

## Description

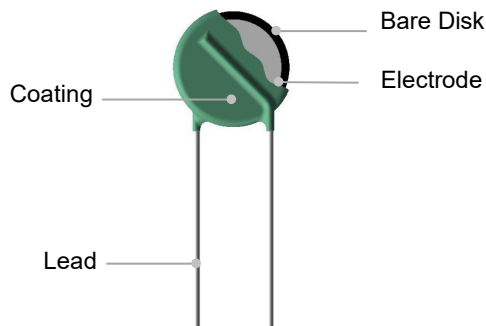


Metal Oxide Varistor (MOV) is a nonlinear resistance component with zinc oxide (ZnO) as its main constituent. The resistance of an MOV is sensitive to changes in the applied voltage. Below the threshold voltage, the MOV exhibits high resistance, allowing only a negligibly small leakage current to flow. Once the threshold voltage is exceeded, the resistance of the MOV drops sharply, enabling the conduction of a large current. This characteristic makes the MOV suitable for detecting and suppressing surge voltage and overvoltage, thereby protecting the circuit from damage caused by excessive voltage.

The Metal Oxide Varistor (MOV) finds wide application in various fields such as photovoltaics, communication, lightning protection, power supply, and power strips. It serves to suppress transient overvoltage and absorb surge energy within the circuit.

SETsafe | SETfuse offers Metal Oxide Varistors (MOV) with maximum peak current ratings ranging from 0.75 kA to 70 kA, and maximum continuous voltage ratings from 14VAC to 750 VAC. Safety certification includes UL, cUL, TUV, and CQC, and complies with RoHS and REACH requirements.

## Product Structure



## Lead Types

| Lead Types           | Codes |
|----------------------|-------|
| Straight Lead        | A     |
| Outward Crimp Lead   | C     |
| Inline Crimp Lead    | I     |
| Little Straight Lead | D     |

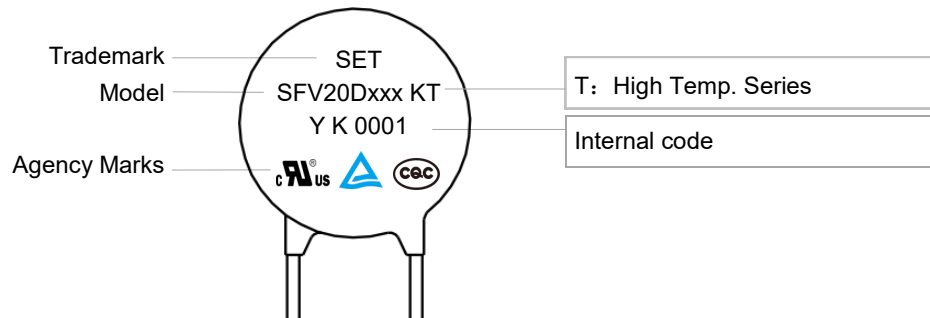
## Agency Information

| Agency | Standards   | No.            |
|--------|---|----------------|
|        | UL 1449 4 <sup>th</sup> Edition   | E322662        |
|        | CSA C22.2 NO.269.5-17   | E322662        |
|        | EN IEC 61051-1:2018<br>EN IEC 61051-2:2021<br>IEC 61051-2-2:1991<br>Annex G.8.1 of IEC 62368-1:2018 | J 50239739     |
|        | GB/T 10193-1997<br>GB/T 10194-1997<br>GB 4943.1-2022<br>IEC 61051-2:1991+Amd1:2009                  | CQC16001152393 |

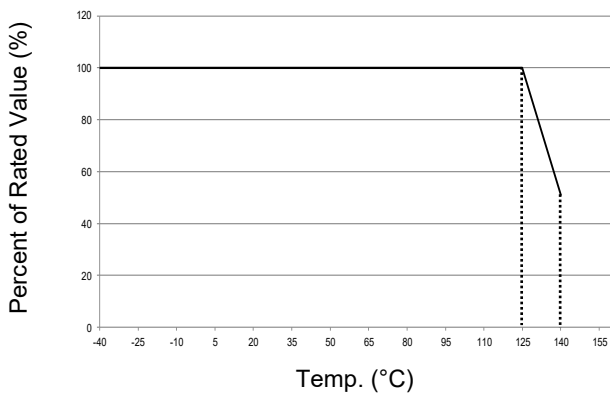
## Applications

- Power Supplies
- Home Electrical Appliances
- Industrial Devices
- Surge Protectors
- Telecom Devices

### Marking



### Temp. Derating Curve



**Note:**

For high temp. series, when ambient temp. exceeds 125 °C, the peak surge current and energy rating should be reduced as shown in the left curve.

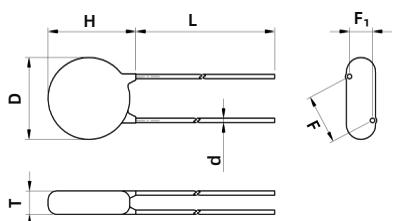
For High Temp. Series Products

### General Technical Data

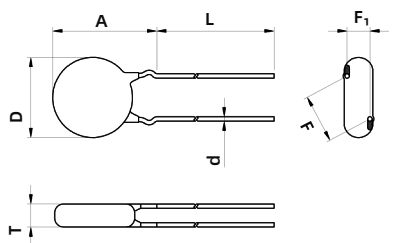
| Item                  | Value       | Unit            |
|-----------------------|-------------|-----------------|
| Operating Temperature | -40 to +125 | °C              |
| Storage Temperature   | -40 to +150 | °C              |
| Voltage Proof         | ≥2500       | V <sub>ac</sub> |
| Insulation Resistance | ≥100        | MΩ              |

**Dimensions (mm)**

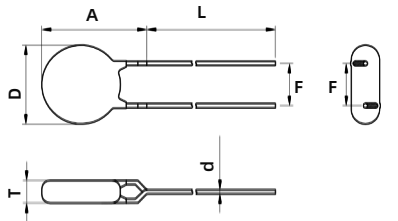
| Model       | L (Min.) | H (Max.) | T (Max.) | D (Max.) | d         | F        | F <sub>1</sub> | A (Max.) |
|-------------|----------|----------|----------|----------|-----------|----------|----------------|----------|
| SFV20D220KT | 7        | 25.5     | 5.3      | 23       | 1.00±0.05 | 10.0±0.5 | 1.3 ~ 2.7      | 27.5     |
| SFV20D270KT | 7        | 25.5     | 5.6      | 23       | 1.00±0.05 | 10.0±0.5 | 1.4 ~ 2.9      | 27.5     |
| SFV20D330KT | 7        | 25.5     | 5.9      | 23       | 1.00±0.05 | 10.0±0.5 | 1.5 ~ 3.1      | 27.5     |
| SFV20D390KT | 7        | 25.5     | 6.2      | 23       | 1.00±0.05 | 10.0±0.5 | 1.6 ~ 3.3      | 27.5     |
| SFV20D470KT | 7        | 25.5     | 5.4      | 23       | 1.00±0.05 | 10.0±0.5 | 1.4 ~ 2.9      | 27.5     |
| SFV20D560KT | 7        | 25.5     | 5.6      | 23       | 1.00±0.05 | 10.0±0.5 | 1.5 ~ 3.1      | 27.5     |
| SFV20D680KT | 7        | 25.5     | 5.9      | 23       | 1.00±0.05 | 10.0±0.5 | 1.6 ~ 3.4      | 27.5     |
| SFV20D820KT | 7        | 25.5     | 5.2      | 23       | 1.00±0.05 | 10.0±0.5 | 1.4 ~ 2.8      | 27.5     |
| SFV20D101KT | 7        | 25.5     | 5.4      | 23       | 1.00±0.05 | 10.0±0.5 | 1.5 ~ 3.0      | 27.5     |
| SFV20D121KT | 7        | 25.5     | 5.6      | 23       | 1.00±0.05 | 10.0±0.5 | 1.6 ~ 3.2      | 27.5     |
| SFV20D151KT | 7        | 25.5     | 5.9      | 23       | 1.00±0.05 | 10.0±0.5 | 1.7 ~ 3.5      | 27.5     |
| SFV20D181KT | 7        | 25.5     | 5.3      | 23       | 1.00±0.05 | 10.0±0.5 | 1.0 ~ 2.9      | 27.5     |
| SFV20D201KT | 7        | 25.5     | 5.5      | 23       | 1.00±0.05 | 10.0±0.5 | 1.0 ~ 3.0      | 27.5     |
| SFV20D221KT | 7        | 25.5     | 5.6      | 23       | 1.00±0.05 | 10.0±0.5 | 1.0 ~ 3.0      | 27.5     |
| SFV20D241KT | 7        | 25.5     | 5.7      | 23       | 1.00±0.05 | 10.0±0.5 | 1.1 ~ 3.1      | 27.5     |
| SFV20D271KT | 7        | 25.5     | 5.9      | 23       | 1.00±0.05 | 10.0±0.5 | 1.3 ~ 3.3      | 27.5     |
| SFV20D301KT | 7        | 25.5     | 6.1      | 23       | 1.00±0.05 | 10.0±0.5 | 1.4 ~ 3.4      | 27.5     |
| SFV20D331KT | 7        | 25.5     | 6.2      | 23       | 1.00±0.05 | 10.0±0.5 | 1.6 ~ 3.6      | 27.5     |
| SFV20D361KT | 7        | 25.5     | 6.4      | 23       | 1.00±0.05 | 10.0±0.5 | 1.7 ~ 3.7      | 27.5     |
| SFV20D391KT | 7        | 25.5     | 6.6      | 23       | 1.00±0.05 | 10.0±0.5 | 1.9 ~ 3.9      | 27.5     |
| SFV20D431KT | 7        | 25.5     | 6.8      | 23       | 1.00±0.05 | 10.0±0.5 | 2.0 ~ 4.0      | 27.5     |
| SFV20D471KT | 7        | 25.5     | 7.1      | 23       | 1.00±0.05 | 10.0±0.5 | 2.2 ~ 4.2      | 27.5     |
| SFV20D511KT | 7        | 25.5     | 7.3      | 23       | 1.00±0.05 | 10.0±0.5 | 2.4 ~ 4.4      | 27.5     |
| SFV20D561KT | 7        | 25.5     | 7.6      | 23       | 1.00±0.05 | 10.0±0.5 | 2.7 ~ 4.7      | 27.5     |
| SFV20D621KT | 7        | 25.5     | 8.0      | 23       | 1.00±0.05 | 10.0±0.5 | 3.0 ~ 5.0      | 27.5     |
| SFV20D681KT | 7        | 25.5     | 8.4      | 23       | 1.00±0.05 | 10.0±0.5 | 3.2 ~ 5.2      | 27.5     |
| SFV20D751KT | 7        | 25.5     | 8.8      | 23       | 1.00±0.05 | 10.0±0.5 | 3.6 ~ 5.6      | 27.5     |
| SFV20D821KT | 7        | 25.5     | 9.2      | 23       | 1.00±0.05 | 10.0±0.5 | 3.9 ~ 5.9      | 27.5     |
| SFV20D911KT | 7        | 25.5     | 9.8      | 23       | 1.00±0.05 | 10.0±0.5 | 4.3 ~ 6.3      | 27.5     |
| SFV20D102KT | 7        | 25.5     | 10.3     | 23       | 1.00±0.05 | 10.0±0.5 | 4.8 ~ 6.8      | 27.5     |
| SFV20D112KT | 7        | 25.5     | 10.9     | 23       | 1.00±0.05 | 10.0±0.5 | 5.2 ~ 7.2      | 27.5     |
| SFV20D122KT | 7        | 25.5     | 11.5     | 23       | 1.00±0.05 | 10.0±0.5 | 5.7 ~ 7.7      | 27.5     |



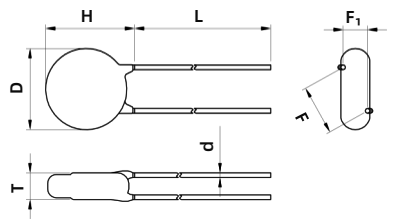
Straight Lead (A)



Outward Crimp (C)



Inline Crimp (D)

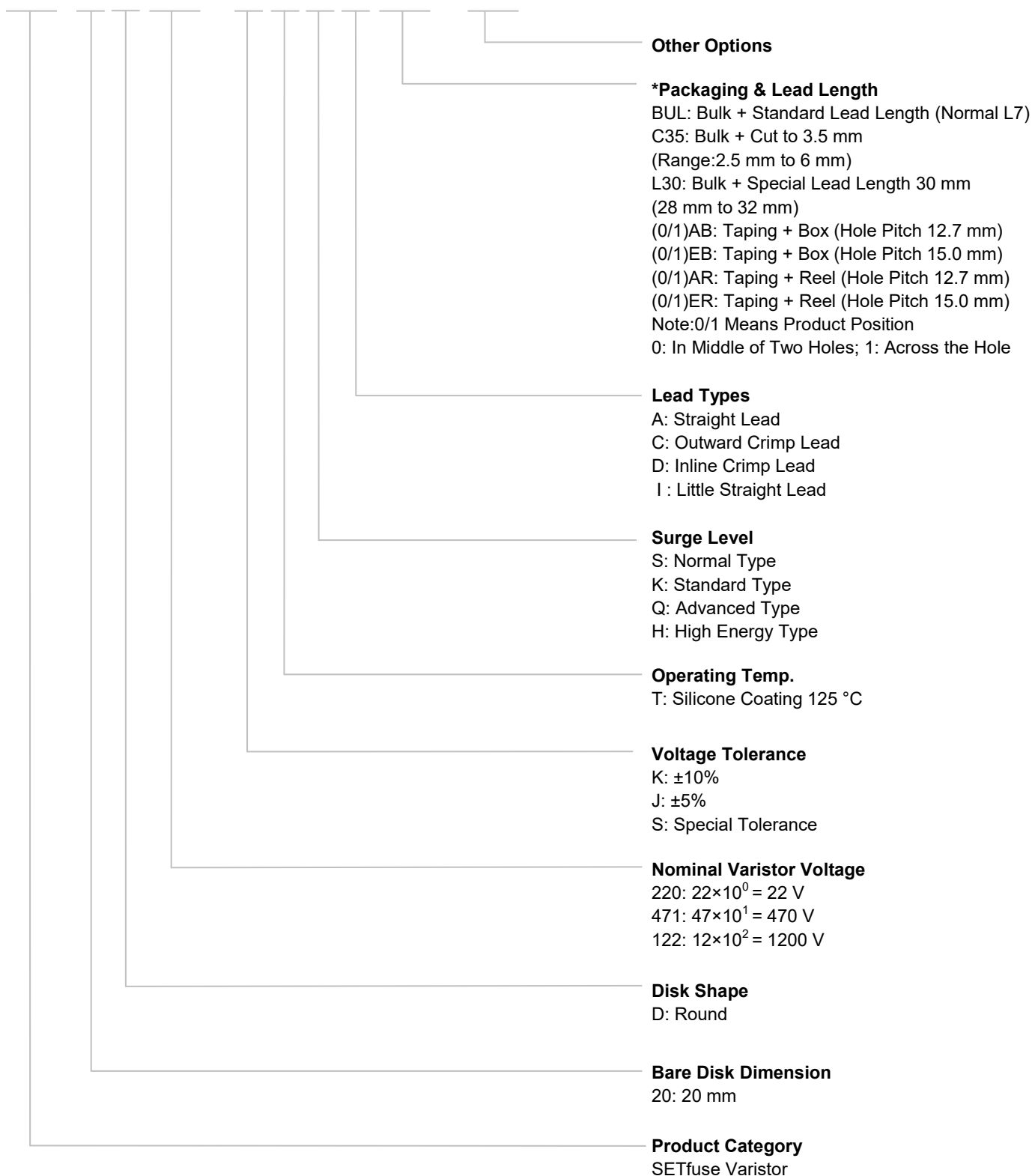


Little Straight Lead (I)

Note:  
The above data is for reference only.

### Part Numbering System

SFV 20 D 471 - K T K A BUL - 001



**Reminder:**

Part numbering system in the datasheet is only for selecting correct parameter and product features. Before placing order, please contact us for specifications and use the part number and product code in the specifications to place order to ensure the part is correct. Product code is the unique identification.

**Specification**

| Model       | Surge Level | Max. Continuous Operating Voltage |     | Varistor Voltage @1 mA DC |      | Clamping Voltage (Max.) |                | Max. Peak Current (1 time, 8/20 μs) | Max. Energy (10/1000 μs) | Typical Capacitance (For reference only) @1 kHz | Agency Information |     |    |     |     |     |
|-------------|-------------|-----------------------------------|-----|---------------------------|------|-------------------------|----------------|-------------------------------------|--------------------------|---|--------------------|-----|----|-----|-----|-----|
|             |             | VAC                               | VDC | Min.                      | Max. | V <sub>C</sub>          | I <sub>P</sub> |                                     |                          |   | S                  |     | UL | cUL | TUV | CQC |
|             |             | (V)                               | (V) | (V)                       | (V)  | (V)                     | (A)            |                                     |                          |   | (kA)               | (J) |    |     |     |     |
| SFV20D220KT | S           | 14                                | 18  | 20                        | 24   | 43                      | 20             | 2                                   | 14                       | 18500   | ○                  | ○   | ●  | ●   |     |     |
| SFV20D270KT | S           | 17                                | 22  | 24                        | 31   | 53                      | 20             | 2                                   | 16                       | 13000   | ○                  | ○   | ●  | ●   |     |     |
| SFV20D330KT | S           | 20                                | 26  | 30                        | 36   | 65                      | 20             | 2                                   | 23                       | 11500   | ○                  | ○   | ●  | ●   |     |     |
| SFV20D390KT | S           | 25                                | 31  | 35                        | 43   | 77                      | 20             | 2                                   | 26                       | 8500  | ○                  | ○   | ●  | ●   |     |     |
| SFV20D470KT | S           | 30                                | 38  | 42                        | 52   | 93                      | 20             | 2                                   | 30                       | 8000  | ○                  | ○   | ●  | ●   |     |     |
| SFV20D560KT | S           | 35                                | 45  | 50                        | 62   | 110                     | 20             | 2                                   | 41                       | 7000  | ○                  | ○   | ●  | ●   |     |     |
| SFV20D680KT | S           | 40                                | 56  | 61                        | 75   | 135                     | 20             | 2                                   | 46                       | 6200  | ○                  | ○   | ●  | ●   |     |     |
| SFV20D820KT | S           | 50                                | 65  | 74                        | 90   | 135                     | 100            | 6.5                                 | 38                       | 4900  | ●                  | ●   | ●  | ●   |     |     |
| SFV20D101KT | S           | 60                                | 85  | 90                        | 110  | 165                     | 100            | 6.5                                 | 45                       | 4000  | ●                  | ●   | ●  | ●   |     |     |
| SFV20D121KT | S           | 75                                | 100 | 108                       | 132  | 200                     | 100            | 6.5                                 | 55                       | 3400  | ●                  | ●   | ●  | ●   |     |     |
| SFV20D151KT | S           | 95                                | 125 | 135                       | 165  | 250                     | 100            | 6.5                                 | 70                       | 2700  | ●                  | ●   | ●  | ●   |     |     |
| SFV20D181KT | S           | 115                               | 150 | 162                       | 198  | 300                     | 100            | 6.5                                 | 85                       | 2200  | ●                  | ●   | ●  | ●   |     |     |
| SFV20D201KT | S           | 130                               | 170 | 180                       | 220  | 340                     | 100            | 6.5                                 | 95                       | 2000  | ●                  | ●   | ●  | ●   |     |     |
| SFV20D221KT | S           | 140                               | 180 | 198                       | 242  | 360                     | 100            | 6.5                                 | 100                      | 1800  | ●                  | ●   | ●  | ●   |     |     |
| SFV20D241KT | S           | 150                               | 200 | 216                       | 264  | 395                     | 100            | 6.5                                 | 108                      | 1650  | ●                  | ●   | ●  | ●   |     |     |
| SFV20D271KT | S           | 175                               | 225 | 243                       | 297  | 455                     | 100            | 6.5                                 | 127                      | 1500  | ●                  | ●   | ●  | ●   |     |     |
| SFV20D301KT | S           | 190                               | 250 | 270                       | 330  | 500                     | 100            | 6.5                                 | 136                      | 1300  | ●                  | ●   | ●  | ●   |     |     |
| SFV20D331KT | S           | 210                               | 275 | 297                       | 363  | 550                     | 100            | 6.5                                 | 150                      | 1200  | ●                  | ●   | ●  | ●   |     |     |
| SFV20D361KT | S           | 230                               | 300 | 324                       | 396  | 595                     | 100            | 6.5                                 | 163                      | 1100  | ●                  | ●   | ●  | ●   |     |     |
| SFV20D391KT | S           | 250                               | 320 | 351                       | 429  | 650                     | 100            | 6.5                                 | 180                      | 1000  | ●                  | ●   | ●  | ●   |     |     |
| SFV20D431KT | S           | 275                               | 350 | 387                       | 473  | 710                     | 100            | 6.5                                 | 190                      | 930   | ●                  | ●   | ●  | ●   |     |     |
| SFV20D471KT | S           | 300                               | 385 | 423                       | 517  | 775                     | 100            | 6.5                                 | 220                      | 850   | ●                  | ●   | ●  | ●   |     |     |
| SFV20D511KT | S           | 320                               | 415 | 459                       | 561  | 845                     | 100            | 6.5                                 | 220                      | 780   | ●                  | ●   | ●  | ●   |     |     |
| SFV20D561KT | S           | 350                               | 460 | 504                       | 616  | 925                     | 100            | 6.5                                 | 220                      | 710   | ●                  | ●   | ●  | ●   |     |     |
| SFV20D621KT | S           | 385                               | 505 | 558                       | 682  | 1025                    | 100            | 6.5                                 | 220                      | 650   | ●                  | ●   | ●  | ●   |     |     |
| SFV20D681KT | S           | 420                               | 560 | 612                       | 748  | 1120                    | 100            | 6.5                                 | 230                      | 600   | ●                  | ●   | ●  | ●   |     |     |
| SFV20D751KT | S           | 460                               | 615 | 675                       | 825  | 1240                    | 100            | 6.5                                 | 255                      | 530   | ●                  | ●   | ●  | ●   |     |     |
| SFV20D821KT | S           | 510                               | 670 | 738                       | 902  | 1355                    | 100            | 6.5                                 | 282                      | 500   | ●                  | ●   | ●  | ●   |     |     |
| SFV20D911KT | S           | 550                               | 745 | 819                       | 1001 | 1500                    | 100            | 6.5                                 | 310                      | 440   | ●                  | ●   | ●  | ●   |     |     |
| SFV20D102KT | S           | 625                               | 825 | 900                       | 1100 | 1650                    | 100            | 6.5                                 | 342                      | 400   | ●                  | ●   | ●  | ●   |     |     |
| SFV20D112KT | S           | 680                               | 895 | 990                       | 1210 | 1815                    | 100            | 6.5                                 | 383                      | 360   | ●                  | ●   | ●  | ●   |     |     |
| SFV20D122KT | S           | 750                               | 990 | 1080                      | 1320 | 1980                    | 100            | 6.5                                 | 408                      | 320   | ●                  | ●   | ●  | ●   |     |     |





● : Approved      ○ : Unauthorized      ● : RoHS & REACH Compliant

**Specification**

| Model       | Surge Level | Max. Continuous Operating Voltage |     | Varistor Voltage @1 mA DC |      | Clamping Voltage (Max.) |                | Max. Peak Current (1 time, 8/20 μs) | Max. Energy (10/1000 μs) | Typical Capacitance (For reference only) @1 kHz | Agency Information |   |      |    |
|-------------|-------------|-----------------------------------|-----|---------------------------|------|-------------------------|----------------|-------------------------------------|--------------------------|---|--------------------|---|------|----|
|             |             | VAC                               | VDC | Min.                      | Max. | V <sub>C</sub>          | I <sub>P</sub> |                                     |                          |   | K                  |   | (pF) | UL |
|             |             | (V)                               | (V) | (V)                       | (V)  | (V)                     | (A)            | (kA)                                | (J)                      |   |                    |   |      |    |
| SFV20D220KT | K           | 14                                | 18  | 20                        | 24   | 43                      | 20             | 3                                   | 16                       | 18500   | ○                  | ○ | ●    | ●  |
| SFV20D270KT | K           | 17                                | 22  | 24                        | 31   | 53                      | 20             | 3                                   | 19                       | 13000   | ○                  | ○ | ●    | ●  |
| SFV20D330KT | K           | 20                                | 26  | 30                        | 36   | 65                      | 20             | 3                                   | 24                       | 11500   | ○                  | ○ | ●    | ●  |
| SFV20D390KT | K           | 25                                | 31  | 35                        | 43   | 77                      | 20             | 3                                   | 28                       | 8500  | ○                  | ○ | ●    | ●  |
| SFV20D470KT | K           | 30                                | 38  | 42                        | 52   | 93                      | 20             | 3                                   | 34                       | 8000  | ○                  | ○ | ●    | ●  |
| SFV20D560KT | K           | 35                                | 45  | 50                        | 62   | 110                     | 20             | 3                                   | 41                       | 7000  | ○                  | ○ | ●    | ●  |
| SFV20D680KT | K           | 40                                | 56  | 61                        | 75   | 135                     | 20             | 3                                   | 49                       | 6200  | ○                  | ○ | ●    | ●  |
| SFV20D820KT | K           | 50                                | 65  | 74                        | 90   | 135                     | 100            | 10                                  | 56                       | 4900  | ●                  | ● | ●    | ●  |
| SFV20D101KT | K           | 60                                | 85  | 90                        | 110  | 165                     | 100            | 10                                  | 70                       | 4000  | ●                  | ● | ●    | ●  |
| SFV20D121KT | K           | 75                                | 100 | 108                       | 132  | 200                     | 100            | 10                                  | 85                       | 3400  | ●                  | ● | ●    | ●  |
| SFV20D151KT | K           | 95                                | 125 | 135                       | 165  | 250                     | 100            | 10                                  | 106                      | 2700  | ●                  | ● | ●    | ●  |
| SFV20D181KT | K           | 115                               | 150 | 162                       | 198  | 300                     | 100            | 10                                  | 130                      | 2200  | ●                  | ● | ●    | ●  |
| SFV20D201KT | K           | 130                               | 170 | 180                       | 220  | 340                     | 100            | 10                                  | 140                      | 2000  | ●                  | ● | ●    | ●  |
| SFV20D221KT | K           | 140                               | 180 | 198                       | 242  | 360                     | 100            | 10                                  | 155                      | 1800  | ●                  | ● | ●    | ●  |
| SFV20D241KT | K           | 150                               | 200 | 216                       | 264  | 395                     | 100            | 10                                  | 168                      | 1650  | ●                  | ● | ●    | ●  |
| SFV20D271KT | K           | 175                               | 225 | 243                       | 297  | 455                     | 100            | 10                                  | 190                      | 1500  | ●                  | ● | ●    | ●  |
| SFV20D301KT | K           | 190                               | 250 | 270                       | 330  | 500                     | 100            | 10                                  | 210                      | 1300  | ●                  | ● | ●    | ●  |
| SFV20D331KT | K           | 210                               | 275 | 297                       | 363  | 550                     | 100            | 10                                  | 228                      | 1200  | ●                  | ● | ●    | ●  |
| SFV20D361KT | K           | 230                               | 300 | 324                       | 396  | 595                     | 100            | 10                                  | 255                      | 1100  | ●                  | ● | ●    | ●  |
| SFV20D391KT | K           | 250                               | 320 | 351                       | 429  | 650                     | 100            | 10                                  | 275                      | 1000  | ●                  | ● | ●    | ●  |
| SFV20D431KT | K           | 275                               | 350 | 387                       | 473  | 710                     | 100            | 10                                  | 305                      | 930   | ●                  | ● | ●    | ●  |
| SFV20D471KT | K           | 300                               | 385 | 423                       | 517  | 775                     | 100            | 10                                  | 350                      | 850   | ●                  | ● | ●    | ●  |
| SFV20D511KT | K           | 320                               | 415 | 459                       | 561  | 845                     | 100            | 10                                  | 360                      | 780   | ●                  | ● | ●    | ●  |
| SFV20D561KT | K           | 350                               | 460 | 504                       | 616  | 925                     | 100            | 10                                  | 380                      | 710   | ●                  | ● | ●    | ●  |
| SFV20D621KT | K           | 385                               | 505 | 558                       | 682  | 1025                    | 100            | 10                                  | 390                      | 650   | ●                  | ● | ●    | ●  |
| SFV20D681KT | K           | 420                               | 560 | 612                       | 748  | 1120                    | 100            | 10                                  | 400                      | 600   | ●                  | ● | ●    | ●  |
| SFV20D751KT | K           | 460                               | 615 | 675                       | 825  | 1240                    | 100            | 10                                  | 420                      | 530   | ●                  | ● | ●    | ●  |
| SFV20D821KT | K           | 510                               | 670 | 738                       | 902  | 1355                    | 100            | 10                                  | 460                      | 500   | ●                  | ● | ●    | ●  |
| SFV20D911KT | K           | 550                               | 745 | 819                       | 1001 | 1500                    | 100            | 10                                  | 510                      | 440   | ●                  | ● | ●    | ●  |
| SFV20D102KT | K           | 625                               | 825 | 900                       | 1100 | 1650                    | 100            | 10                                  | 565                      | 400   | ●                  | ● | ●    | ●  |
| SFV20D112KT | K           | 680                               | 895 | 990                       | 1210 | 1815                    | 100            | 10                                  | 620                      | 360   | ●                  | ● | ●    | ●  |
| SFV20D122KT | K           | 750                               | 990 | 1080                      | 1320 | 1980                    | 100            | 10                                  | 660                      | 320   | ●                  | ● | ●    | ●  |

●: Approved      ○: Unauthorized      ●: RoHS & REACH Compliant

**Specification**

| Model       | Surge Level | Max. Continuous Operating Voltage |     | Varistor Voltage @1 mA DC |      | Clamping Voltage (Max.) |                | Max. Peak Current (1 time, 8/20 μs) | Max. Energy (8/20 μs) | Typical Capacitance (For reference only) @1 kHz | Agency Information |     |      |   |   |   |   |
|-------------|-------------|-----------------------------------|-----|---------------------------|------|-------------------------|----------------|-------------------------------------|-----------------------|---|--------------------|-----|------|---|---|---|---|
|             |             | VAC                               | VDC | Min.                      | Max. | V <sub>C</sub>          | I <sub>P</sub> |                                     |                       |   | H                  |     | (pF) |  |  |  |  |
|             |             | (V)                               | (V) | (V)                       | (V)  | (V)                     | (A)            |                                     |                       |   | (kA)               | (J) |      | UL  | cUL   | TUV   | CQC   |
| SFV20D201KT | H           | 130                               | 170 | 180                       | 220  | 340                     | 100            | 13                                  | 300                   | 2000  | ●                  | ●   | ●    | ●   |   |   |   |
| SFV20D221KT | H           | 140                               | 180 | 198                       | 242  | 360                     | 100            | 13                                  | 320                   | 1800  | ●                  | ●   | ●    | ●   |   |   |   |
| SFV20D241KT | H           | 150                               | 200 | 216                       | 264  | 395                     | 100            | 13                                  | 340                   | 1650  | ●                  | ●   | ●    | ●   |   |   |   |
| SFV20D271KT | H           | 175                               | 225 | 243                       | 297  | 455                     | 100            | 13                                  | 380                   | 1500  | ●                  | ●   | ●    | ●   |   |   |   |
| SFV20D301KT | H           | 190                               | 250 | 270                       | 330  | 500                     | 100            | 13                                  | 400                   | 1300  | ●                  | ●   | ●    | ●   |   |   |   |
| SFV20D331KT | H           | 210                               | 275 | 297                       | 363  | 550                     | 100            | 13                                  | 440                   | 1200  | ●                  | ●   | ●    | ●   |   |   |   |
| SFV20D361KT | H           | 230                               | 300 | 324                       | 396  | 595                     | 100            | 13                                  | 470                   | 1100  | ●                  | ●   | ●    | ●   |   |   |   |
| SFV20D391KT | H           | 250                               | 320 | 351                       | 429  | 650                     | 100            | 13                                  | 510                   | 1000  | ●                  | ●   | ●    | ●   |   |   |   |
| SFV20D431KT | H           | 275                               | 350 | 387                       | 473  | 710                     | 100            | 13                                  | 550                   | 930   | ●                  | ●   | ●    | ●   |   |   |   |
| SFV20D471KT | H           | 300                               | 385 | 423                       | 517  | 775                     | 100            | 13                                  | 600                   | 850   | ●                  | ●   | ●    | ●   |   |   |   |
| SFV20D511KT | H           | 320                               | 415 | 459                       | 561  | 845                     | 100            | 13                                  | 650                   | 780   | ●                  | ●   | ●    | ●   |   |   |   |
| SFV20D561KT | H           | 350                               | 460 | 504                       | 616  | 925                     | 100            | 13                                  | 700                   | 710   | ●                  | ●   | ●    | ●   |   |   |   |
| SFV20D621KT | H           | 385                               | 505 | 558                       | 682  | 1025                    | 100            | 13                                  | 700                   | 650   | ●                  | ●   | ●    | ●   |   |   |   |
| SFV20D681KT | H           | 420                               | 560 | 612                       | 748  | 1120                    | 100            | 13                                  | 800                   | 600   | ●                  | ●   | ●    | ●   |   |   |   |

●: Approved      ○: Unauthorized      ●: RoHS & REACH Compliant

**Specification**

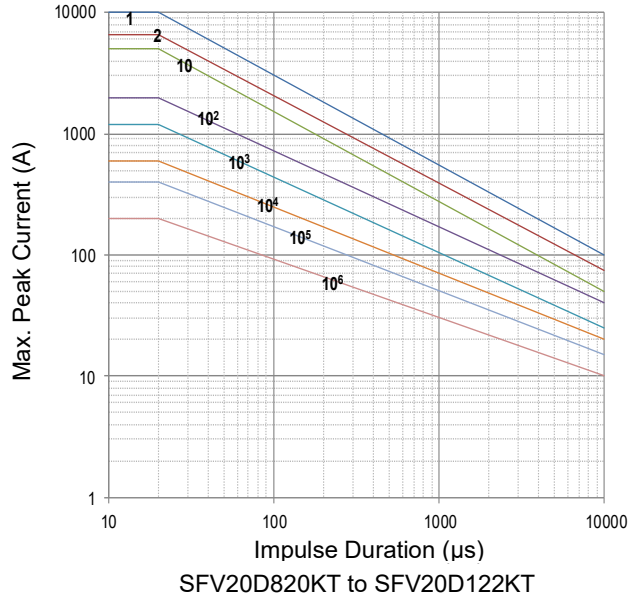
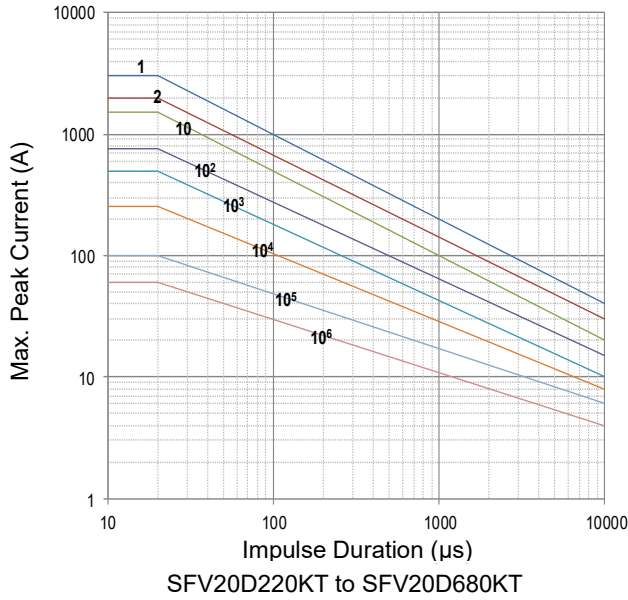
| Model       | Surge Level | Max. Continuous Operating Voltage |     | Varistor Voltage @1 mA DC |      | Clamping Voltage (Max.) |                | Pulse Impact Performance (40 times) (1.2/50 μs & 8/20 μs) | Max. Energy (10/1000 μs) | Typical Capacitance (For reference only) @1 kHz | Agency Information |     |      |    |     |     |     |
|-------------|-------------|-----------------------------------|-----|---------------------------|------|-------------------------|----------------|---|--------------------------|---|--------------------|-----|------|----|-----|-----|-----|
|             |             | VAC                               | VDC | Min.                      | Max. | V <sub>C</sub>          | I <sub>P</sub> |   |                          |   | Q                  |     | (pF) | UL | cUL | TUV | CQC |
|             |             | (V)                               | (V) | (V)                       | (V)  | (V)                     | (A)            |   |                          |   | (kV)               | (J) |      | UL | cUL | TUV | CQC |
| SFV20D201KT | Q           | 130                               | 170 | 180                       | 220  | 340                     | 100            | 10  | 140                      | 2000  | ●                  | ●   | ●    | ●  |     |     |     |
| SFV20D221KT | Q           | 140                               | 180 | 198                       | 242  | 360                     | 100            | 10  | 155                      | 1800  | ●                  | ●   | ●    | ●  |     |     |     |
| SFV20D241KT | Q           | 150                               | 200 | 216                       | 264  | 395                     | 100            | 10  | 168                      | 1650  | ●                  | ●   | ●    | ●  |     |     |     |
| SFV20D271KT | Q           | 175                               | 225 | 243                       | 297  | 455                     | 100            | 10  | 190                      | 1500  | ●                  | ●   | ●    | ●  |     |     |     |
| SFV20D301KT | Q           | 190                               | 250 | 270                       | 330  | 500                     | 100            | 10  | 210                      | 1300  | ●                  | ●   | ●    | ●  |     |     |     |
| SFV20D331KT | Q           | 210                               | 275 | 297                       | 363  | 550                     | 100            | 10  | 228                      | 1200  | ●                  | ●   | ●    | ●  |     |     |     |
| SFV20D361KT | Q           | 230                               | 300 | 324                       | 396  | 595                     | 100            | 10  | 255                      | 1100  | ●                  | ●   | ●    | ●  |     |     |     |
| SFV20D391KT | Q           | 250                               | 320 | 351                       | 429  | 650                     | 100            | 10  | 275                      | 1000  | ●                  | ●   | ●    | ●  |     |     |     |
| SFV20D431KT | Q           | 275                               | 350 | 387                       | 473  | 710                     | 100            | 10  | 305                      | 930   | ●                  | ●   | ●    | ●  |     |     |     |
| SFV20D471KT | Q           | 300                               | 385 | 423                       | 517  | 775                     | 100            | 10  | 350                      | 850   | ●                  | ●   | ●    | ●  |     |     |     |
| SFV20D511KT | Q           | 320                               | 415 | 459                       | 561  | 845                     | 100            | 10  | 360                      | 780   | ●                  | ●   | ●    | ●  |     |     |     |
| SFV20D561KT | Q           | 350                               | 460 | 504                       | 616  | 925                     | 100            | 10  | 380                      | 710   | ●                  | ●   | ●    | ●  |     |     |     |
| SFV20D621KT | Q           | 385                               | 505 | 558                       | 682  | 1025                    | 100            | 10  | 390                      | 650   | ●                  | ●   | ●    | ●  |     |     |     |
| SFV20D681KT | Q           | 420                               | 560 | 612                       | 748  | 1120                    | 100            | 10  | 400                      | 600   | ●                  | ●   | ●    | ●  |     |     |     |

●: Approved      ○: Unauthorized      ●: RoHS & REACH Compliant



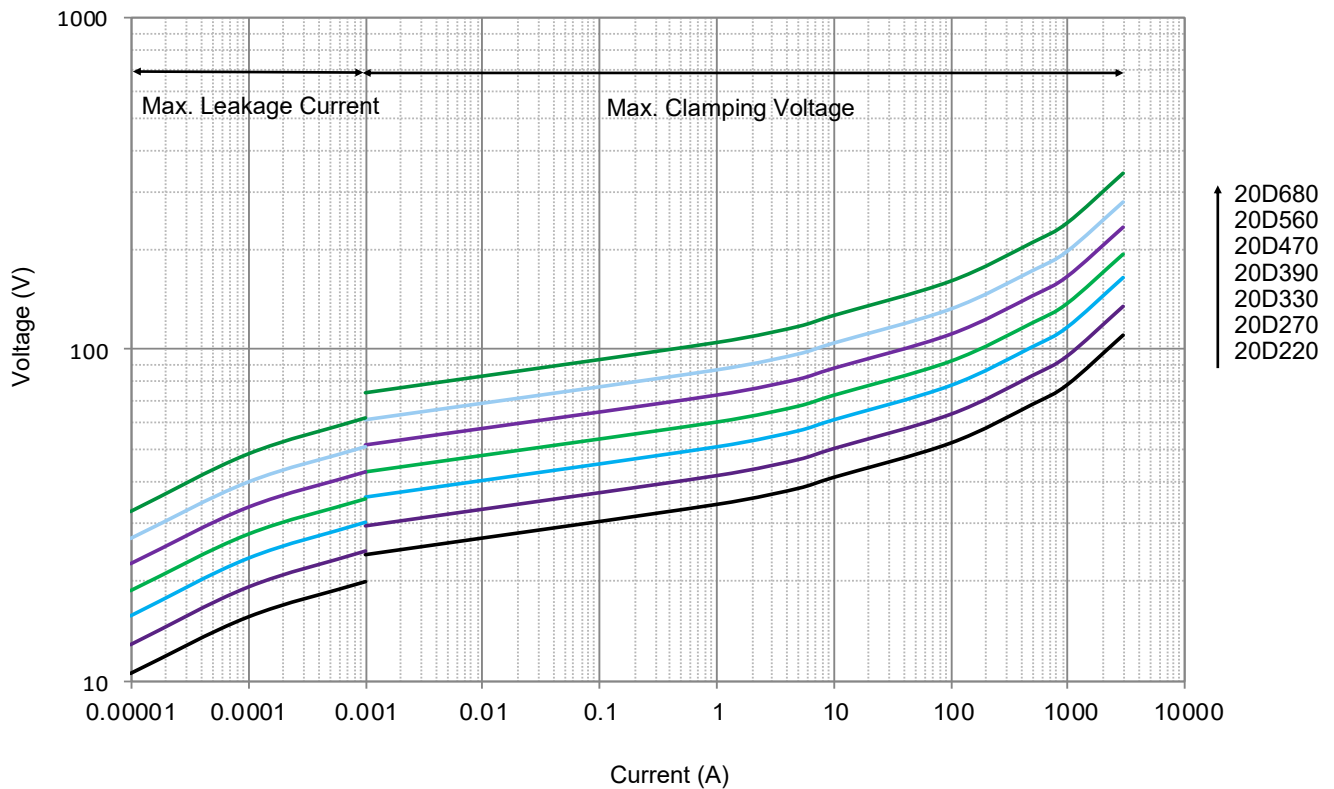
**Performance Curve (For reference only )**

● Max. Peak Current Derating Curves

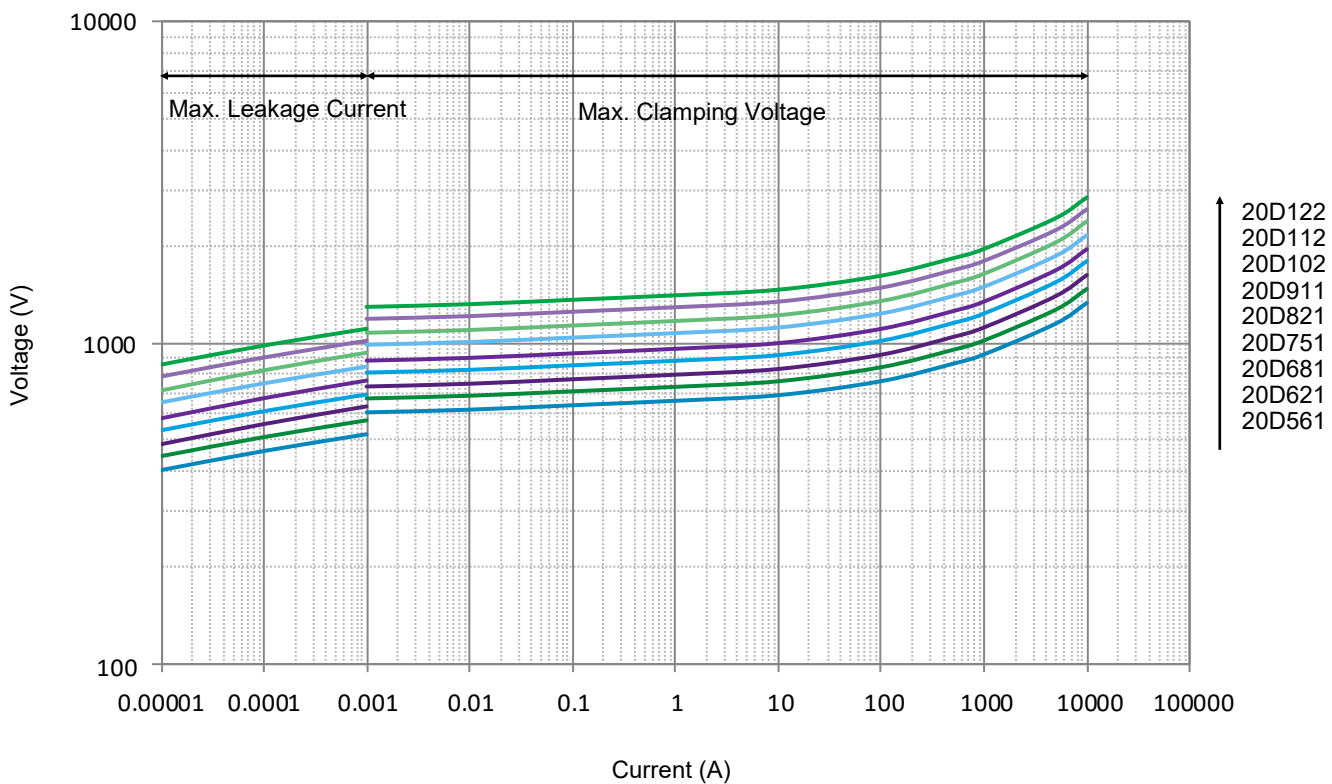
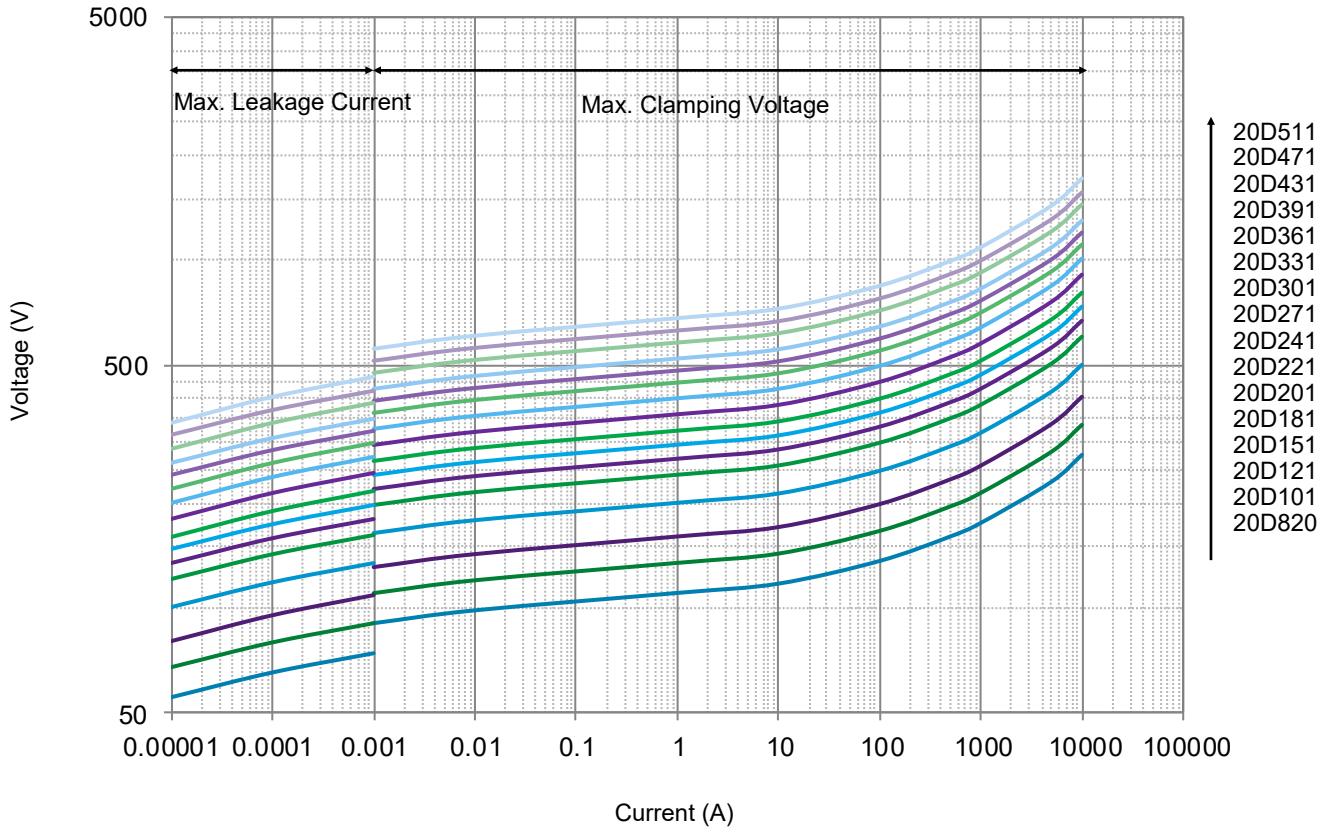


Note: 1, 2, 10, 10<sup>2</sup>, 10<sup>3</sup>, 10<sup>4</sup>, 10<sup>5</sup>, 10<sup>6</sup> Stand for Repetitions.

● Voltage-Current Characteristic Curves



• Voltage-Current Characteristic Curves



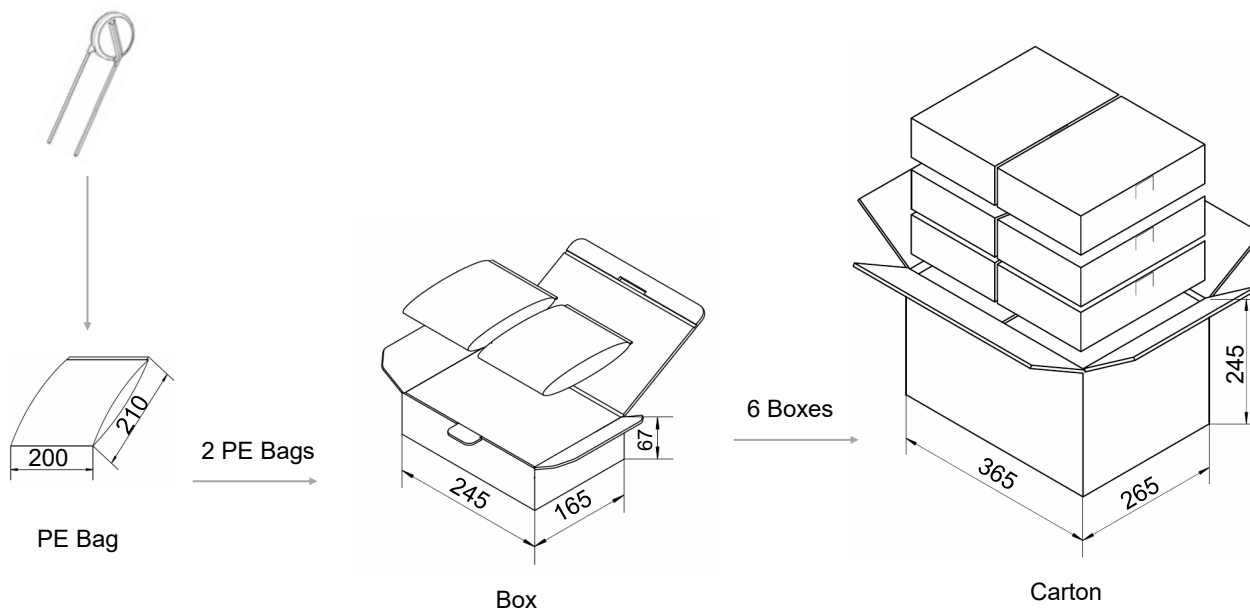
### Packaging Information

- Bulk Packaging (Code: BUL)
- Bulk Packaging Quantity & Weight.

| Series          | Nominal Varistor Voltage | PE Bag | Box   | Carton | G. W / Carton<br>(365 × 265 × 245) |
|-----------------|--------------------------|--------|-------|--------|------------------------------------|
|                 | (V)                      | (PCS)  | (PCS) | (PCS)  | (kg)±10%                           |
| SFV14D T Series | 220 ~ 471                | 100    | 200   | 1200   | 4 ~ 8                              |
|                 | 511 ~ 821                | 80     | 160   | 960    | 6 ~ 13                             |
|                 | 911 ~ 122                |        |       |        |                                    |

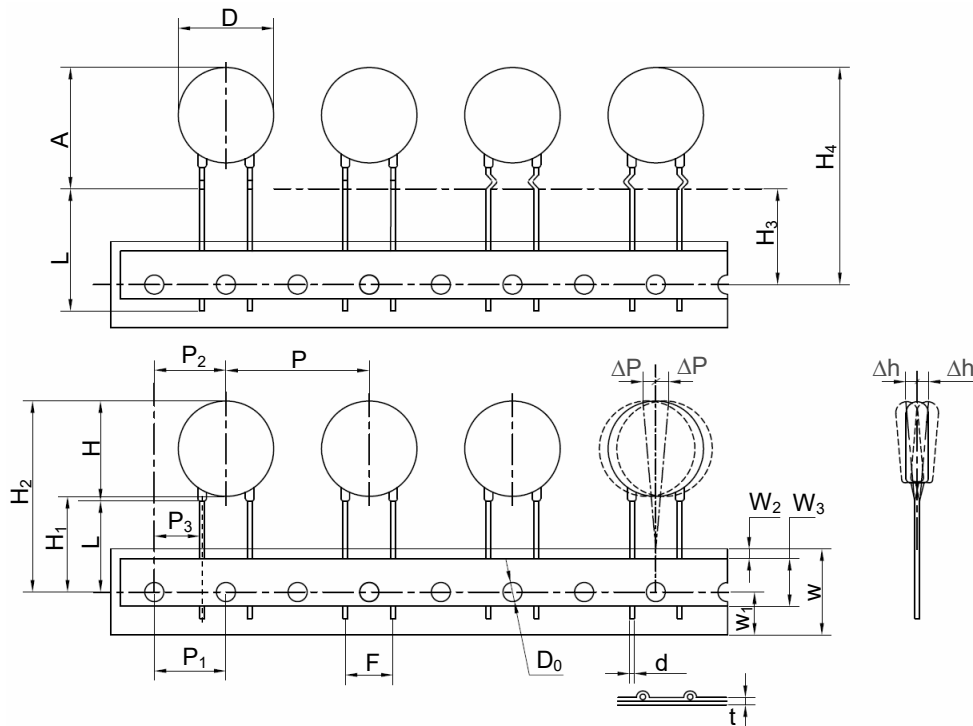
Note:  
Other lead length packaging information, please contact SETsafe | SETfuse.

All Dimensions in mm



### Packaging Information

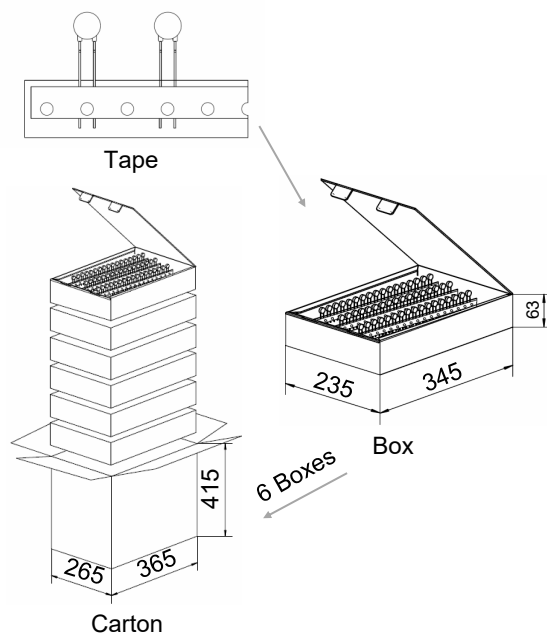
- Tape Packaging (Code: 1EB)



| Dimensions (mm)       |                                    |
|-----------------------|------------------------------------|
| P                     | 30.0±1.0                           |
| P <sub>1</sub>        | 15.0±0.3                           |
| P <sub>2</sub>        | 15.0±1.3                           |
| P <sub>3</sub>        | 10.0±1.0                           |
| ΔP(max.)              | 1.0                                |
| W                     | 18.0±1.0                           |
| W <sub>1</sub>        | 9.0±1.0                            |
| W <sub>2</sub> (max.) | 3.0                                |
| W <sub>3</sub>        | 10.0±2.0                           |
| H(max.)               | 25.5                               |
| H <sub>1</sub>        | 18.0                               |
| H <sub>2</sub> (max.) | 45.0 <sup>+2.0</sup> <sub>-0</sub> |
| H <sub>3</sub>        | 18.0                               |
| H <sub>4</sub> (max.) | 48.0 <sup>+2.0</sup> <sub>-0</sub> |
| Δh(max.)              | 2.0                                |
| t(max.)               | 0.6                                |
| D(max.)               | 23.0                               |
| D <sub>0</sub>        | 4.0±0.2                            |
| d                     | 1.00±0.05                          |
| A(max.)               | 27.5                               |
| F                     | 10.0±0.5                           |
| L(min.)               | Taping                             |

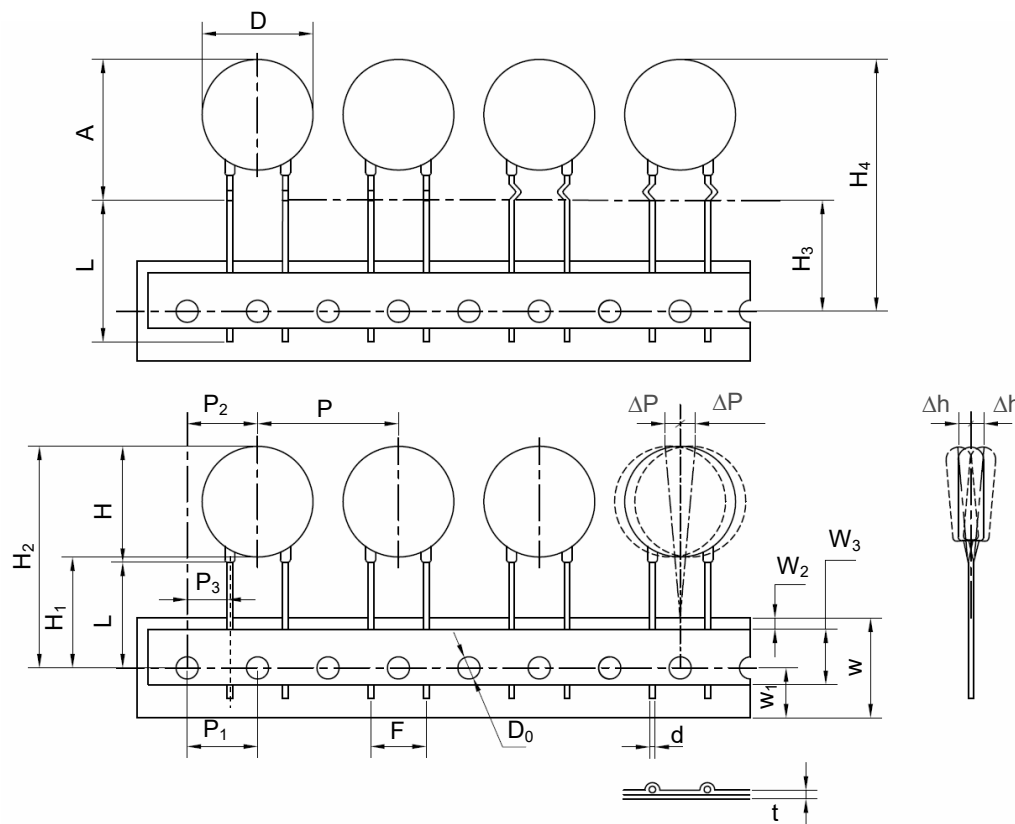
- Tape Packaging Quantity & Weight.

| Series | Nominal Varistor Voltage | Box   | Carton | G. W / Carton (365 × 265 × 415) |
|--------|--------------------------|-------|--------|---------------------------------|
|        | (V)                      | (PCS) | (PCS)  | (kg)±10%                        |
| 20D    | 102 ~ 122                | 200   | 1200   | 14 ~ 16                         |
|        | 751 ~ 911                | 250   | 1500   | 14 ~ 16                         |
|        | 561 ~ 681                | 300   | 1800   | 13 ~ 15                         |
|        | 431 ~ 511                | 350   | 2100   | 13 ~ 14                         |
|        | 331 ~ 391                | 400   | 2400   | 12 ~ 14                         |
|        | 560 ~ 680                |       |        | 12 ~ 13                         |
|        | 241 ~ 301                | 450   | 2700   | 11 ~ 13                         |
|        | 390 ~ 470                |       |        | 11 ~ 12                         |
|        | 181 ~ 221                |       |        | 10 ~ 12                         |
|        | 820 ~ 121                | 500   | 3000   | 10 ~ 11                         |
|        | 220 ~ 330                |       |        | 9 ~ 11                          |



**Packaging Information**

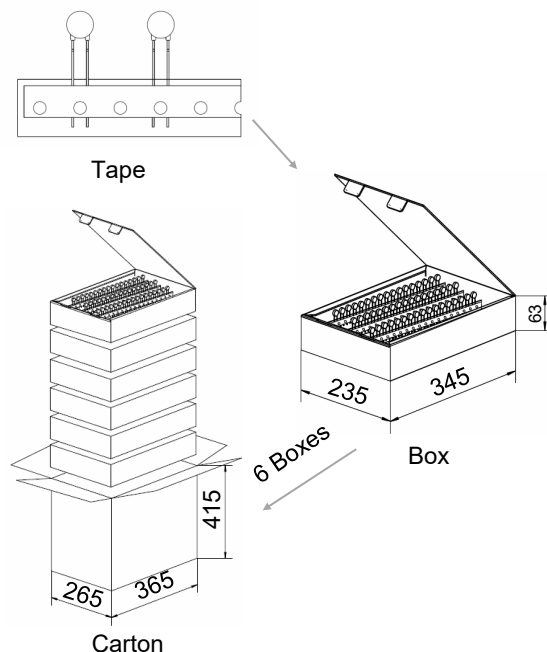
- Tape Packaging (Code: 1AB)



| Dimensions (mm)       |                                    |
|-----------------------|------------------------------------|
| P                     | 25.4±1.0                           |
| P <sub>1</sub>        | 12.7±0.3                           |
| P <sub>2</sub>        | 12.7±1.3                           |
| P <sub>3</sub>        | 7.7±0.7                            |
| ΔP(max.)              | 1.0                                |
| W                     | 18.0±1.0                           |
| W <sub>1</sub>        | 9.0±1.0                            |
| W <sub>2</sub> (max.) | 3.0                                |
| W <sub>3</sub>        | 10.0±2.0                           |
| H(max.)               | 25.5                               |
| H <sub>1</sub>        | 18.0                               |
| H <sub>2</sub> (max.) | 45.0 <sup>+2.0</sup> <sub>-0</sub> |
| H <sub>3</sub>        | 18.0                               |
| H <sub>4</sub> (max.) | 48.0 <sup>+2.0</sup> <sub>-0</sub> |
| Δh(max.)              | 2.0                                |
| t(max.)               | 0.6                                |
| D(max.)               | 23.0                               |
| D <sub>0</sub>        | 4.0±0.2                            |
| d                     | 1.00±0.05                          |
| A(max.)               | 27.5                               |
| F                     | 10.0±1.0                           |
| L(min.)               | Taping                             |

- Tape Packaging Quantity & Weight.

| Series | Nominal Varistor Voltage | Box   | Carton | G. W / Carton (365 × 265 × 415) |
|--------|--------------------------|-------|--------|---------------------------------|
|        | (V)                      | (PCS) | (PCS)  | (kg)±10%                        |
| 20D    | 102 ~ 122                | 250   | 1500   | 19 ~ 22                         |
|        | 751 ~ 911                | 300   | 1800   | 18 ~ 20                         |
|        | 621 ~ 681                | 350   | 2100   | 18 ~ 19                         |
|        | 471 ~ 561                | 400   | 2400   | 17 ~ 19                         |
|        | 391 ~ 431                | 450   | 2700   | 17 ~ 18                         |
|        | 680                      |       |        | 17                              |
|        | 301 ~ 361                | 500   | 3000   | 17 ~ 18                         |
|        | 560                      |       |        | 17                              |
|        | 221 ~ 271                | 550   | 3300   | 17                              |
|        | 151                      |       |        | 16                              |
|        | 390 ~ 470                |       |        | 15 ~ 17                         |
|        | 181 ~ 201                | 600   | 3600   | 14 ~ 15                         |
|        | 820 ~ 121                |       |        | 13 ~ 15                         |
|        | 220 ~ 330                |       |        | 12 ~ 14                         |



## Installation

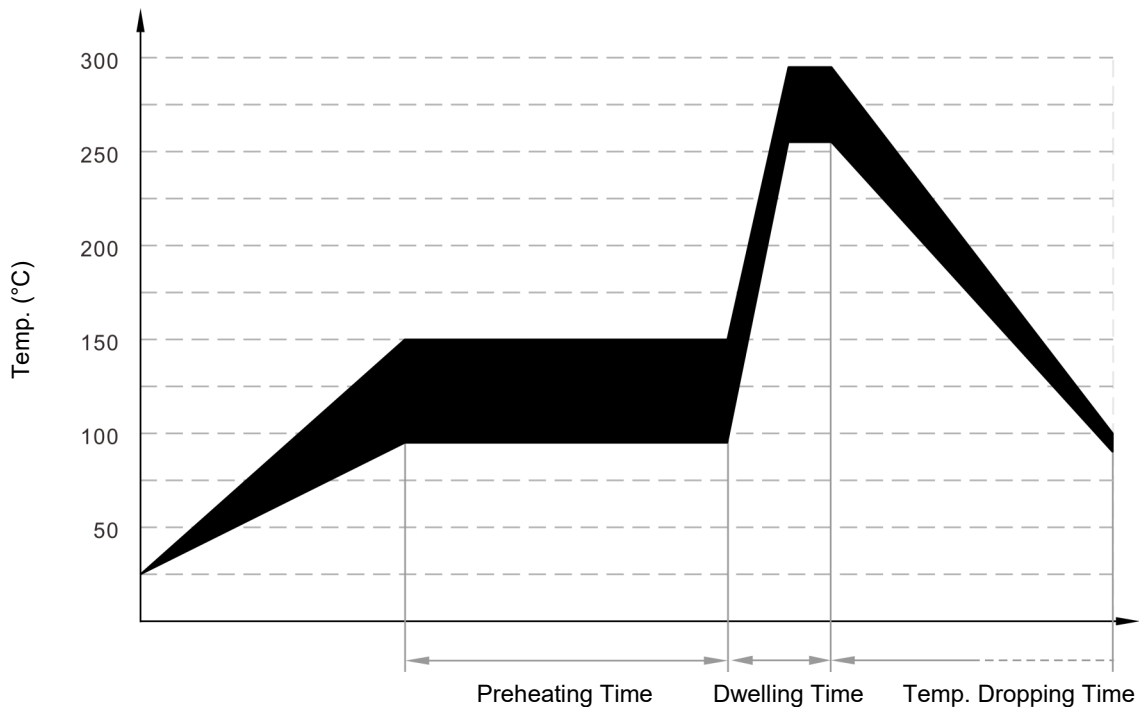
### Mechanical Stress

Do not knock MOV when installing, to avoid mechanical damage.

## Soldering Parameters

### Wave Soldering Parameters

The wave soldering parameters are for reference only. When MOV is for practice use, some related validation is recommended.



Wave Soldering Curve

| Item       | Temp. (°C) | Time (s) |
|------------|------------|----------|
| Preheating | 90 to 150  | <150     |
| Dwelling   | 255 to 290 | 3 to 10  |

## Recommended Hand-Soldering Parameters

| Item                 | Condition        |
|----------------------|------------------|
| Temp. of Solder Head | 350 °C (max.)    |
| Soldering Time       | 4 seconds (max.) |

## Glossary

| Item              | Description  |
|-------------------|--|
| $V_N$             | <b>Nominal Varistor Voltage</b><br>Voltage, at specified D.C. current used as a reference point in the component characteristics.<br>— (GB 18802.331)<br>— (IEC 61051-1)   |
| $I_L$             | <b>Leakage Current</b><br>Measuring at 75% of varistor voltage.<br>— (GB/T 10193)<br>— (IEC 61051-1)   |
| UCT               | <b>Upper Category Temp.</b><br>Max. ambient temp. for which a varistor has been designed to operate continuously.<br>— (GB/T 10193)<br>— (IEC 61051-1)   |
| LCT               | <b>Lower Category Temp.</b><br>Minimum ambient temp. at which a varistor has been designed to operate continuously.<br>— (GB/T 10193)<br>— (IEC 61051-1)   |
| Max. Peak Current | <b>Max. Peak Current</b><br>Max. current per pulse, which may be passed by a varistor at an ambient temp. of 25 °C, for a given number of pulses.<br>— (GB/T 10193)<br>— (IEC 61051-1)   |
| $V_C$             | <b>Clamping Voltage</b><br>Peak voltage developed across the varistor terminations under standard atmospheric conditions, when passing an 8/20 $\mu$ s class current pulse.<br>— (GB 18802.331)<br>— (IEC 61051-1)   |
| Voltage Proof     | <b>Voltage Proof</b><br>Max. peak voltage, which may be applied under continuous operating conditions between the varistor terminations and any conducting mounting surface (Applicable only to insulated varistors).<br>— (GB/T 10193)<br>— (IEC 61051-1)                 |
| $C_V$             | <b>Capacitance</b><br>Capacitance across the MOV measured at a specified frequency and voltage.<br>— (GB 18802.331)<br>— (IEC 61051-1)   |
| $V_{ac}$          | <b>Max. Continuous a.c. Voltage</b><br>Max. a.c. r.m.s. voltage of a substantially sinusoidal waveform (less than 5% total harmonic distortion) which can be applied to the component under continuous operating conditions at 25 °C.<br>— (GB/T 10193)<br>— (IEC 61051-1) |
| $V_{dc}$          | <b>Max. Continuous d.c. Voltage</b><br>Max. d.c. voltage (with less than 5% ripple) which can be applied to the component under continuous operating conditions at an ambient temp. of 25 °C.<br>— (GB/T 10193)<br>— (IEC 61051-1)   |
| $I_{max}$         | <b>Max. Discharge Current</b><br>Crest value of a current through the SPD having an 8/20 $\mu$ s waveshape and magnitude according to the manufacturers specification. $I_{max}$ is equal to or greater than $I_n$ .<br>— (GB 18802.1)<br>— (IEC 61643-11)                 |



# ATTENTION

## Usage

1. Varistor must operated in the specified ambient temp.
2. Do not clean the varistor with strong polar solvent such as ketone, esters, benzene and halogenated hydrocarbon.
3. Please do not apply severe vibration, shock or pressure to MOV.
4. Please fix lead wires when bending or cutting. The distance between the bending point and the sealing of MOV shall be greater than 2 mm.

## Replacement

If varistor is visually damaged, please replace it.

## Storage

1. Storage Temp. Range: (-40 to +125) °C.
2. Relative Humidity : ≤75% RH.
3. Altitude: <2000 m.
4. Do not store the MOV at the high temp., high humidity or corrosive gas environment, to avoid influencing the solder-ability of the lead wires, the product shall be used up within 1 year after receiving the goods.

## Environmental Conditions

1. Varistor should neither be exposed to the open air, nor direct sunshine.
2. Varistor should avoid rain, water vapor or other condition of high temp. and high humidity.
3. Varistor should avoid sand dust, salt spray, or other harmful gases.

## Max. Typical Capacitance of Varistor

The typical capacitance of varistor is listed in the specifications. Designers may refer to it when designing MOV in high frequency circuit.



**Metal Oxide Varistor (MOV) Feature & Model List Overview**

| Nominal Operating Voltage $U_n$ (V) |      |              |               |              |               |               |   |               |               |               |               | Page          |            | Model | Maximum Continuous Operating Voltage $U_n$ (V) |  |
|-------------------------------------|------|--------------|---------------|--------------|---------------|---------------|---|---------------|---------------|---------------|---------------|---------------|------------|-------|--|--|
|                                     |      | AC           | DC            | 0.5          | 1             | 1.75          | 2 | 3             | 3.5           | 6             | 10            | 20            | 70         |       |  | AC   |
| 480V                                | 500V |              |               |              |               |               |   |               | SFV10D122K(T) | SFV14D122K(T) | SFV20D122K(T) | SFV25D122K(T) | SFV53D122K | 750   | 990  | Maximum Continuous Operating Voltage $U_n$ (V) |
|                                     |      |              |               |              |               |               |   |               | SFV10D112K(T) | SFV14D112K(T) | SFV20D112K(T) | SFV25D112K(T) | SFV53D112K | 680   | 895  |  |
| 415V                                |      |              |               |              |               |               |   | SFV10D102K(T) | SFV14D102K(T) | SFV20D102K(T) | SFV25D102K(T) | SFV53D102K    | 625        | 825   |  |  |
| 380V                                |      |              |               |              |               |               |   | SFV10D911K(T) | SFV14D911K(T) | SFV20D911K(T) | SFV25D911K(T) | SFV53D911K    | 550        | 745   |  |  |
|                                     |      |              |               | SFV7D821K(T) |               |               |   | SFV10D821K(T) | SFV14D821K(T) | SFV20D821K(T) | SFV25D821K(T) | SFV53D821K    | 510        | 670   |  |  |
| 100V                                | 250V |              |               |              |               |               |   | SFV10D751K(T) | SFV14D751K(T) | SFV20D751K(T) | SFV25D751K(T) | SFV53D751K    | 460        | 615   |  |  |
|                                     |      |              |               |              | SFV7D751K(T)  |               |   |               | SFV10D681K(T) | SFV14D681K(T) | SFV20D681K(T) | SFV25D681K(T) | SFV53D681K | 420   | 560  |  |
| 240V                                |      |              |               |              |               |               |   | SFV10D621K(T) | SFV14D621K(T) | SFV20D621K(T) | SFV25D621K(T) | SFV53D621K    | 385        | 505   |  |  |
|                                     |      |              |               | SFV7D681K(T) |               |               |   | SFV10D561K(T) | SFV14D561K(T) | SFV20D561K(T) | SFV25D561K(T) | SFV53D561K    | 350        | 460   |  |  |
| 100V                                | 125V |              |               |              |               |               |   | SFV10D511K(T) | SFV14D511K(T) | SFV20D511K(T) | SFV25D511K(T) | SFV53D511K    | 320        | 415   |  |  |
|                                     |      |              |               |              | SFV7D511K(T)  |               |   |               | SFV10D471K(T) | SFV14D471K(T) | SFV20D471K(T) | SFV25D471K(T) | SFV53D471K | 300   | 385  |  |
| 220V                                |      |              |               |              |               |               |   | SFV10D431K(T) | SFV14D431K(T) | SFV20D431K(T) | SFV25D431K(T) | SFV53D431K    | 275        | 350   |  |  |
|                                     |      |              |               | SFV7D471K(T) |               |               |   | SFV10D391K(T) | SFV14D391K(T) | SFV20D391K(T) | SFV25D391K(T) | SFV53D391K    | 250        | 320   |  |  |
| 100V                                | 120V |              |               |              |               |               |   | SFV10D361K(T) | SFV14D361K(T) | SFV20D361K(T) | SFV25D361K(T) | SFV53D361K    | 230        | 300   |  |  |
|                                     |      |              |               |              | SFV7D361K(T)  |               |   |               | SFV10D331K(T) | SFV14D331K(T) | SFV20D331K(T) | SFV25D331K(T) | SFV53D331K | 210   | 275  |  |
| 100V                                | 100V |              |               |              |               |               |   | SFV10D301K(T) | SFV14D301K(T) | SFV20D301K(T) | SFV25D301K(T) | SFV53D301K    | 190        | 250   |  |  |
|                                     |      |              |               |              | SFV7D301K(T)  |               |   |               | SFV10D271K(T) | SFV14D271K(T) | SFV20D271K(T) | SFV25D271K(T) | SFV53D271K | 175   | 225  |  |
| 48V                                 | 24V  |              |               |              |               |               |   | SFV10D241K(T) | SFV14D241K(T) | SFV20D241K(T) | SFV25D241K(T) | SFV53D241K    | 150        | 200   |  |  |
|                                     |      |              |               |              | SFV7D271K(T)  |               |   |               | SFV10D221K(T) | SFV14D221K(T) | SFV20D221K(T) | SFV25D221K(T) | SFV53D221K | 140   | 180  |  |
| 24V                                 | 12V  |              |               |              |               |               |   | SFV10D201K(T) | SFV14D201K(T) | SFV20D201K(T) | SFV25D201K(T) | SFV53D201K    | 130        | 170   |  |  |
|                                     |      |              |               |              | SFV7D201K(T)  |               |   |               | SFV10D181K(T) | SFV14D181K(T) | SFV20D181K(T) | SFV25D181K(T) | SFV53D181K | 115   | 150  |  |
| 12V                                 | 12V  |              |               |              |               |               |   | SFV10D151K(T) | SFV14D151K(T) | SFV20D151K(T) | SFV25D151K(T) | SFV53D151K    | 95         | 125   |  |  |
|                                     |      |              |               |              | SFV7D181K(T)  |               |   |               | SFV10D121K(T) | SFV14D121K(T) | SFV20D121K(T) | SFV25D121K(T) | SFV53D121K | 75    | 100  |  |
| 12V                                 | 12V  |              |               |              |               |               |   | SFV10D101K(T) | SFV14D101K(T) | SFV20D101K(T) | SFV25D101K(T) | SFV53D101K    | 60         | 85    |  |  |
|                                     |      |              |               |              | SFV7D151K(T)  |               |   |               | SFV10D820K(T) | SFV14D820K(T) | SFV20D820K(T) | SFV25D820K(T) | SFV53D820K | 50    | 65   |  |
| 12V                                 | 12V  | SFV7D680K(T) | SFV10D680K(T) |              | SFV14D680K(T) | SFV20D680K(T) |   | SFV25D680K(T) |               |               |               |               | 40         | 56    |  |  |
|                                     |      | SFV7D560K(T) | SFV10D560K(T) |              | SFV14D560K(T) | SFV20D560K(T) |   | SFV25D560K(T) |               |               |               |               |            | 35    | 45   |  |
| 12V                                 | 12V  | SFV7D470K(T) | SFV10D470K(T) |              | SFV14D470K(T) | SFV20D470K(T) |   | SFV25D470K(T) |               |               |               |               | 30         | 38    |  |  |
|                                     |      | SFV7D390K(T) | SFV10D390K(T) |              | SFV14D390K(T) | SFV20D390K(T) |   | SFV25D390K(T) |               |               |               |               |            | 25    | 31   |  |
| 12V                                 | 12V  | SFV7D330K(T) | SFV10D330K(T) |              | SFV14D330K(T) | SFV20D330K(T) |   | SFV25D330K(T) |               |               |               |               | 20         | 26    |  |  |
|                                     |      | SFV7D270K(T) | SFV10D270K(T) |              | SFV14D270K(T) | SFV20D270K(T) |   | SFV25D270K(T) |               |               |               |               |            | 17    | 22   |  |
| 12V                                 | 12V  | SFV7D220K(T) | SFV10D220K(T) |              | SFV14D220K(T) | SFV20D220K(T) |   | SFV25D220K(T) |               |               |               |               | 14         | 18    |  |  |

Maximum Peak Current (8/20  $\mu$ s) (kA)

**Metal Oxide Varistor (MOV) Feature & Model List Overview**

| Nominal Operating Voltage $U_n$ (V) |      |            |             |             |             | Page        |     | Model | Maximum Continuous Operating Voltage $U_n$ (V) |  |
|-------------------------------------|------|------------|-------------|-------------|-------------|-------------|-----|-------|--|--|
|                                     |      | 1.75       | 3.5         | 6           | 10          | 20          | AC  |       | DC   |  |
| 480V                                | 500V | ○          | SFV10D122KM | SFV14D122KM | SFV20D122KM | SFV25D122KM | 750 | 990   | Maximum Continuous Operating Voltage $U_n$ (V) |  |
|                                     |      | ○          | SFV10D112KM | SFV14D112KM | SFV20D112KM | SFV25D112KM | 680 | 895   |  |  |
|                                     |      | ○          | SFV10D102KM | SFV14D102KM | SFV20D102KM | SFV25D102KM | 625 | 825   |  |  |
|                                     |      | ○          | SFV10D911KM | SFV14D911KM | SFV20D911KM | SFV25D911KM | 550 | 745   |  |  |
| 380V                                | 500V | SFV7D821KM | SFV10D821KM | SFV14D821KM | SFV20D821KM | SFV25D821KM | 510 | 670   |  |  |
|                                     |      | SFV7D751KM | SFV10D751KM | SFV14D751KM | SFV20D751KM | SFV25D751KM | 460 | 615   |  |  |
| 100V                                | 240V | SFV7D681KM | SFV10D681KM | SFV14D681KM | SFV20D681KM | SFV25D681KM | 420 | 560   |  |  |
|                                     |      | SFV7D621KM | SFV10D621KM | SFV14D621KM | SFV20D621KM | SFV25D621KM | 385 | 505   |  |  |
| 240V                                | 240V | SFV7D561KM | SFV10D561KM | SFV14D561KM | SFV20D561KM | SFV25D561KM | 350 | 460   |  |  |
|                                     |      | SFV7D511KM | SFV10D511KM | SFV14D511KM | SFV20D511KM | SFV25D511KM | 320 | 415   |  |  |
| 100V                                | 250V | SFV7D471KM | SFV10D471KM | SFV14D471KM | SFV20D471KM | SFV25D471KM | 300 | 385   |  |  |
|                                     |      | SFV7D431KM | SFV10D431KM | SFV14D431KM | SFV20D431KM | SFV25D431KM | 275 | 350   |  |  |
| 100V                                | 250V | SFV7D391KM | SFV10D391KM | SFV14D391KM | SFV20D391KM | SFV25D391KM | 250 | 320   |  |  |
|                                     |      | SFV7D361KM | SFV10D361KM | SFV14D361KM | SFV20D361KM | SFV25D361KM | 230 | 300   |  |  |
| 120V                                | 250V | SFV7D331KM | SFV10D331KM | SFV14D331KM | SFV20D331KM | SFV25D331KM | 210 | 275   |  |  |
|                                     |      | SFV7D301KM | SFV10D301KM | SFV14D301KM | SFV20D301KM | SFV25D301KM | 190 | 250   |  |  |
| 100V                                | 125V | SFV7D271KM | SFV10D271KM | SFV14D271KM | SFV20D271KM | SFV25D271KM | 175 | 225   |  |  |
|                                     |      | SFV7D241KM | SFV10D241KM | SFV14D241KM | SFV20D241KM | SFV25D241KM | 150 | 200   |  |  |
|                                     |      | SFV7D221KM | SFV10D221KM | SFV14D221KM | SFV20D221KM | SFV25D221KM | 140 | 180   |  |  |
|                                     |      | SFV7D201KM | SFV10D201KM | SFV14D201KM | SFV20D201KM | SFV25D201KM | 130 | 170   |  |  |
| 48V                                 | 125V | SFV7D181KM | SFV10D181KM | SFV14D181KM | SFV20D181KM | SFV25D181KM | 115 | 150   |  |  |
|                                     |      | SFV7D151KM | SFV10D151KM | SFV14D151KM | SFV20D151KM | SFV25D151KM | 95  | 125   |  |  |
|                                     |      | SFV7D121KM | SFV10D121KM | SFV14D121KM | SFV20D121KM | SFV25D121KM | 75  | 100   |  |  |
|                                     |      | SFV7D101KM | SFV10D101KM | SFV14D101KM | SFV20D101KM | SFV25D101KM | 60  | 85    |  |  |
| 24V                                 | 12V  | SFV7D820KM | SFV10D820KM | SFV14D820KM | SFV20D820KM | SFV25D820KM | 50  | 65    |  |  |
|                                     |      | ○          | ○           | SFV25D680KM | ○           | ○           | 40  | 56    |  |  |
|                                     |      | ○          | ○           | SFV25D560KM | ○           | ○           | 35  | 45    |  |  |
| 12V                                 | 12V  | ○          | ○           | SFV25D470KM | ○           | ○           | 30  | 38    |  |  |
|                                     |      | ○          | ○           | ○           | ○           | ○           | 25  | 31    |  |  |
|                                     |      | ○          | ○           | ○           | ○           | ○           | 20  | 26    |  |  |
| AC                                  | DC   | ○          | ○           | ○           | ○           | ○           | 17  | 22    |  |  |
|                                     |      | ○          | ○           | ○           | ○           | ○           | 14  | 18    |  |  |

Maximum Peak Current (8/20  $\mu$ s) (kA)

**Metal Oxide Varistor (MOV) Feature & Model List Overview**

| Nominal Operating Voltage $U_n$ (V) |      | Model  |  |            |            |            |            |            |            |            |            |            | Page |     |
|-------------------------------------|------|--|--|------------|------------|------------|------------|------------|------------|------------|------------|------------|------|-----|
|                                     |      | Maximum Continuous Operating Voltage $U_n$ (V) |  |            |            |            |            |            |            |            |            |            | AC   | DC  |
| 480V                                | 500V | ○  | ○                                      | ○          | ○          | ○          | ○          | SFV20S122K | ○          | SFV25S122K | SFV34S122K | 750        | 990  |     |
|                                     |      | ○  | ○                                      | ○          | ○          | ○          | ○          | SFV20S112K | ○          | SFV25S112K | SFV34S112K | 680        | 895  |     |
| 415V                                | 500V | ○  | ○                                      | ○          | ○          | ○          | ○          | SFV20S102K | ○          | SFV25S102K | SFV34S102K | 625        | 825  |     |
|                                     |      | ○  | ○                                      | ○          | ○          | ○          | ○          | SFV20S911K | ○          | SFV25S911K | SFV34S911K | 550        | 745  |     |
| 380V                                | 500V | ○  | ○                                      | SFV10S821K | ○          | ○          | SFV15S821K | ○          | SFV20S821K | ○          | SFV25S821K | SFV34S821K | 510  | 670 |
|                                     |      | ○  | ○                                      | SFV10S751K | ○          | ○          | SFV15S751K | ○          | SFV20S751K | ○          | SFV25S751K | SFV34S751K | 460  | 615 |
| 100V                                | 240V | ○  | ○                                      | SFV10S681K | ○          | ○          | SFV15S681K | SFV20S681K | ○          | SFV25S681K | SFV34S681K | 420        | 560  |     |
|                                     |      | ○  | ○                                      | SFV10S621K | ○          | ○          | SFV15S621K | SFV20S621K | ○          | SFV25S621K | SFV34S621K | 385        | 505  |     |
| 100V                                | 240V | ○  | ○                                      | SFV10S561K | ○          | ○          | SFV15S561K | SFV20S561K | ○          | SFV25S561K | SFV34S561K | 350        | 460  |     |
|                                     |      | ○  | ○                                      | SFV10S511K | ○          | ○          | SFV15S511K | SFV20S511K | ○          | SFV25S511K | SFV34S511K | 320        | 415  |     |
| 100V                                | 220V | ○  | ○                                      | SFV10S471K | ○          | ○          | SFV15S471K | SFV20S471K | ○          | SFV25S471K | SFV34S471K | 300        | 385  |     |
|                                     |      | ○  | ○                                      | SFV10S431K | ○          | ○          | SFV15S431K | SFV20S431K | ○          | SFV25S431K | SFV34S431K | 275        | 350  |     |
| 100V                                | 250V | ○  | ○                                      | SFV10S391K | ○          | ○          | SFV15S391K | SFV20S391K | ○          | SFV25S391K | SFV34S391K | 250        | 320  |     |
|                                     |      | ○  | ○                                      | SFV10S361K | ○          | ○          | SFV15S361K | SFV20S361K | ○          | SFV25S361K | SFV34S361K | 230        | 300  |     |
| 120V                                | 250V | ○  | ○                                      | SFV10S331K | ○          | ○          | SFV15S331K | SFV20S331K | ○          | SFV25S331K | SFV34S331K | 210        | 275  |     |
|                                     |      | ○  | ○                                      | SFV10S301K | ○          | ○          | SFV15S301K | SFV20S301K | ○          | SFV25S301K | SFV34S301K | 190        | 250  |     |
| 125V                                | 125V | ○  | ○                                      | SFV10S271K | ○          | ○          | SFV15S271K | SFV20S271K | ○          | SFV25S271K | SFV34S271K | 175        | 225  |     |
|                                     |      | ○  | ○                                      | SFV10S241K | ○          | ○          | SFV15S241K | SFV20S241K | ○          | SFV25S241K | SFV34S241K | 150        | 200  |     |
| 100V                                | 125V | ○  | ○                                      | SFV10S221K | ○          | ○          | SFV15S221K | SFV20S221K | ○          | SFV25S221K | SFV34S221K | 140        | 180  |     |
|                                     |      | ○  | ○                                      | SFV10S201K | ○          | ○          | SFV15S201K | SFV20S201K | ○          | SFV25S201K | SFV34S201K | 130        | 170  |     |
| 48V                                 | 48V  | ○  | ○                                      | SFV10S181K | ○          | ○          | SFV15S181K | SFV20S181K | ○          | SFV25S181K | SFV34S181K | 115        | 150  |     |
|                                     |      | ○  | ○                                      | SFV10S151K | ○          | ○          | SFV15S151K | SFV20S151K | ○          | SFV25S151K | SFV34S151K | 95         | 125  |     |
| 24V                                 | 24V  | ○  | SFV10S121K                             | ○          | ○          | ○          | SFV15S121K | SFV20S121K | ○          | SFV25S121K | SFV34S121K | 75         | 100  |     |
|                                     |      | ○  | SFV10S101K                             | ○          | ○          | ○          | SFV15S101K | SFV20S101K | ○          | SFV25S101K | SFV34S101K | 60         | 85   |     |
| 12V                                 | 12V  | ○  | SFV10S820K                             | ○          | ○          | ○          | SFV15S820K | SFV20S820K | ○          | SFV25S820K | SFV34S820K | 50         | 65   |     |
|                                     |      | SFV10S680K                                     | SFV15S680K                             | SFV20S680K | ○          | ○          | SFV25S680K | ○          | SFV34S680K | ○          | ○          | 40         | 56   |     |
| 12V                                 | 12V  | SFV10S560K                                     | SFV15S560K                             | SFV20S560K | ○          | ○          | SFV25S560K | ○          | SFV34S560K | ○          | ○          | 35         | 45   |     |
|                                     |      | SFV10S470K                                     | SFV15S470K                             | SFV20S470K | ○          | SFV25S470K | ○          | SFV34S470K | ○          | ○          | ○          | 30         | 38   |     |
| 12V                                 | 12V  | SFV10S390K                                     | SFV15S390K<br>SFV20S390K               | ○          | ○          | SFV25S390K | ○          | ○          | ○          | ○          | ○          | 25         | 31   |     |
|                                     |      | SFV10S330K                                     | SFV15S330K<br>SFV20S330K               | ○          | ○          | SFV25S330K | ○          | ○          | ○          | ○          | ○          | 20         | 26   |     |
| 12V                                 | 12V  | SFV10S270K                                     | SFV15S270K<br>SFV20S270K               | ○          | SFV25S270K | ○          | ○          | ○          | ○          | ○          | ○          | 17         | 22   |     |
|                                     |      | SFV10S220K                                     | SFV15S220K<br>SFV20S220K<br>SFV25S220K | ○          | ○          | ○          | ○          | ○          | ○          | ○          | ○          | 14         | 18   |     |