

## Metal Oxide Varistor (MOV) Data Sheet

### Features

- Wide operating voltage ( $V_{1mA}$ ) range from 18V to 1800V
- Fast responding to transient over-voltage
- Large absorbing transient energy capability
- Low clamping ratio and no follow-on current
- Meets MSL level 1, per J-STD-020
- Operating Temperature :  $-40^{\circ}\text{C} \sim +105^{\circ}\text{C}$
- Storage Temperature :  $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$
- Safety certification: UL: E327997  
CSA: 246579  
VDE: 40027827



### Applications

- Transistor, diode, IC, thyristor or triac semiconductor protection
- Surge protection in consumer electronics
- Surge protection in industrial electronics
- Surge protection in electronic home appliances, gas and petroleum appliances
- Relay and electromagnetic valve surge absorption

### Part Number Code



**Dimensions**



Notes: Varistor voltage ≥ 1200V, structure diagram is F type.

| Table 1  |           |
|----------|-----------|
| Unit: mm |           |
| Symbol   | Dimension |
| H        | 14.5~20.0 |
| H1       | 17.0~21.0 |
| L(min.)  | 20.0      |
| L1(min.) | 15.0      |
| D        | 14.0~16.5 |
| F(±0.8)  | 7.5       |
| T        | Table 2   |
| e(±0.8)  | Table 2   |
| d(±0.05) | 0.8       |
| d1(±0.4) | 1.4       |

| Table 2  |         |     |       |          |     |
|----------|---------|-----|-------|----------|-----|
| Unit: mm |         |     |       |          |     |
| Model    | T       | e   | Model | T        | e   |
| 180K     | 2.0~3.9 | 1.5 | 361K  | 2.9~5.2  | 2.7 |
| 220K     | 2.1~4.0 | 1.6 | 391K  | 3.0~5.4  | 2.8 |
| 270K     | 2.1~4.1 | 1.8 | 431K  | 3.2~5.6  | 3.0 |
| 330K     | 2.2~4.3 | 1.7 | 471K  | 3.3~5.8  | 3.2 |
| 390K     | 2.1~4.1 | 1.8 | 511K  | 3.4~6.1  | 3.4 |
| 470K     | 2.2~4.3 | 1.9 | 561K  | 3.6~6.4  | 3.6 |
| 560K     | 2.3~4.6 | 2.1 | 621K  | 3.8~6.8  | 3.9 |
| 680K     | 2.4~4.8 | 2.4 | 681K  | 4.0~7.1  | 4.2 |
| 820K     | 2.1~4.1 | 1.8 | 751K  | 4.3~7.2  | 4.3 |
| 101K     | 2.4~4.2 | 2.0 | 781K  | 4.4~7.3  | 4.4 |
| 121K     | 2.4~4.4 | 2.2 | 821K  | 4.6~7.5  | 4.6 |
| 151K     | 2.2~4.1 | 1.8 | 911K  | 4.8~7.5  | 5.0 |
| 181K     | 2.3~4.2 | 1.9 | 102K  | 5.4~8.0  | 5.0 |
| 201K     | 2.4~4.3 | 2.0 | 112K  | 5.8~8.5  | 5.4 |
| 221K     | 2.5~4.4 | 2.1 | 122K  | 5.9~9.0  | 5.8 |
| 241K     | 2.6~4.5 | 2.2 | 142K  | 6.9~10.5 | 6.6 |
| 271K     | 2.6~4.6 | 2.4 | 162K  | 7.4~11.0 | 7.4 |
| 301K     | 2.7~4.6 | 2.5 | 182K  | 7.6~12.0 | 8.2 |
| 331K     | 2.7~5.0 | 2.5 |       |          |     |

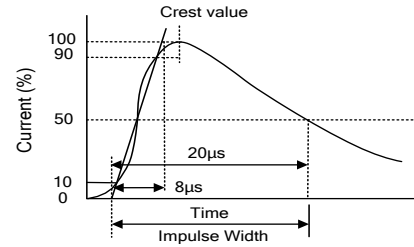
**Electrical Characteristics**

| Part Number |            | Maximum Allowable Voltage |                     | Varistor Voltage     | Maximum Clamping Voltage |                    | Withstanding Surge Current |                  | Maximum Energy (10/1000μs) |                | Rated Power | Typical Capacitance (Reference) |
|-------------|------------|---------------------------|---------------------|----------------------|--------------------------|--------------------|----------------------------|------------------|----------------------------|----------------|-------------|---------------------------------|
| Standard    | High Surge | V <sub>AC</sub> (V)       | V <sub>DC</sub> (V) | V <sub>1mA</sub> (V) | I <sub>P</sub> (A)       | V <sub>C</sub> (V) | I (A) Standard             | I (A) High Surge | (J) Standard               | (J) High Surge | (W)         | @1KHz (pf)                      |
| 180KD14     | 180KD14J   | 11                        | 14                  | 18(15~21.6)          | 10                       | 36                 | 1000                       | 2000             | 4.0                        | 7.0            | 0.1         | 11100                           |
| 220KD14     | 220KD14J   | 14                        | 18                  | 22(19.5~26)          | 10                       | 43                 | 1000                       | 2000             | 5.0                        | 8.0            | 0.1         | 9100                            |
| 270KD14     | 270KD14J   | 17                        | 22                  | 27(24~31)            | 10                       | 53                 | 1000                       | 2000             | 6.0                        | 10.0           | 0.1         | 7400                            |
| 330KD14     | 330KD14J   | 20                        | 26                  | 33(29.5~36.5)        | 10                       | 65                 | 1000                       | 2000             | 7.5                        | 12.0           | 0.1         | 6100                            |
| 390KD14     | 390KD14J   | 25                        | 31                  | 39(35~43)            | 10                       | 77                 | 1000                       | 2000             | 8.6                        | 13.0           | 0.1         | 5100                            |
| 470KD14     | 470KD14J   | 30                        | 38                  | 47(42~52)            | 10                       | 93                 | 1000                       | 2000             | 10.0                       | 17.0           | 0.1         | 4300                            |
| 560KD14     | 560KD14J   | 35                        | 45                  | 56(50~62)            | 10                       | 110                | 1000                       | 2000             | 11.0                       | 20.0           | 0.1         | 3600                            |
| 680KD14     | 680KD14J   | 40                        | 56                  | 68(61~75)            | 10                       | 135                | 1000                       | 2000             | 14.0                       | 24.0           | 0.1         | 2900                            |
| 820KD14     | 820KD14J   | 50                        | 65                  | 82(74~90)            | 50                       | 135                | 4500                       | 6000             | 22.0                       | 27.0           | 0.6         | 2400                            |
| 101KD14     | 101KD14J   | 60                        | 85                  | 100(90~110)          | 50                       | 165                | 4500                       | 6000             | 28.0                       | 33.0           | 0.6         | 2000                            |
| 121KD14     | 121KD14J   | 75                        | 100                 | 120(108~132)         | 50                       | 200                | 4500                       | 6000             | 32.0                       | 40.0           | 0.6         | 1700                            |
| 151KD14     | 151KD14J   | 95                        | 125                 | 150(135~165)         | 50                       | 250                | 4500                       | 6000             | 40.0                       | 53.0           | 0.6         | 1300                            |
| 181KD14     | 181KD14J   | 115                       | 150                 | 180(162~198)         | 50                       | 300                | 4500                       | 6000             | 50.0                       | 60.0           | 0.6         | 1100                            |
| 201KD14     | 201KD14J   | 130                       | 170                 | 200(180~220)         | 50                       | 340                | 4500                       | 6000             | 57.0                       | 70.0           | 0.6         | 1000                            |
| 221KD14     | 221KD14J   | 140                       | 180                 | 220(198~242)         | 50                       | 360                | 4500                       | 6000             | 60.0                       | 78.0           | 0.6         | 900                             |
| 241KD14     | 241KD14J   | 150                       | 200                 | 240(216~264)         | 50                       | 395                | 4500                       | 6000             | 63.0                       | 84.0           | 0.6         | 830                             |
| 271KD14     | 271KD14J   | 175                       | 225                 | 270(243~297)         | 50                       | 455                | 4500                       | 6000             | 70.0                       | 99.0           | 0.6         | 740                             |
| 301KD14     | 301KD14J   | 190                       | 250                 | 300(270~330)         | 50                       | 500                | 4500                       | 6000             | 77.0                       | 108            | 0.6         | 670                             |
| 331KD14     | 331KD14J   | 210                       | 275                 | 330(297~363)         | 50                       | 550                | 4500                       | 6000             | 85.0                       | 115            | 0.6         | 610                             |
| 361KD14     | 361KD14J   | 230                       | 300                 | 360(324~396)         | 50                       | 595                | 4500                       | 6000             | 93.0                       | 130            | 0.6         | 560                             |
| 391KD14     | 391KD14J   | 250                       | 320                 | 390(351~429)         | 50                       | 650                | 4500                       | 6000             | 100                        | 140            | 0.6         | 510                             |
| 431KD14     | 431KD14J   | 275                       | 350                 | 430(387~473)         | 50                       | 710                | 4500                       | 6000             | 115                        | 155            | 0.6         | 460                             |
| 471KD14     | 471KD14J   | 300                       | 385                 | 470(423~517)         | 50                       | 775                | 4500                       | 6000             | 118                        | 175            | 0.6         | 430                             |
| 511KD14     | 511KD14J   | 320                       | 415                 | 510(459~561)         | 50                       | 845                | 4500                       | 6000             | 121                        | 180            | 0.6         | 390                             |
| 561KD14     | 561KD14J   | 350                       | 460                 | 560(504~616)         | 50                       | 925                | 4500                       | 6000             | 125                        | 185            | 0.6         | 360                             |
| 621KD14     | 621KD14J   | 385                       | 505                 | 620(558~682)         | 50                       | 1025               | 4500                       | 6000             | 128                        | 190            | 0.6         | 320                             |
| 681KD14     | 681KD14J   | 420                       | 560                 | 680(612~748)         | 50                       | 1120               | 4500                       | 6000             | 130                        | 200            | 0.6         | 290                             |
| 751KD14     | 751KD14J   | 460                       | 615                 | 750(675~825)         | 50                       | 1240               | 4500                       | 6000             | 143                        | 210            | 0.6         | 270                             |
| 781KD14     | 781KD14J   | 485                       | 640                 | 780(702~858)         | 50                       | 1290               | 4500                       | 6000             | 148                        | 220            | 0.6         | 260                             |
| 821KD14     | 821KD14J   | 510                       | 670                 | 820(738~902)         | 50                       | 1355               | 4500                       | 6000             | 157                        | 235            | 0.6         | 240                             |
| 911KD14     | 911KD14J   | 550                       | 745                 | 910(819~1001)        | 50                       | 1500               | 4500                       | 6000             | 175                        | 255            | 0.6         | 220                             |
| 102KD14     | 102KD14J   | 625                       | 825                 | 1000(900~1100)       | 50                       | 1650               | 4500                       | 6000             | 190                        | 280            | 0.6         | 200                             |
| 112KD14     | 112KD14J   | 680                       | 895                 | 1100(990~1210)       | 50                       | 1815               | 4500                       | 6000             | 213                        | 310            | 0.6         | 180                             |
| 122KD14     | 122KD14J   | 750                       | 990                 | 1200(1080~1320)      | 50                       | 1980               | 4500                       | 6000             | 232                        | 324            | 0.6         | 160                             |
| 142KD14     | 142KD14J   | 880                       | 1140                | 1400(1260~1540)      | 50                       | 2310               | 4500                       | 6000             | 238                        | 327            | 0.6         | 150                             |

| Part Number |            | Maximum Allowable Voltage |                     | Varistor Voltage     | Maximum Clamping Voltage |                    | Withstanding Surge Current |                  | Maximum Energy (10/1000μs) |                | Rated Power | Typical Capacitance (Reference) |
|-------------|------------|---------------------------|---------------------|----------------------|--------------------------|--------------------|----------------------------|------------------|----------------------------|----------------|-------------|---------------------------------|
| Standard    | High Surge | V <sub>AC</sub> (V)       | V <sub>DC</sub> (V) | V <sub>1mA</sub> (V) | I <sub>P</sub> (A)       | V <sub>C</sub> (V) | I (A) Standard             | I (A) High Surge | (J) Standard               | (J) High Surge | (W)         | @1KHz (pf)                      |
| 162KD14     | 162KD14J   | 1000                      | 1280                | 1600(1440~1760)      | 50                       | 2640               | 4500                       | 6000             | 243                        | 331            | 0.6         | 140                             |
| 182KD14     | 182KD14J   | 1100                      | 1465                | 1800(1620~1980)      | 50                       | 2970               | 4500                       | 5000             | 250                        | 335            | 0.6         | 130                             |

- Notes: 1. The tolerance of varistor voltage between 18V and 27V is more than 10%;  
 2. Varistor voltage ≥ 1200V, structure diagram is F type;  
 3. Leakage Current (@83% of V<sub>1mA</sub>) : IR ≤ 50μA (180K~680K) ; IR ≤ 25μA (820K~182K).

**Electrical Ratings**

| Items                              | Test Condition/Description  | Requirement                 |              |              |              |               |  |
|------------------------------------|---|-----------------------------|--------------|--------------|--------------|---------------|--|
| Varistor Voltage                   | The voltage between the two terminals with the specified measuring current 1mA.DC applied is called V <sub>b</sub> .  | To meet the Specified value |              |              |              |               |  |
| Maximum Allowable Voltage          | The recommended maximum sine wave voltage (RMS) or the Maximum DC voltage can be applied continuously.  |                             |              |              |              |               |  |
| Maximum Clamping Voltage           | The maximum voltage between the two terminals with the specification standard impulse current.<br>Applied waveform: 8/20μs<br>  |                             |              |              |              |               |  |
| Rated Wattage                      | The maximum average power that can be applied within the specified ambient temperature.   |                             |              |              |              |               |  |
| Energy                             | The maximum energy within the varistor voltage change of ±10% when one impulse of 10/1000μs or 2ms is applied.  |                             |              |              |              |               |  |
| Withstanding Surge Current         | The maximum current within the varistor voltage change of ±10% with the standard impulse current (8/20μs) applied one time.   |                             |              |              |              |               |  |
| Varistor Voltage Temp. Coefficient | $\left  \frac{V_{1mA@105^{\circ}C} - V_{1mA@25^{\circ}C}}{V_{1mA@25^{\circ}C}} \times \frac{1}{80} \times 100\% (\%/^{\circ}C) \right $ $\left  \frac{V_{1mA@-40^{\circ}C} - V_{1mA@25^{\circ}C}}{V_{1mA@25^{\circ}C}} \times \frac{1}{65} \times 100\% (\%/^{\circ}C) \right $   |                             | ≤ 0.05%/°C   |              |              |               |  |
| Surge Life                         | The change of V <sub>b</sub> shall be measured after the impulse listed below which is applied 10,000 times continuously with the interval of ten seconds at room temperature.<br><table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td rowspan="2">14Φ series</td> <td>180K to 680K</td> <td>75A (8/20μs)</td> </tr> <tr> <td>820K to 182K</td> <td>150A (8/20μs)</td> </tr> </table> | 14Φ series                  | 180K to 680K | 75A (8/20μs) | 820K to 182K | 150A (8/20μs) | $\frac{\Delta V_b}{V_b} \leq \pm 10\%$ |
| 14Φ series                         | 180K to 680K  |                             | 75A (8/20μs) |              |              |               |  |
|                                    | 820K to 182K  | 150A (8/20μs)               |              |              |              |               |  |

**Soldering Recommendation**

Lead-free Wave Soldering Recommendation



| Item             | Conditions        |
|------------------|-------------------|
| Peak Temperature | 265°C             |
| Dipping Time     | 10 seconds (max.) |
| Soldering        | 1 time            |

Recommendation Reworking Conditions with Soldering Iron

| Item                              | Conditions       |
|-----------------------------------|------------------|
| Temperature of Soldering Iron-tip | 360°C (max.)     |
| Soldering Time                    | 3 seconds (max.) |
| Distance from Varistor            | 2mm (min.)       |

## Mechanical Characteristics

| Items                         | Test conditions / Methods   | Specifications   |            |           |     |            |     |        |     |   |
|-------------------------------|---|--|------------|-----------|-----|------------|-----|--------|-----|---|
| Tensile Strength of Terminals | Gradually applying the force specified and keeping the unit fixed for 10±1 sec.<br><table border="1"> <thead> <tr> <th>Terminal diameter (mm)</th> <th>Force (kg)</th> </tr> </thead> <tbody> <tr> <td>0.5&lt;d≤0.8</td> <td>1.0</td> </tr> <tr> <td>0.8&lt;d≤1.25</td> <td>2.0</td> </tr> <tr> <td>1.25&lt;d</td> <td>4.0</td> </tr> </tbody> </table>   | Terminal diameter (mm)   | Force (kg) | 0.5<d≤0.8 | 1.0 | 0.8<d≤1.25 | 2.0 | 1.25<d | 4.0 | No visible damage<br> ΔV <sub>1mA</sub> /V <sub>1mA</sub>   ≤5% |
| Terminal diameter (mm)        | Force (kg)  |  |            |           |     |            |     |        |     |   |
| 0.5<d≤0.8                     | 1.0   |  |            |           |     |            |     |        |     |   |
| 0.8<d≤1.25                    | 2.0   |  |            |           |     |            |     |        |     |   |
| 1.25<d                        | 4.0   |  |            |           |     |            |     |        |     |   |
| Bending Strength of Terminals | Hold specimen and apply the force specified below to each lead. Bend the specimen to 90°, then return to the original position. Repeat the procedure in the opposite direction.<br><table border="1"> <thead> <tr> <th>Terminal diameter (mm)</th> <th>Force (kg)</th> </tr> </thead> <tbody> <tr> <td>0.5&lt;d≤0.8</td> <td>0.5</td> </tr> <tr> <td>0.8&lt;d≤1.25</td> <td>1.0</td> </tr> <tr> <td>1.25&lt;d</td> <td>2.0</td> </tr> </tbody> </table> | Terminal diameter (mm)   | Force (kg) | 0.5<d≤0.8 | 0.5 | 0.8<d≤1.25 | 1.0 | 1.25<d | 2.0 | No visible damage<br> ΔV <sub>1mA</sub> /V <sub>1mA</sub>   ≤5% |
| Terminal diameter (mm)        | Force (kg)  |  |            |           |     |            |     |        |     |   |
| 0.5<d≤0.8                     | 0.5   |  |            |           |     |            |     |        |     |   |
| 0.8<d≤1.25                    | 1.0   |  |            |           |     |            |     |        |     |   |
| 1.25<d                        | 2.0   |  |            |           |     |            |     |        |     |   |
| Vibration                     | Frequency range: 10~55 Hz<br>Amplitude: 0.75mm or 98m/s <sup>2</sup><br>Direction: 3 mutually perpendicular directions, 2hrs each.  | No visible damage<br> ΔV <sub>1mA</sub> /V <sub>1mA</sub>   ≤5%  |            |           |     |            |     |        |     |   |
| Solder ability                | Solder Temp: 245±5°C<br>Dipping Time: 2±0.5 sec   | At least 95% of terminal electrode is covered by new solder      |            |           |     |            |     |        |     |   |
| Resistance to Soldering Heat  | Solder Temp: 260±5°C<br>Dipping Time: 10±1 sec  | No visible damage<br> ΔV <sub>1mA</sub> /V <sub>1mA</sub>   ≤10% |            |           |     |            |     |        |     |   |

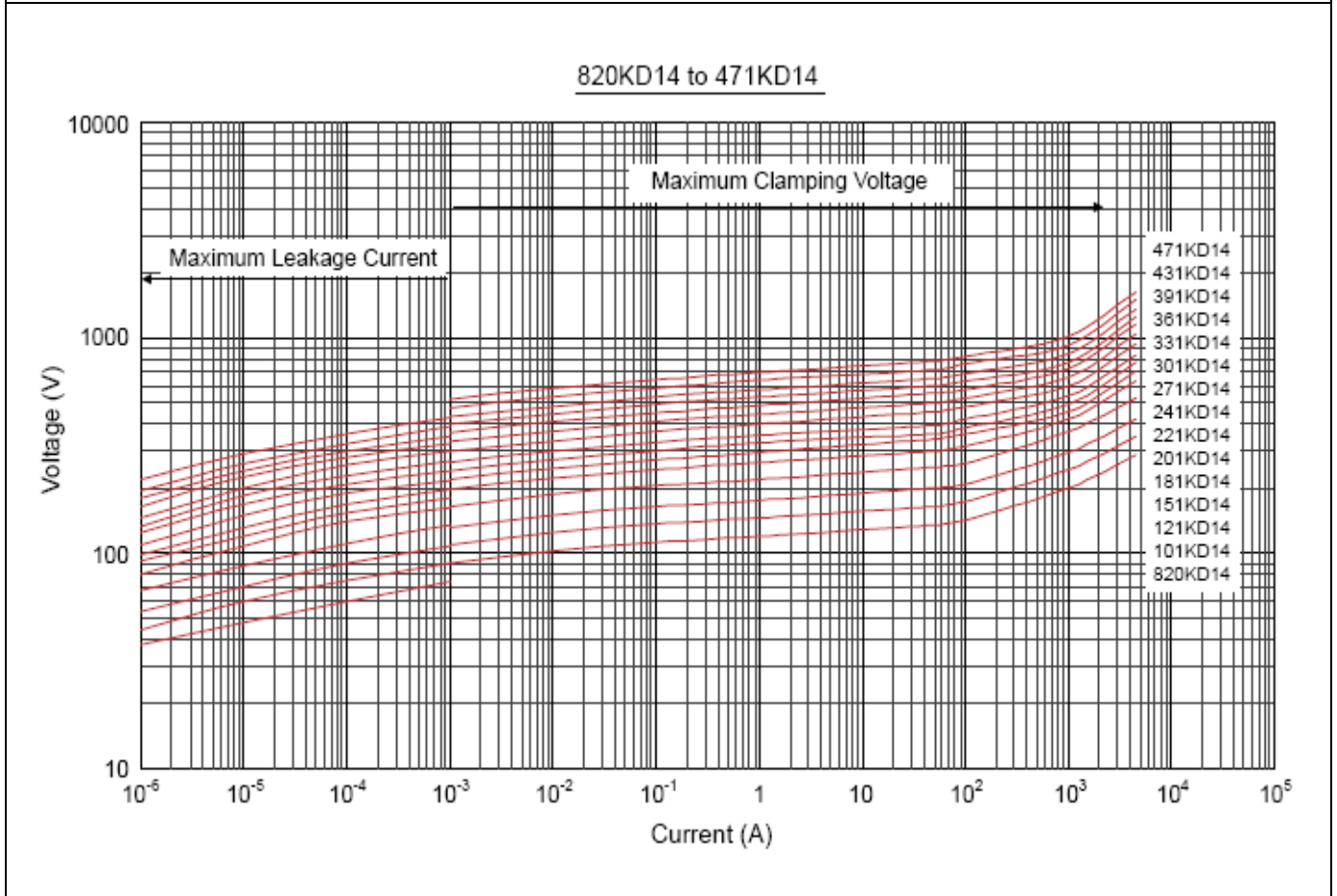
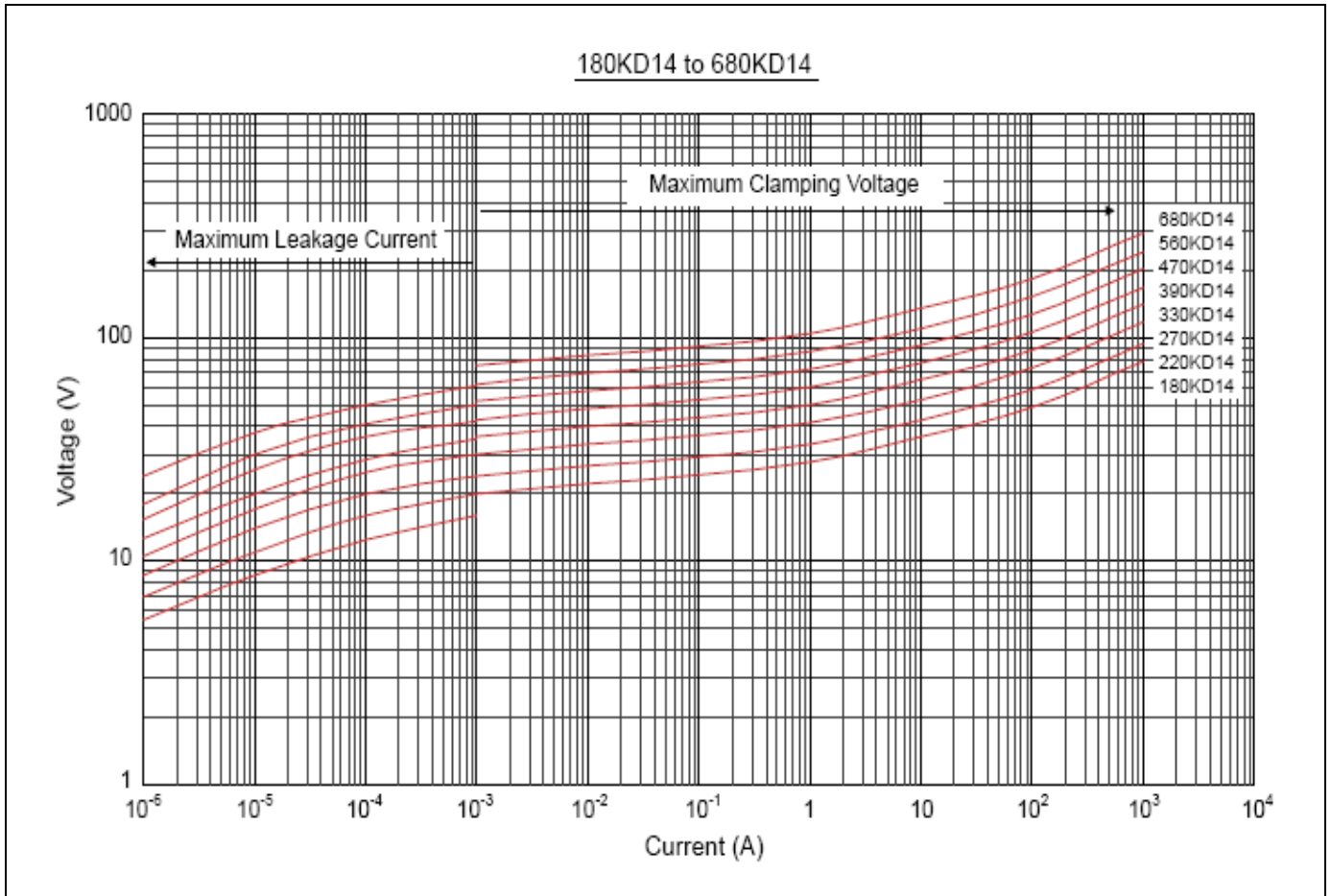
## Reliability

| Items                    | Test conditions / Methods   | Specifications   |                  |                  |   |       |      |   |                  |      |   |       |      |   |                  |      |   |
|--------------------------|---|--|------------------|------------------|---|-------|------|---|------------------|------|---|-------|------|---|------------------|------|---|
| High Temperature Storage | Ambient Temp: 125±2°C<br>Duration: 1000hrs  | ΔV <sub>1mA</sub> /V <sub>1mA</sub>   ≤5%                        |                  |                  |   |       |      |   |                  |      |   |       |      |   |                  |      |   |
| Low Temperature Storage  | Ambient Temp: -40±2°C<br>Duration: 1000hrs  | ΔV <sub>1mA</sub> /V <sub>1mA</sub>   ≤5%                        |                  |                  |   |       |      |   |                  |      |   |       |      |   |                  |      |   |
| Humidity                 | Ambient Temp: 40±2°C, 90~95% R.H.<br>Duration: 1000hrs  | ΔV <sub>1mA</sub> /V <sub>1mA</sub>   ≤5%                        |                  |                  |   |       |      |   |                  |      |   |       |      |   |                  |      |   |
| Temperature Cycle        | The conditions shown below shall be repeated 5 cycles<br><table border="1"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Period (minutes)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-40±3</td> <td>30±3</td> </tr> <tr> <td>2</td> <td>Room temperature</td> <td>15±3</td> </tr> <tr> <td>3</td> <td>125±3</td> <td>30±3</td> </tr> <tr> <td>4</td> <td>Room temperature</td> <td>15±3</td> </tr> </tbody> </table> | Step   | Temperature (°C) | Period (minutes) | 1 | -40±3 | 30±3 | 2 | Room temperature | 15±3 | 3 | 125±3 | 30±3 | 4 | Room temperature | 15±3 | No visible damage<br> ΔV <sub>1mA</sub> /V <sub>1mA</sub>   ≤5% |
| Step                     | Temperature (°C)  | Period (minutes)   |                  |                  |   |       |      |   |                  |      |   |       |      |   |                  |      |   |
| 1                        | -40±3   | 30±3   |                  |                  |   |       |      |   |                  |      |   |       |      |   |                  |      |   |
| 2                        | Room temperature  | 15±3   |                  |                  |   |       |      |   |                  |      |   |       |      |   |                  |      |   |
| 3                        | 125±3   | 30±3   |                  |                  |   |       |      |   |                  |      |   |       |      |   |                  |      |   |
| 4                        | Room temperature  | 15±3   |                  |                  |   |       |      |   |                  |      |   |       |      |   |                  |      |   |
| High Temperature Load    | Ambient Temp: 105±2°C      Duration: 1000hrs<br>Load: Max. Allowable Voltage In AC eara.  | ΔV <sub>1mA</sub> /V <sub>1mA</sub>   ≤10%                       |                  |                  |   |       |      |   |                  |      |   |       |      |   |                  |      |   |
| Damp Heat Load           | Ambient Temp: 40±2°C, 90~95% R.H.<br>Duration: 1000hrs      Load: Max. Allowable Voltage  | No visible damage<br> ΔV <sub>1mA</sub> /V <sub>1mA</sub>   ≤10% |                  |                  |   |       |      |   |                  |      |   |       |      |   |                  |      |   |
| Voltage Proof            | Metal balls method, 2500Vac 1 min.  | No visible damage  |                  |                  |   |       |      |   |                  |      |   |       |      |   |                  |      |   |

**Maximum Surge Current Derating Curve**

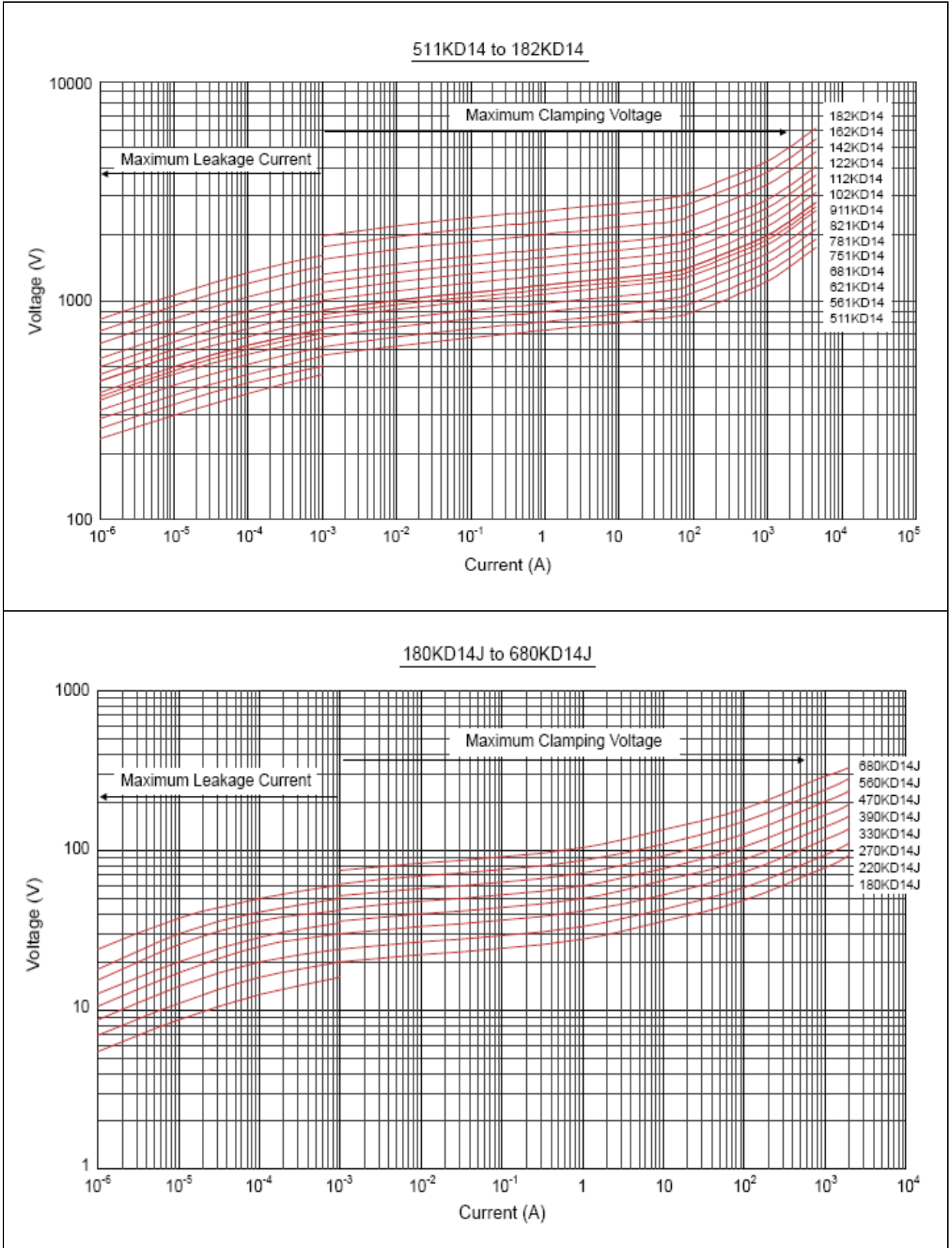


**Maximum Leakage Current and Maximum Clamping Voltage Curve**

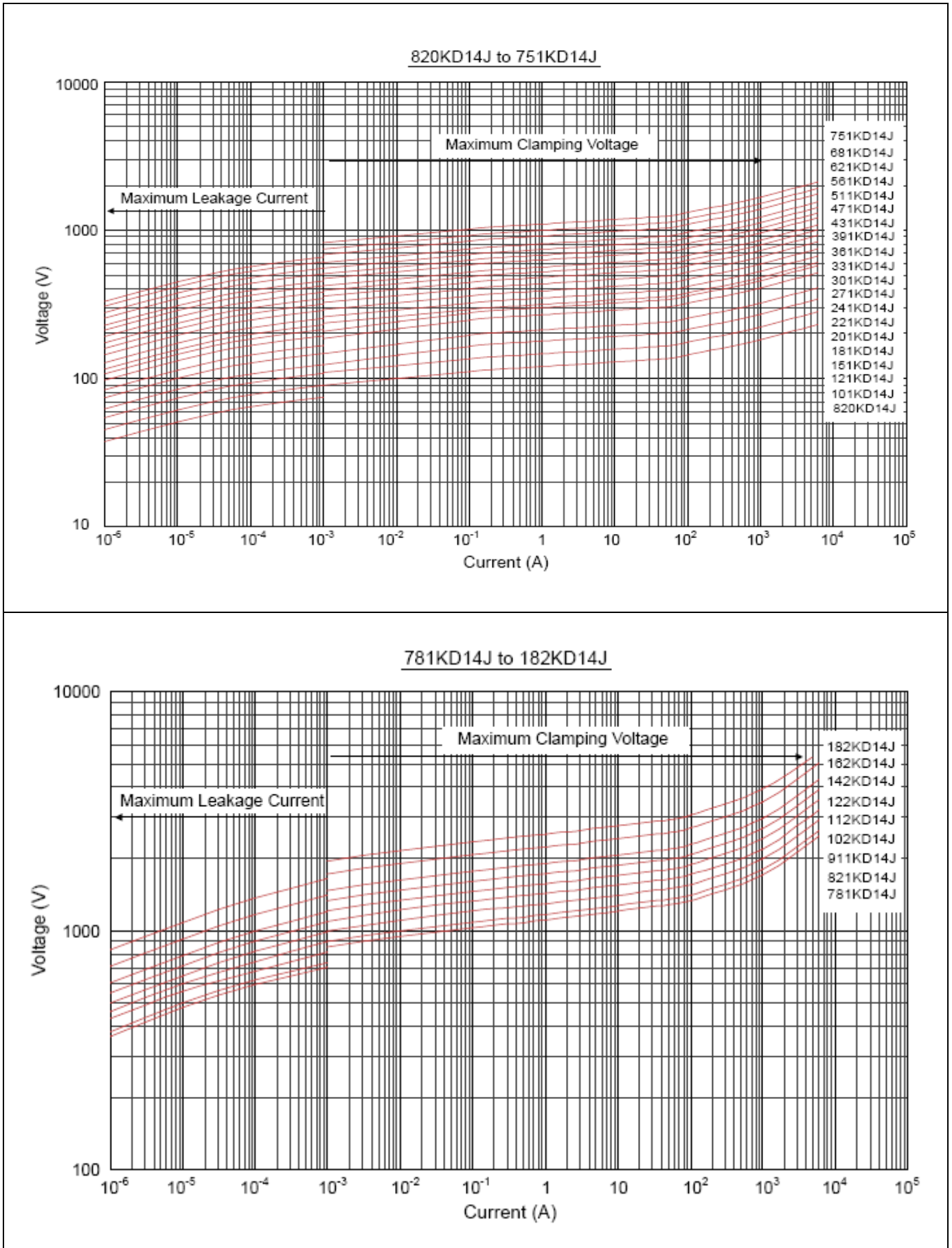




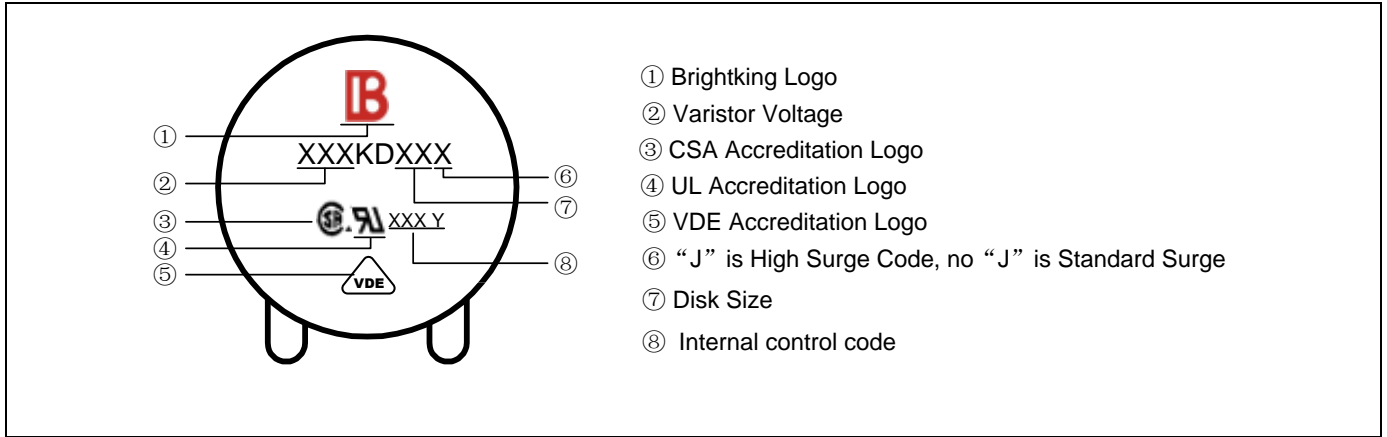
**Maximum Leakage Current and Maximum Clamping Voltage Curve**



**Maximum Leakage Current and Maximum Clamping Voltage Curve**



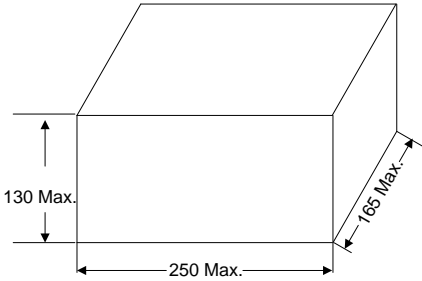
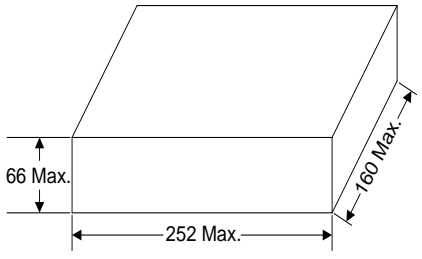
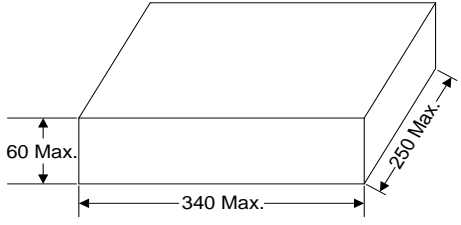
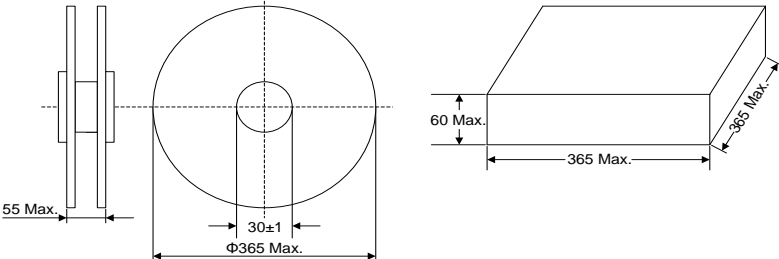
**Marking Code**



**Taping Dimensions**

| Symbol | Dimensions (mm) |
|--------|-----------------|
| P      | 25.4±1.0        |
| P0     | 12.7±1.0        |
| P1     | 8.95±0.7        |
| P2     | 12.7±1.3        |
| F      | 7.5±0.8         |
| h      | 0±4             |
| W      | 18.0±1.0        |
| W0     | 12.0±1.0        |
| W1     | 9.0±0.5         |
| W2     | 3.0max          |
| H      | 20.0±2.0        |
| D0     | 4.0±0.2         |
| t      | 0.6±0.3         |
| B      | 40max           |

**Quantity**

| Packaging Dimensions (Unit: mm)   | Quantity  |
|---|---|
| <p>In bulk for Terminals Untrimmed Products</p>  | <p>400pcs/bag<br/>4bags/box<br/>(180K~331K)</p> <p>300pcs/bag<br/>4bags/box<br/>(361K~621K)</p> <p>250pcs/bag<br/>4bags/box<br/>(681K~112K)</p> <p>150pcs/bag<br/>4bags/box<br/>(122K~182K)</p> |
| <p>In bulk for Terminals Trimmed Products</p>   | <p>400pcs/bag<br/>4bags/box<br/>(180K~331K)</p> <p>300pcs/bag<br/>4bags/box<br/>(361K~621K)</p> <p>250pcs/bag<br/>4bags/box<br/>(681K~112K)</p> <p>150pcs/bag<br/>4bags/box<br/>(122K~182K)</p> |
| <p>Tape &amp; Box</p>                          | <p>750pcs/box<br/>(180K~331K)</p> <p>500pcs/box<br/>(361K~621K)</p> <p>400pcs/box<br/>(681K~751K)</p>   |
| <p>Tape &amp; Reel</p>                        | <p>1000pcs/reel<br/>(180K~331K)</p> <p>750pcs/reel<br/>(361K~621K)</p> <p>500pcs/reel<br/>(681K~751K)</p>   |

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