459-561)                        | 845                     |              | 200   |
| VAR10D471K* | 300                       | 385           | 67.0                                       |  |                    | 470(423-517)                        | 775                     |              | 210   |
| VAR10D431K* | 275                       | 350           | 65.0                                       |  |                    | 430(387-473)                        | 710                     |              | 230   |
| VAR10D391K* | 250                       | 320           | 60.0                                       |  |                    | 390(351-429)                        | 650                     |              | 260   |
| VAR10D361K* | 230                       | 300           | 47.0                                       |  |                    | 360(324-396)                        | 595                     |              | 280   |
| VAR10D331K* | 210                       | 275           | 43.0                                       |  |                    | 330(297-363)                        | 550                     |              | 300   |
| VAR10D301K* | 190                       | 250           | 40.0                                       |  |                    | 300(270-330)                        | 500                     |              | 330   |
| VAR10D271K* | 175                       | 225           | 37.0                                       |  |                    | 270(243-297)                        | 455                     |              | 370   |
| VAR10D241K* | 150                       | 200           | 35.0                                       |  |                    | 240(216-264)                        | 395                     |              | 420   |
| VAR10D221K* | 140                       | 180           | 32.0                                       |  |                    | 220(198-242)                        | 360                     |              | 450   |
| VAR10D201K* | 130                       | 170           | 30.0                                       |  |                    | 200(180-220)                        | 340                     |              | 500   |
| VAR10D181K* | 115                       | 150           | 27.0                                       |  |                    | 180(162-198)                        | 300                     |              | 560   |
| VAR10D151K* | 95                        | 125           | 22.0                                       |  |                    | 150(135-165)                        | 250                     |              | 670   |
| VAR10D121K* | 75                        | 100           | 18.0                                       |  |                    | 120(108-132)                        | 200                     |              | 830   |
| VAR10D101K* | 60                        | 85            | 15.0                                       |  |                    | 100(90-110)                         | 165                     |              | 1000  |
| VAR10D820K* | 50                        | 65            | 12.0                                       |  |                    | 82(73.8-90.2)                       | 135                     |              | 1200  |
| VAR10D680K* | 40                        | 56            | 8.2  | 500<br>/<br>250x2                      | 0.05               | 68(61.2-74.8)                       | 135                     | 5            | 1500  |
| VAR10D560K* | 35                        | 45            | 7.0  |  |                    | 56(50.4-61.6)                       | 110                     |              | 1800  |
| VAR10D470K* | 30                        | 38            | 5.5  |  |                    | 47(42.3-51.7)                       | 93                      |              | 2100  |
| VAR10D390K* | 25                        | 31            | 4.6  |  |                    | 39(35.1-42.9)                       | 77                      |              | 2400  |
| VAR10D330K* | 20                        | 26            | 4.0  |  |                    | 33(29.7-36.3)                       | 65                      |              | 3000  |
| VAR10D270K* | 17                        | 22            | 3.0  |  |                    | 27(24.3-29.7)                       | 53                      |              | 3700  |
| VAR10D220K* | 14                        | 18            | 2.5  |  |                    | 22(19.8-24.2)                       | 43                      |              | 4500  |
| VAR10D180K* | 11                        | 14            | 2.1  |  |                    | 18(16.2-19.8)                       | 36                      |              | 5600  |

#680K—180K Max. Clamping Voltage testing current 5A.

Remark: "\*" mean package type: B= bulk, standard leg; A= Ammo Taped; R=T&R; C=Cut leg; L= Long leads

# VAR Series Zinc Oxide Varistor

## ZINC OXIDE VARISTOR 14D

### SPECIFICATION (for Standard MOVs)

| Part No     | Maximum allowable Voltage |               | Maximum Energy<br>(10/1000 $\mu$ s)<br>(J) | Maximum Peak Current<br>(8/20 $\mu$ s) | Rated Power<br>(W) | Varistor Voltage<br><br>$V_{1.0mA}$ (V) | Clamping Voltage (Max.) |              | Typical Capacitance<br>(reference)<br><br>@1KHz<br>(pF) |
|-------------|---------------------------|---------------|--|--|--------------------|---|-------------------------|--------------|---|
|             | AC rms<br>(V)             | DC rms<br>(V) |  |  |                    |   | $V_c$<br>(V)            | $I_p$<br>(A) |   |
| VAR14D182K* | 1100                      | 1465          | 250  | 4500<br>/<br>2500x2                    | 0.6                | 1800(1620-1980)                         | 2970                    | 50           | 130   |
| VAR14D162K* | 1000                      | 1280          | 243  |  |                    | 1600(1440-1760)                         | 2640                    |              | 140   |
| VAR14D152K* | 930                       | 1200          | 240  |  |                    | 1500(1350-1650)                         | 2475                    |              | 145   |
| VAR14D142K* | 880                       | 1140          | 238  |  |                    | 1400(1260-1540)                         | 2310                    |              | 150   |
| VAR14D122K* | 750                       | 990           | 232  |  |                    | 1200(1080-1320)                         | 1980                    |              | 160   |
| VAR14D112K* | 680                       | 895           | 213  |  |                    | 1100(990-1210)                          | 1815                    |              | 180   |
| VAR14D102K* | 625                       | 825           | 190  |  |                    | 1000(900-1100)                          | 1650                    |              | 200   |
| VAR14D911K* | 550                       | 745           | 175  |  |                    | 910(819-1001)                           | 1500                    |              | 220   |
| VAR14D821K* | 510                       | 670           | 157  |  |                    | 820(738-902)                            | 1355                    |              | 240   |
| VAR14D781K* | 485                       | 640           | 148  |  |                    | 780(702-858)                            | 1290                    |              | 260   |
| VAR14D751K* | 460                       | 615           | 143  |  |                    | 750(675-825)                            | 1240                    |              | 270   |
| VAR14D681K* | 420                       | 560           | 130  |  |                    | 680(612-748)                            | 1120                    |              | 290   |
| VAR14D621K* | 385                       | 505           | 128  |  |                    | 620(558-682)                            | 1025                    |              | 320   |
| VAR14D561K* | 350                       | 460           | 125  |  |                    | 560(504-616)                            | 925                     |              | 360   |
| VAR14D511K* | 320                       | 415           | 121  |  |                    | 510(459-561)                            | 845                     |              | 390   |
| VAR14D471K* | 300                       | 385           | 118  |  |                    | 470(423-517)                            | 775                     |              | 430   |
| VAR14D431K* | 275                       | 350           | 115  |  |                    | 430(387-473)                            | 710                     |              | 460   |
| VAR14D391K* | 250                       | 320           | 100  |  |                    | 390(351-429)                            | 650                     |              | 510   |
| VAR14D361K* | 230                       | 300           | 93.0                                       |  |                    | 360(324-396)                            | 595                     |              | 560   |
| VAR14D331K* | 210                       | 275           | 85.0                                       |  |                    | 330(297-363)                            | 550                     |              | 610   |
| VAR14D301K* | 190                       | 250           | 77.0                                       |  |                    | 300(270-330)                            | 500                     |              | 670   |
| VAR14D271K* | 175                       | 225           | 70.0                                       |  |                    | 270(243-297)                            | 455                     |              | 740   |
| VAR14D241K* | 150                       | 200           | 63.0                                       |  |                    | 240(216-264)                            | 395                     |              | 830   |
| VAR14D221K* | 140                       | 180           | 60.0                                       |  |                    | 220(198-242)                            | 360                     |              | 900   |
| VAR14D201K* | 130                       | 170           | 57.0                                       |  |                    | 200(180-220)                            | 340                     |              | 1000  |
| VAR14D181K* | 115                       | 150           | 50.0                                       |  |                    | 180(162-198)                            | 300                     |              | 1100  |
| VAR14D151K* | 95                        | 125           | 40.0                                       |  |                    | 150(135-165)                            | 250                     |              | 1300  |
| VAR14D121K* | 75                        | 100           | 32.0                                       |  |                    | 120(108-132)                            | 200                     |              | 1700  |
| VAR14D101K* | 60                        | 85            | 28.0                                       |  |                    | 100(90-110)                             | 165                     |              | 2000  |
| VAR14D820K* | 50                        | 65            | 22.0                                       |  |                    | 82(73.8-90.2)                           | 135                     |              | 2400  |
| VAR14D680K* | 40                        | 56            | 14.0                                       | 68(61.2-74.8)                          | 135                | 2900                                    |                         |              |   |
| VAR14D560K* | 35                        | 45            | 11.0                                       | 56(50.4-61.6)                          | 110                | 3600                                    |                         |              |   |
| VAR14D470K* | 30                        | 38            | 10.0                                       | 47(42.3-51.7)                          | 93                 | 4300                                    |                         |              |   |
| VAR14D390K* | 25                        | 31            | 8.6  | 39(35.1-42.9)                          | 77                 | 5100                                    |                         |              |   |
| VAR14D330K* | 20                        | 26            | 7.5  | 33(29.7-36.3)                          | 65                 | 6100                                    |                         |              |   |
| VAR14D270K* | 17                        | 22            | 6.0  | 27(24.3-29.7)                          | 53                 | 7400                                    |                         |              |   |
| VAR14D220K* | 14                        | 18            | 5.0  | 22(19.8-24.2)                          | 43                 | 9100                                    |                         |              |   |
| VAR14D180K* | 11                        | 14            | 4.0  | 18(16.2-19.8)                          | 36                 | 11100                                   |                         |              |   |

#680K—180K Max. Clamping Voltage testing current 10A.

Remark: “\*” mean package type: B= bulk, standard leg; A= Ammo Taped; R=T&R; C=Cut leg; L= Long leads

# VAR Series Zinc Oxide Varistor

## ZINC OXIDE VARISTOR 20D

### SPECIFICATION (for Standard MOVs)

| Part No     | Maximum allowable Voltage |            | Maximum Energy (10/1000μs) (J) | Maximum Peak Current (8/20μs) | Rated Power (W) | Varistor Voltage V <sub>L0mA</sub> (V) | Clamping Voltage (Max.) |                    | Typical Capacitance (reference) @1KHz (pF) |
|-------------|---------------------------|------------|--------------------------------|-------------------------------|-----------------|--|-------------------------|--------------------|--|
|             | AC rms (V)                | DC rms (V) |                                |                               |                 |  | V <sub>c</sub> (V)      | I <sub>p</sub> (A) |  |
| VAR20D182K* | 1100                      | 1465       | 625                            | 6500 / 4500x2                 | 1.0             | 1800(1620-1980)                        | 2970                    | 100                | 320  |
| VAR20D162K* | 1000                      | 1280       | 606                            |                               |                 | 1600(1440-1760)                        | 2640                    |                    | 330  |
| VAR20D152K* | 930                       | 1200       | 569                            |                               |                 | 1500(1350-1650)                        | 2475                    |                    | 335  |
| VAR20D142K* | 880                       | 1140       | 532                            |                               |                 | 1400(1260-1540)                        | 2310                    |                    | 340  |
| VAR20D122K* | 750                       | 990        | 408                            |                               |                 | 1200(1080-1320)                        | 1980                    |                    | 350  |
| VAR20D112K* | 680                       | 895        | 383                            |                               |                 | 1100(990-1210)                         | 1815                    |                    | 360  |
| VAR20D102K* | 625                       | 825        | 342                            |                               |                 | 1000(900-1100)                         | 1650                    |                    | 400  |
| VAR20D911K* | 550                       | 745        | 310                            |                               |                 | 910(819-1001)                          | 1500                    |                    | 440  |
| VAR20D821K* | 510                       | 670        | 282                            |                               |                 | 820(738-902)                           | 1355                    |                    | 500  |
| VAR20D781K* | 485                       | 640        | 265                            |                               |                 | 780(702-858)                           | 1290                    |                    | 510  |
| VAR20D751K* | 460                       | 615        | 255                            |                               |                 | 750(675-825)                           | 1240                    |                    | 530  |
| VAR20D681K* | 420                       | 560        | 230                            |                               |                 | 680(612-748)                           | 1120                    |                    | 600  |
| VAR20D621K* | 385                       | 505        | 224                            |                               |                 | 620(558-682)                           | 1025                    |                    | 650  |
| VAR20D561K* | 350                       | 460        | 215                            |                               |                 | 560(504-616)                           | 925                     |                    | 710  |
| VAR20D511K* | 320                       | 415        | 210                            |                               |                 | 510(459-561)                           | 845                     |                    | 780  |
| VAR20D471K* | 300                       | 385        | 204                            |                               |                 | 470(423-517)                           | 775                     |                    | 850  |
| VAR20D431K* | 275                       | 350        | 190                            |                               |                 | 430(387-473)                           | 710                     |                    | 930  |
| VAR20D391K* | 250                       | 320        | 180                            |                               |                 | 390(351-429)                           | 650                     |                    | 1000                                       |
| VAR20D361K* | 230                       | 300        | 163                            |                               |                 | 360(324-396)                           | 595                     |                    | 1100                                       |
| VAR20D331K* | 210                       | 275        | 150                            |                               |                 | 330(297-363)                           | 550                     |                    | 1200                                       |
| VAR20D301K* | 190                       | 250        | 136                            |                               |                 | 300(270-330)                           | 500                     |                    | 1300                                       |
| VAR20D271K* | 175                       | 225        | 127                            |                               |                 | 270(243-297)                           | 455                     |                    | 1500                                       |
| VAR20D241K* | 150                       | 200        | 108                            |                               |                 | 240(216-264)                           | 395                     |                    | 1650                                       |
| VAR20D221K* | 140                       | 180        | 100                            |                               |                 | 220(198-242)                           | 360                     |                    | 1800                                       |
| VAR20D201K* | 130                       | 170        | 95                             |                               |                 | 200(180-220)                           | 340                     |                    | 2000                                       |
| VAR20D181K* | 115                       | 150        | 85                             |                               |                 | 180(162-198)                           | 300                     |                    | 2200                                       |
| VAR20D151K* | 95                        | 125        | 70                             |                               |                 | 150(135-165)                           | 250                     |                    | 2700                                       |
| VAR20D121K* | 75                        | 100        | 55                             |                               |                 | 120(108-132)                           | 200                     |                    | 3300                                       |
| VAR20D101K* | 60                        | 85         | 50                             |                               |                 | 100(90-110)                            | 165                     |                    | 4000                                       |
| VAR20D820K* | 50                        | 65         | 45                             |                               |                 | 82(73.8-90.2)                          | 135                     |                    | 4900                                       |
| VAR20D680K* | 40                        | 56         | 41                             | 68(61.2-74.8)                 | 135             | 5800                                   |                         |                    |  |
| VAR20D560K* | 35                        | 45         | 38                             | 56(50.4-61.6)                 | 110             | 6500                                   |                         |                    |  |
| VAR20D470K* | 30                        | 38         | 30                             | 47(42.3-51.7)                 | 93              | 7400                                   |                         |                    |  |
| VAR20D390K* | 25                        | 31         | 26                             | 39(35.1-42.9)                 | 77              | 8500                                   |                         |                    |  |
| VAR20D330K* | 20                        | 26         | 23                             | 33(29.7-36.3)                 | 65              | 11500                                  |                         |                    |  |
| VAR20D270K* | 17                        | 22         | 16                             | 27(24.3-29.7)                 | 53              | 13000                                  |                         |                    |  |
| VAR20D220K* | 14                        | 18         | 14                             | 22(19.8-24.2)                 | 43              | 18500                                  |                         |                    |  |
| VAR20D180K* | 11                        | 14         | 11                             | 18(16.2-19.8)                 | 36              | 28500                                  |                         |                    |  |

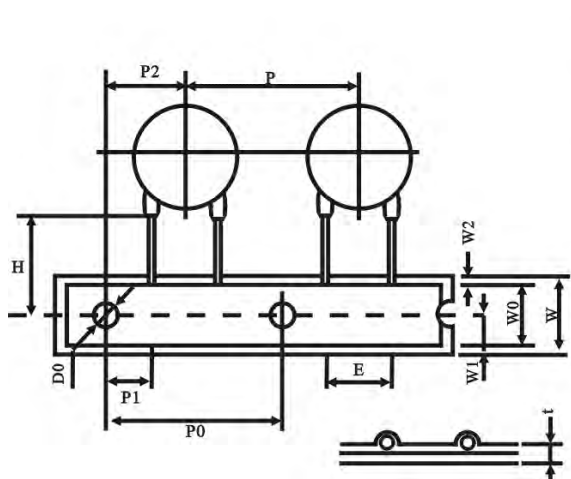
#680K—180K Max. Clamping Voltage testing current 20A.

Remark: “\*” mean package type: B= bulk, standard leg; A= Ammo Taped; R=T&R; C=Cut leg; L= Long leads

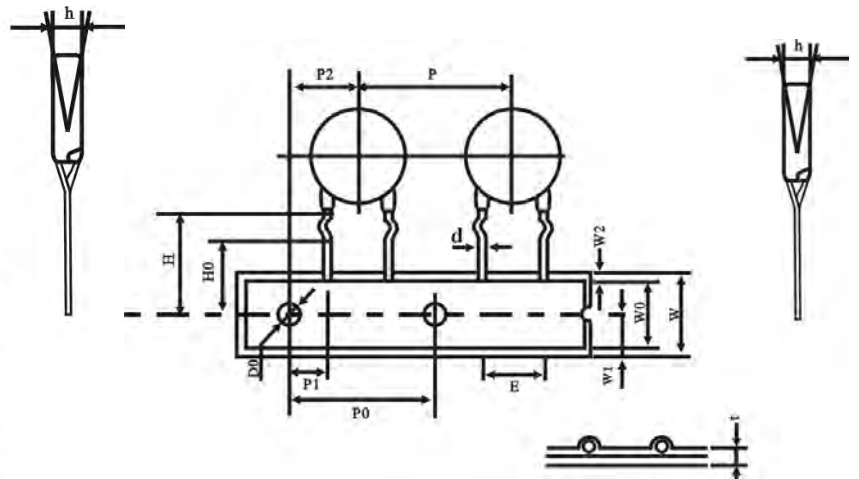
## VAR Series Zinc Oxide Varistor

### TAPING SPECIFICATION

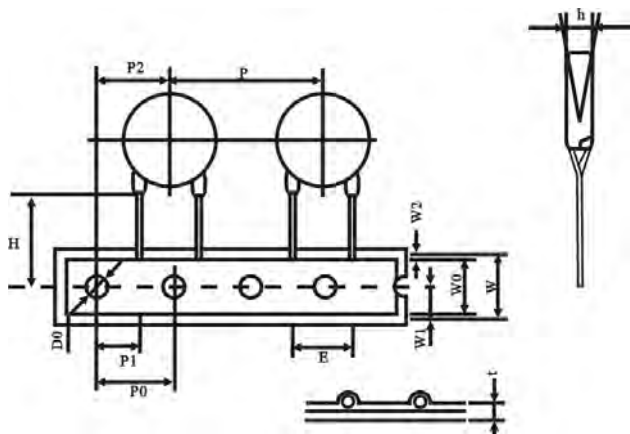
#### Straight Leads (05D, 07D)



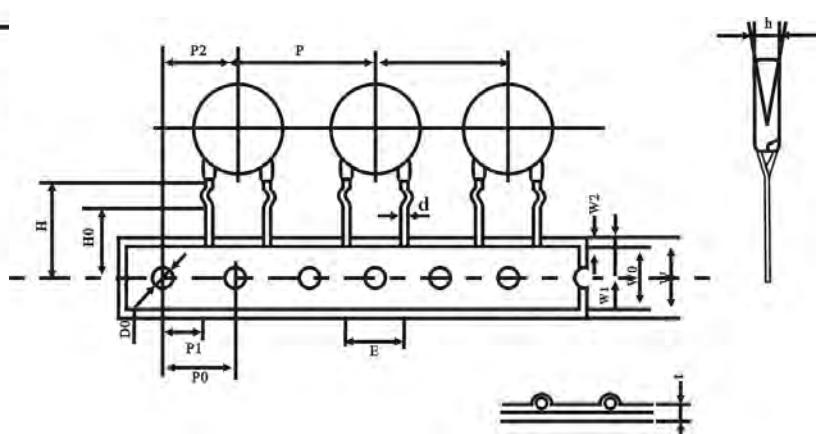
#### Crimped Leads (05D, 07D)



#### Straight Leads (10D, 14D)



#### Crimped Leads (10D, 14D)



# VAR Series Zinc Oxide Varistor

## TAPING SPECIFICATION

| Symbol    | Parameter                            | 05D           | 07D           | 10D           | 14D           |
|-----------|--------------------------------------|---------------|---------------|---------------|---------------|
| <b>P</b>  | Pitch Component                      | 12.7±1.0      | 12.7±1.0      | 25.4±1.0      | 25.4±1.0      |
| <b>P0</b> | Feed Hold                            | 12.7±0.3      | 12.7±0.3      | 12.7±1.0      | 12.7±1.0      |
| <b>P1</b> | Feed Hold Center to Lead             | 3.85±0.7      | 3.85±0.7      | 8.95±1.5      | 8.95±1.5      |
| <b>P2</b> | Hold Center to Component Center      | 6.35±1.3      | 6.35±1.3      | 12.7±1.5      | 12.7±1.5      |
| <b>E</b>  | Lead to Lead Distance                | 5.0±0.8       | 5.0±0.8       | 7.5±0.8       | 7.5±0.8       |
| <b>W</b>  | Tape Width                           | 18.0+1.5/-1.0 | 18.0+1.5/-1.0 | 18.0+1.0/-0.5 | 18.0+1.0/-0.5 |
| <b>W0</b> | Hold Down Tape Width                 | 10±0.5        | 10±0.5        | 10±0.5        | 10±0.5        |
| <b>W1</b> | Hold Position                        | 9.0+0.75/-0.5 | 9.0+0.75/-0.5 | 9.0±0.75      | 9.0±0.75      |
| <b>W2</b> | Hold Down Tape Position              | 3.0max        | 3.0max        | 3.0max        | 3.0max        |
| <b>H</b>  | Height from Tape Center to Component | 20.0±2.0      | 20.0±2.0      | 20.0±2.0      | 20.0±2.0      |
| <b>H0</b> | Height from Tape Center to Component | 16.0±1.0      | 16.0±1.0      | 16.0±1.0      | 16.0±1.0      |
| <b>t</b>  | Total Tape Thickness                 | 0.6±0.3       | 0.6±0.3       | 0.6±0.3       | 0.6±0.3       |
| <b>Δh</b> | Component Alignment                  | 0±2.0         | 0±2.0         | 0±2.0         | 0±4.0         |
| <b>D0</b> | Feed Hold Diameter                   | 4.0±0.2       | 4.0±0.2       | 4.0±0.2       | 4.0±0.2       |
| Unit : mm |                                      |               |               |               |               |

## Bulk Package SPQ:

| Diameter Code:   | Quantity per bag |
|------------------|------------------|
| VAR-05D, VAR-07D | 1000 pcs         |
| VAR-10D          | 500pcs           |
| VAR-14D, 20D     | 250pcs           |