

## 10D Series

### 产品简介

压敏电阻的本身是由氧化锌颗粒组成的矩阵结构。颗粒之间的晶界类似双向 PN 结的电气特性，当低电压时，这些晶界处于高阻抗状态，当电压高时，又会处于击穿状态，是一种非线性器件。



### 应用领域：

抑制消费类电子产品及工业用电子设备主电源所窜入的浪涌电流。如 LED 照明、电度表、开关电源、排插等。

通讯等有线网络设备窜入的浪涌电流。

房舍装置以及瓦斯和油类设施上所装置的电子器材的浪涌保护

抑制电子线路内发生的浪涌

照相器材用于限压开关

### Product Profile

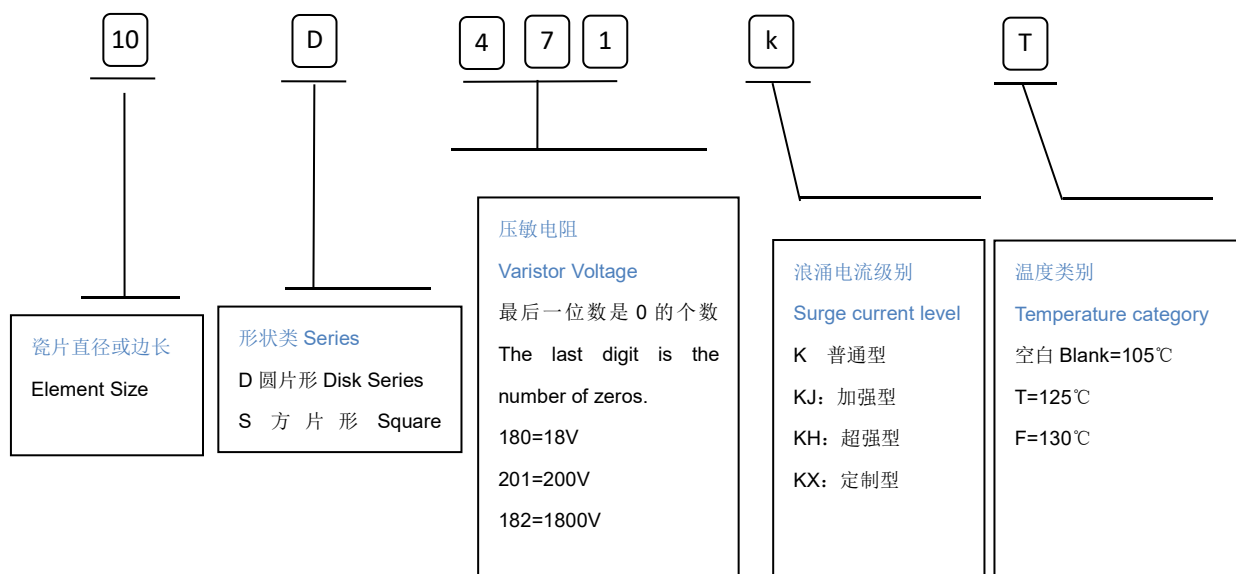
The body of varistor is a matrix structure composed of zinc oxide particles. The grain boundaries between particles are similar to the electrical characteristics of bidirectional PN junctions. When the voltage is low, these grain boundaries are in the high impedance state, and when the voltage is high, they will be in the breakdown state, which is a kind of non-linear device.

### Application

Suppresses surge current from the main power supply of consumer electronics and industrial electronic equipment. Such as LED lighting, watt-hour meter, switching power supply, layout and so on.

Surge protection of electronic equipment on building installations and gas and oil installations Suppression of Surges in Electronic Circuits Photographic equipment for voltage limiting switches

### 产品料号代码 HOW TO ORDER



## 按冲击 8/20 $\mu$ s 浪涌电流分类 Classification According to 8/20 $\mu$ s Surge Current

### 一、普通型、KJ 加强型

| 型号<br>Part<br>NO. | 压敏电压        | 最大允许<br>使用电压 | K 普通型                                     |                                                |                                                                                      | KJ 加强型                                    |                                                |                                |
|-------------------|-------------|--------------|-------------------------------------------|------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------|------------------------------------------------|--------------------------------|
|                   | V1mA<br>(V) | AC<br>(V)    | I <sub>max</sub><br>(8/20 $\mu$ s)<br>(A) | I <sub>n</sub> (15 次)<br>(8/20 $\mu$ s)<br>(A) | 能量<br>(10/1000 $\mu$ s)<br>(J)                                                       | I <sub>max</sub><br>(8/20 $\mu$ s)<br>(A) | I <sub>n</sub> (15 次)<br>(8/20 $\mu$ s)<br>(A) | 能量<br>(10/1000 $\mu$ s)<br>(J) |
| 5D                | 82-750      | 50-400       | 400                                       | 150                                            | 2.5-18                                                                               | 800                                       | 250                                            | 3.5-33                         |
| 7D                | 82-820      | 50-400       | 1200                                      | 500                                            | 6.0-43                                                                               | 1750                                      | 1000                                           | 8.4-7.1                        |
| 10D               | 82-1800     | 50-1000      | 2500                                      | 1500                                           | 13-185                                                                               | 3500                                      | 1500                                           | 18-259                         |
| 14D               | 82-1800     | 50-1000      | 4500                                      | 3000                                           | 26-378                                                                               | 6000                                      | 3000                                           | 31-450                         |
| 20D               | 82-1800     | 50-1000      | 6500                                      | 3000                                           | 48-632                                                                               | 10000                                     | 5000                                           | 67-850                         |
| 5D                | 18-68       | 11-40        | 100                                       |                                                | 0.5-2.1                                                                              | 250                                       | 150                                            | 0.7-2.9                        |
| 7D                | 18-68       | 11-40        | 250                                       |                                                | 1.3-5.0                                                                              | 500                                       | 250                                            | 1.8-7.0                        |
| 10D               | 18-68       | 11-40        | 500                                       |                                                | 2.8-11                                                                               | 1000                                      | 500                                            | 3.9-15                         |
| 14D               | 18-68       | 11-40        | 1000                                      |                                                | 5.7-21                                                                               | 2000                                      | 1000                                           | 6.8-25                         |
| 20D               | 18-68       | 11-40        | 2000                                      |                                                | 11-46                                                                                | 3000                                      | 1000                                           | 13-55                          |
| 符合国际及国家标准         |             |              | IEC61051-1                                | GB/T10193                                      | 包含左栏，并增加以下标准：<br>IEC60950-1: 2013/Annex Q<br>GB/4943.1-2011<br>GB8898-2011<br>UL1449 |                                           |                                                |                                |
|                   |             |              | IEC61051-2                                | GB/T10194                                      |                                                                                      |                                           |                                                |                                |
|                   |             |              | IEC61051-2-2                              | GBT10195                                       |                                                                                      |                                           |                                                |                                |
|                   |             |              | CSA-C22.2                                 | No.269.5-17                                    |                                                                                      |                                           |                                                |                                |
|                   |             |              | UL1449                                    |                                                |                                                                                      |                                           |                                                |                                |

### 二、KH 加强型(整机标准)

1.符合整机标准：IEC61000-4-5,GB/T17626.5《电磁兼容试验和测量技术浪涌（冲击）抗扰度试验》，在使用 AC 电压的 4 个相位角，每个相位角正负个冲击 5 次，总计 40 次冲击；

2.冲击峰值

5D:1KV/0.5KA                      7D:2KV/1KA

10D:4KV/2KA                      14D:6KV/3KA

20D:10KV/5KA

3.电压规格：V1mA $\geq$ 430V，也即 431 及以上规格；

4.组合波：开路为电压波 1.2/50 $\mu$ s，短路为电流波 8/20 $\mu$ s，叠加 AC 电压

### 三、KX 定制型

1.雷击要求高于 KH 级，比如

A.一次冲击的峰值（I<sub>max</sub>）要求高于 KH,举例：14D 产品，要求 I<sub>max</sub> $\geq$ 10KA

B.浪涌冲击次数（I<sub>n</sub>）要求冲击次数多，举例：14D 产品，要求 6KV/3KA 组合波冲击 100 次、500 次.....

2.小型化要求：10D 替代 14D,14D 替代 20D，20D 替代 32D.....适合 SPD 产品应用

# 10D 系列 电气参数 10D Series Electrical Parameters

| 型号<br>规格<br>Part<br>NO. | 压敏电压<br>Varistor Voltage |          | 最大允许<br>使用电压<br>Maximum<br>allowable<br>voltage |     | 最大限制<br>电压<br>Maximum<br>Limited<br>Voltage | 通流容量<br>Withstanding Surge<br>current<br>(1.2/50μs&8/20μs) |                | 静态<br>功率<br>Rated<br>Wattage | 能量耐量<br>Energy<br>(10/1000μs) | 静态电容量<br>(参考值)<br>Typical<br>Capacitance |
|-------------------------|--------------------------|----------|-------------------------------------------------|-----|---------------------------------------------|------------------------------------------------------------|----------------|------------------------------|-------------------------------|------------------------------------------|
|                         |                          |          |                                                 |     |                                             |                                                            |                |                              |                               |                                          |
|                         | V1mA                     |          | AC                                              | DC  | V25A                                        | I <sub>max</sub>                                           | I <sub>n</sub> | (W)                          | (J)                           | 1KHz<br>(PF)                             |
| (V)                     |                          | (V)      |                                                 | (V) | (A)                                         |                                                            |                |                              |                               |                                          |
| 10D180K                 | 18                       | 16-20    | 11                                              | 14  | 38                                          | 500                                                        | —              | 0.05                         | 2.8                           | 6500                                     |
| 10D220K                 | 22                       | 20-24    | 14                                              | 18  | 43                                          | 500                                                        | —              | 0.05                         | 3.5                           | 5000                                     |
| 10D270K                 | 27                       | 24-30    | 17                                              | 22  | 53                                          | 500                                                        | —              | 0.05                         | 4.2                           | 4200                                     |
| 10D330K                 | 33                       | 30-36    | 20                                              | 26  | 65                                          | 500                                                        | —              | 0.05                         | 5.2                           | 3700                                     |
| 10D390K                 | 39                       | 35-43    | 25                                              | 31  | 77                                          | 500                                                        | —              | 0.05                         | 6.2                           | 3300                                     |
| 10D470K                 | 47                       | 42-52    | 30                                              | 38  | 93                                          | 500                                                        | —              | 0.05                         | 7.4                           | 2900                                     |
| 10D560K                 | 56                       | 50-62    | 35                                              | 45  | 110                                         | 500                                                        | —              | 0.05                         | 8.8                           | 2500                                     |
| 10D680K                 | 68                       | 61-75    | 40                                              | 56  | 135                                         | 500                                                        | —              | 0.05                         | 11                            | 2100                                     |
| 10D820K                 | 82                       | 74-90    | 50                                              | 65  | 135                                         | 2500                                                       | 1500           | 0.4                          | 13                            | 1700                                     |
| 10D101K                 | 100                      | 90-100   | 60                                              | 85  | 165                                         | 2500                                                       | 1500           | 0.4                          | 16                            | 1500                                     |
| 10D121K                 | 120                      | 108-132  | 75                                              | 100 | 200                                         | 2500                                                       | 1500           | 0.4                          | 19                            | 1300                                     |
| 10D151K                 | 150                      | 135-165  | 95                                              | 125 | 250                                         | 2500                                                       | 1500           | 0.4                          | 24                            | 1000                                     |
| 10D181K                 | 180                      | 162-198  | 115                                             | 150 | 300                                         | 2500                                                       | 1500           | 0.4                          | 28                            | 770                                      |
| 10D201K                 | 200                      | 185-225  | 130                                             | 170 | 340                                         | 2500                                                       | 1500           | 0.4                          | 32                            | 560                                      |
| 10D221K                 | 220                      | 198-242  | 140                                             | 180 | 360                                         | 2500                                                       | 1500           | 0.4                          | 35                            | 440                                      |
| 10D241K                 | 240                      | 216-264  | 150                                             | 200 | 395                                         | 2500                                                       | 1500           | 0.4                          | 38                            | 410                                      |
| 10D271K                 | 270                      | 243-297  | 175                                             | 225 | 455                                         | 2500                                                       | 1500           | 0.4                          | 43                            | 380                                      |
| 10D301K                 | 300                      | 270-330  | 195                                             | 250 | 500                                         | 2500                                                       | 1500           | 0.4                          | 47                            | 340                                      |
| 10D331K                 | 330                      | 297-363  | 215                                             | 275 | 550                                         | 2500                                                       | 1500           | 0.4                          | 52                            | 330                                      |
| 10D361K                 | 360                      | 324-396  | 230                                             | 300 | 595                                         | 2500                                                       | 1500           | 0.4                          | 57                            | 310                                      |
| 10D391K                 | 390                      | 351-429  | 250                                             | 320 | 650                                         | 2500                                                       | 1500           | 0.4                          | 61                            | 290                                      |
| 10D431K                 | 430                      | 387-473  | 275                                             | 350 | 710                                         | 2500                                                       | 1500           | 0.4                          | 68                            | 270                                      |
| 10D471K                 | 470                      | 423-517  | 300                                             | 385 | 775                                         | 2500                                                       | 1500           | 0.4                          | 74                            | 240                                      |
| 10D511K                 | 510                      | 459-561  | 320                                             | 410 | 845                                         | 2500                                                       | 1500           | 0.4                          | 74                            | 230                                      |
| 10D561K                 | 560                      | 504-616  | 350                                             | 455 | 930                                         | 2500                                                       | 1500           | 0.4                          | 74                            | 230                                      |
| 10D621K                 | 620                      | 558-682  | 385                                             | 505 | 1025                                        | 2500                                                       | 1500           | 0.4                          | 74                            | 190                                      |
| 10D681K                 | 680                      | 612-748  | 420                                             | 560 | 1120                                        | 2500                                                       | 1500           | 0.4                          | 74                            | 170                                      |
| 10D751K                 | 750                      | 657-825  | 460                                             | 615 | 1240                                        | 2500                                                       | 1500           | 0.4                          | 75                            | 160                                      |
| 10D781K                 | 780                      | 702-858  | 485                                             | 640 | 1290                                        | 2500                                                       | 1500           | 0.4                          | 78                            | 160                                      |
| 10D821K                 | 820                      | 738-902  | 510                                             | 670 | 1355                                        | 2500                                                       | 1500           | 0.4                          | 85                            | 160                                      |
| 10D911K                 | 910                      | 819-1001 | 550                                             | 745 | 1500                                        | 2500                                                       | 1500           | 0.4                          | 93                            | 150                                      |
| 10D951K                 | 950                      | 855-1045 | 580                                             | 780 | 1570                                        | 2500                                                       | 1500           | 0.4                          | 97                            | 130                                      |
| 10D102K                 | 1000                     | 900-1100 | 625                                             | 825 | 1650                                        | 2500                                                       | 1500           | 0.4                          | 102                           | 120                                      |

|         |      |           |      |      |      |      |      |     |     |     |
|---------|------|-----------|------|------|------|------|------|-----|-----|-----|
| 10D112K | 1100 | 990-1210  | 680  | 895  | 1815 | 2500 | 1500 | 0.4 | 115 | 110 |
| 10D152K | 1500 | 1350-1650 | 900  | 1220 | 2475 | 2500 | 1500 | 0.4 | 155 | 100 |
| 10D182K | 1800 | 1620-1980 | 1000 | 1465 | 2970 | 2500 | 1500 | 0.4 | 185 | 80  |

注：180K 至 680K 最大限制电压测试电流是 5A

The maximum limit voltage test current K 180K to 680 is 5 A.

| 型号<br>规格<br>Part<br>NO. | 压敏电压<br>Varistor Voltage |         | 最大允许使用电压<br>Maximum allowable voltage |     | 最大限制电压<br>Maximum Limited Voltage | 通流容量 Withstanding Surge current<br>( 1.2/50μs&8/20μs ) |                | 静态功率<br>Rated Wattage | 能量耐量<br>Energy<br>10/1000μs | 静态电容量<br>(参考值)<br>Typical Capacitance |
|-------------------------|--------------------------|---------|---------------------------------------|-----|-----------------------------------|--------------------------------------------------------|----------------|-----------------------|-----------------------------|---------------------------------------|
|                         |                          |         |                                       |     |                                   |                                                        |                |                       |                             |                                       |
|                         | V1mA                     |         | AC                                    | DC  | V25A                              | I <sub>max</sub>                                       | I <sub>n</sub> | (W)                   | (J)                         | 1KHz                                  |
|                         | (V)                      |         | (V)                                   |     | (V)                               | (A)                                                    |                |                       |                             | (PF)                                  |
| 10D180KJ                | 18                       | 16-20   | 11                                    | 14  | 38                                | 1000                                                   | 500            | 0.05                  | 3.9                         | 6500                                  |
| 10D220KJ                | 22                       | 20-24   | 14                                    | 18  | 43                                | 1000                                                   | 500            | 0.05                  | 4.9                         | 5000                                  |
| 10D270KJ                | 27                       | 24-30   | 17                                    | 22  | 53                                | 1000                                                   | 500            | 0.05                  | 5.9                         | 4200                                  |
| 10D330KJ                | 33                       | 30-36   | 20                                    | 26  | 65                                | 1000                                                   | 500            | 0.05                  | 7.3                         | 3700                                  |
| 10D390KJ                | 39                       | 35-43   | 25                                    | 31  | 77                                | 1000                                                   | 500            | 0.05                  | 8.7                         | 3300                                  |
| 10D470KJ                | 47                       | 42-52   | 30                                    | 38  | 93                                | 1000                                                   | 500            | 0.05                  | 10                          | 2900                                  |
| 10D560KJ                | 56                       | 50-62   | 35                                    | 45  | 110                               | 1000                                                   | 500            | 0.05                  | 12                          | 2500                                  |
| 10D680KJ                | 68                       | 61-75   | 40                                    | 56  | 135                               | 1000                                                   | 500            | 0.05                  | 15                          | 2100                                  |
| 10D820KJ                | 82                       | 74-90   | 50                                    | 65  | 135                               | 3500                                                   | 1500           | 0.4                   | 18                          | 1700                                  |
| 10D101KJ                | 100                      | 90-100  | 60                                    | 85  | 165                               | 3500                                                   | 1500           | 0.4                   | 22                          | 1500                                  |
| 10D121KJ                | 120                      | 108-132 | 75                                    | 100 | 200                               | 3500                                                   | 1500           | 0.4                   | 27                          | 1300                                  |
| 10D151KJ                | 150                      | 135-165 | 95                                    | 125 | 250                               | 3500                                                   | 1500           | 0.4                   | 34                          | 1000                                  |
| 10D181KJ                | 180                      | 162-198 | 115                                   | 150 | 300                               | 3500                                                   | 1500           | 0.4                   | 47                          | 770                                   |
| 10D201KJ                | 200                      | 185-225 | 130                                   | 170 | 340                               | 3500                                                   | 1500           | 0.4                   | 52                          | 560                                   |
| 10D221KJ                | 220                      | 198-242 | 140                                   | 180 | 360                               | 3500                                                   | 1500           | 0.4                   | 58                          | 440                                   |
| 10D241KJ                | 240                      | 216-264 | 150                                   | 200 | 395                               | 3500                                                   | 1500           | 0.4                   | 64                          | 410                                   |
| 10D271KJ                | 270                      | 243-297 | 175                                   | 225 | 455                               | 3500                                                   | 1500           | 0.4                   | 67                          | 380                                   |
| 10D301KJ                | 300                      | 270-330 | 195                                   | 250 | 500                               | 3500                                                   | 1500           | 0.4                   | 70                          | 340                                   |
| 10D331KJ                | 330                      | 297-363 | 215                                   | 275 | 550                               | 3500                                                   | 1500           | 0.4                   | 72                          | 330                                   |
| 10D361KJ                | 360                      | 324-396 | 230                                   | 300 | 595                               | 3500                                                   | 1500           | 0.4                   | 76                          | 310                                   |
| 10D391KJ                | 390                      | 351-429 | 250                                   | 320 | 650                               | 3500                                                   | 1500           | 0.4                   | 82                          | 290                                   |
| 10D431KJ                | 430                      | 387-473 | 275                                   | 350 | 710                               | 3500                                                   | 1500           | 0.4                   | 93                          | 270                                   |
| 10D471KJ                | 470                      | 423-517 | 300                                   | 385 | 775                               | 3500                                                   | 1500           | 0.4                   | 99                          | 240                                   |
| 10D511KJ                | 510                      | 459-561 | 320                                   | 410 | 845                               | 3500                                                   | 1500           | 0.4                   | 107                         | 230                                   |
| 10D561KJ                | 560                      | 504-616 | 350                                   | 455 | 930                               | 3500                                                   | 1500           | 0.4                   | 113                         | 230                                   |
| 10D621KJ                | 620                      | 558-682 | 385                                   | 505 | 1025                              | 3500                                                   | 1500           | 0.4                   | 125                         | 190                                   |
| 10D681KJ                | 680                      | 612-748 | 420                                   | 560 | 1120                              | 3500                                                   | 1500           | 0.4                   | 128                         | 170                                   |

|          |      |           |      |      |      |      |      |     |     |     |
|----------|------|-----------|------|------|------|------|------|-----|-----|-----|
| 10D751KJ | 750  | 657-825   | 460  | 615  | 1240 | 3500 | 1500 | 0.4 | 134 | 160 |
| 10D781KJ | 780  | 702-858   | 485  | 640  | 1290 | 3500 | 1500 | 0.4 | 139 | 160 |
| 10D821KJ | 820  | 738-902   | 510  | 670  | 1355 | 3500 | 1500 | 0.4 | 146 | 160 |
| 10D911KJ | 910  | 819-1001  | 550  | 745  | 1500 | 3500 | 1500 | 0.4 | 152 | 150 |
| 10D951KJ | 950  | 855-1045  | 580  | 780  | 1570 | 3500 | 1500 | 0.4 | 158 | 130 |
| 10D102KJ | 1000 | 900-1100  | 625  | 825  | 1650 | 3500 | 1500 | 0.4 | 170 | 120 |
| 10D112KJ | 1100 | 990-1210  | 680  | 895  | 1815 | 3500 | 1500 | 0.4 | 180 | 110 |
| 10D152KJ | 1500 | 1350-1650 | 900  | 1220 | 2475 | 3500 | 1500 | 0.4 | 217 | 100 |
| 10D182KJ | 1800 | 1620-1980 | 1000 | 1465 | 2970 | 3500 | 1500 | 0.4 | 259 | 80  |

注：180K 至 680K 最大限制电压测试电流是 5A

The maximum limit voltage test current K 180K to 680 is 5 A.

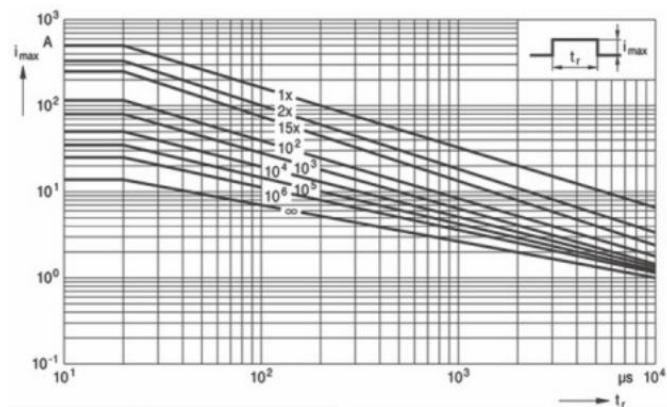
| 型号<br>规格<br>Part NO. | 压敏电压<br>Varistor Voltage |           | 最大允许<br>使用电压<br>Maximum<br>allowable<br>voltage |      | 最大限制<br>电压<br>Maximum<br>Limited<br>Voltage | 通流容量<br>Withstanding Surge<br>current<br>(1.2/50μs&8/20μs) |                       | 静态<br>功率<br>Rated<br>Wattage | 能量耐<br>量<br>Energy<br>10/1000μs | 静态电容量<br>(参考值)<br>Typical<br>Capacitance |
|----------------------|--------------------------|-----------|-------------------------------------------------|------|---------------------------------------------|------------------------------------------------------------|-----------------------|------------------------------|---------------------------------|------------------------------------------|
|                      | V1mA                     |           | AC                                              | DC   | V25A                                        | I <sub>max</sub>                                           | V <sub>n</sub> (40 次) | (W)                          | (J)                             | 1KHz                                     |
|                      | (V)                      |           | (V)                                             |      | (V)                                         | (A)                                                        |                       |                              |                                 | (PF)                                     |
| 10D431KH             | 430                      | 387-473   | 275                                             | 350  | 710                                         | 3500                                                       | 4KV/2KA               | 0.4                          | 93                              | 270                                      |
| 10D471KH             | 470                      | 423-517   | 300                                             | 385  | 775                                         | 3500                                                       | 4KV/2KA               | 0.4                          | 99                              | 240                                      |
| 10D551KH             | 510                      | 459-561   | 320                                             | 410  | 842                                         | 3500                                                       | 4KV/2KA               | 0.4                          | 107                             | 230                                      |
| 10D561KH             | 560                      | 504-616   | 350                                             | 460  | 920                                         | 3500                                                       | 4KV/2KA               | 0.4                          | 113                             | 230                                      |
| 10D621KH             | 620                      | 558-682   | 385                                             | 505  | 1025                                        | 3500                                                       | 4KV/2KA               | 0.4                          | 125                             | 190                                      |
| 10D681KH             | 680                      | 612-748   | 420                                             | 560  | 1120                                        | 3500                                                       | 4KV/2KA               | 0.4                          | 128                             | 170                                      |
| 10D751KH             | 750                      | 657-825   | 460                                             | 615  | 1240                                        | 3500                                                       | 4KV/2KA               | 0.4                          | 134                             | 160                                      |
| 10D781KH             | 780                      | 702-858   | 485                                             | 640  | 1290                                        | 3500                                                       | 4KV/2KA               | 0.4                          | 139                             | 160                                      |
| 10D821KH             | 820                      | 738-902   | 510                                             | 670  | 1355                                        | 3500                                                       | 4KV/2KA               | 0.4                          | 146                             | 160                                      |
| 10D911KH             | 910                      | 819-1001  | 550                                             | 745  | 1500                                        | 3500                                                       | 4KV/2KA               | 0.4                          | 152                             | 150                                      |
| 10D951KH             | 950                      | 855-1045  | 580                                             | 780  | 1570                                        | 3500                                                       | 4KV/2KA               | 0.4                          | 158                             | 130                                      |
| 10D102KH             | 1000                     | 900-1100  | 625                                             | 825  | 1650                                        | 3500                                                       | 4KV/2KA               | 0.4                          | 170                             | 120                                      |
| 10D112KH             | 1100                     | 990-1210  | 680                                             | 895  | 1815                                        | 3500                                                       | 4KV/2KA               | 0.4                          | 180                             | 110                                      |
| 10D152KH             | 1500                     | 1350-1650 | 900                                             | 1220 | 2475                                        | 3500                                                       | 4KV/2KA               | 0.4                          | 217                             | 100                                      |
| 10D182KH             | 1800                     | 1620-1980 | 1000                                            | 1465 | 2970                                        | 3500                                                       | 4KV/2KA               | 0.4                          | 259                             | 80                                       |

## 降额曲线图 Reduction curve

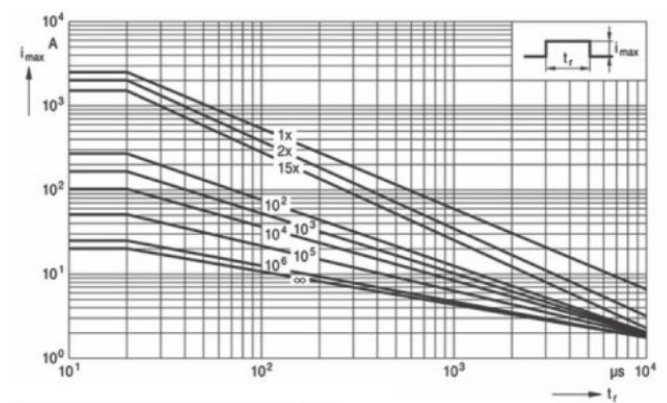
横轴是冲击时间即浪涌波形宽度，纵轴是冲击电流峰值，  
线上的数字是冲击次数

Maximum Surge current  $i_{max}=f(t_r, \text{pulses train})$

10D180K-10D680K



10D820K-10D511K



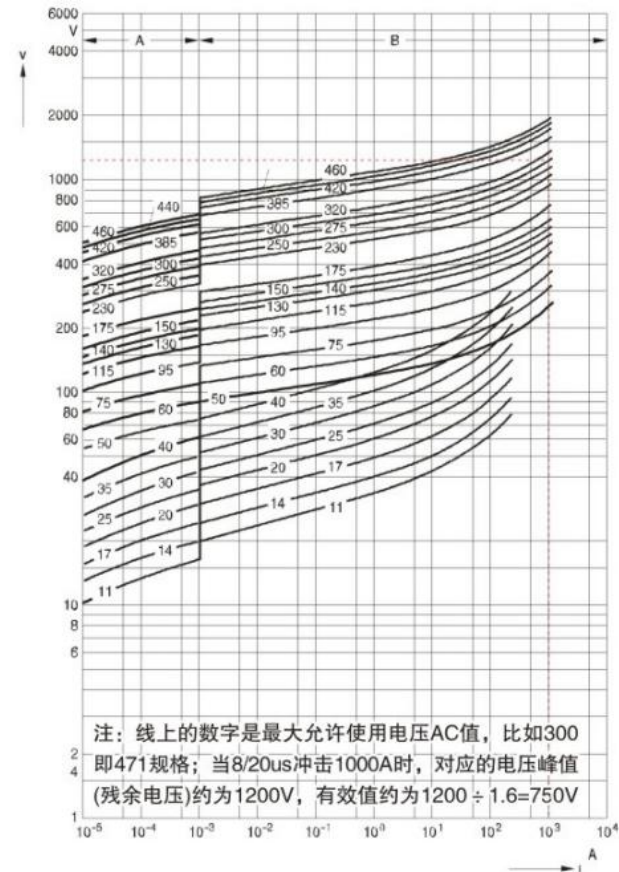
## 伏安特性图 v/i characteristics

A 区是泄露电流图，A=Leakage current

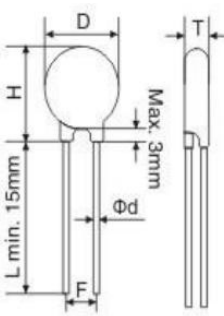
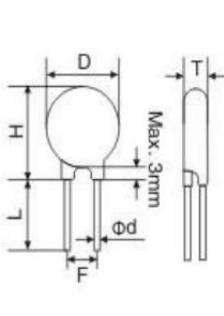
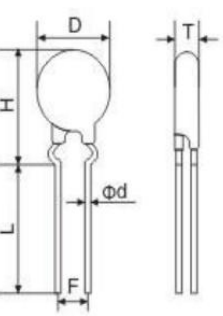
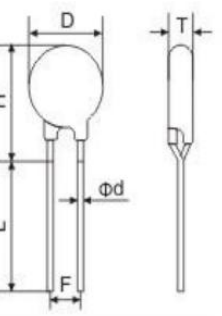
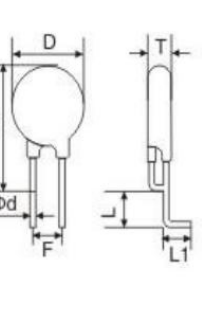
B 区是冲击电流与限制电流对称区

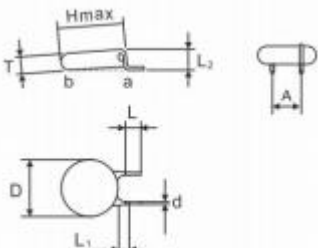
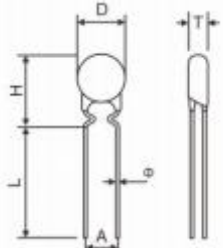
B=Protection level for worst-case varistor tolerances

10D180k-10D112K



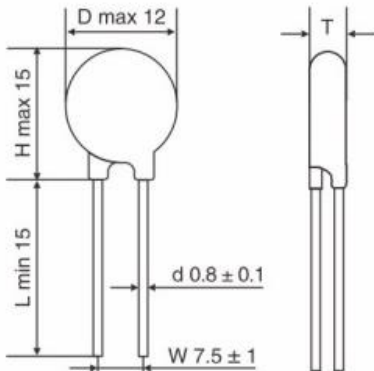
## 产品外形 Product Shape

| Bulk Straight<br>标准外形                                                               | Cutting Straight<br>切短脚                                                             | Out Forming<br>外弯脚                                                                  | Y-Forming<br>Y 型脚                                                                    | Cutting Bending<br>折脚                                                                 |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |

| Flat Type 平角型 (M Type)                                                            | Inward Bending 内弯型 (D Type)                                                         |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |

## 产品尺寸

单位 (Unit) :mm

| 产品外型<br>Product Shape                                                              | 系列<br>Series | 压敏电压<br>Varistor Voltage | 厚度<br>Tmax |
|------------------------------------------------------------------------------------|--------------|--------------------------|------------|
|  | 10D          | 18V~39V                  | 4.5        |
|                                                                                    |              | 47V~68V                  | 5.0        |
|                                                                                    |              | 82V~150V                 | 4.5        |
|                                                                                    |              | 180V~270V                | 5.0        |
|                                                                                    |              | 330V~390V                | 5.5        |
|                                                                                    |              | 430V~560V                | 6.0        |
|                                                                                    |              | 620V~780V                | 7.0        |
|                                                                                    |              | 820V~1200V               | 8.2        |
|                                                                                    |              | 1300V~1500V              | 9.3        |
|                                                                                    |              | 1600V~1800V              | 11.0       |

注：如果脚型为外弯等非直线型，则通常 $H_{max}=17mm$ 

## Disclaimer

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.