

## Metal Oxide Varistors-S Series (Standard) Data Sheet

### Feature

- Wide operating voltage range from 18V to 1100V
- Operating Temperature: -40°C ~ +105°C
- Storage Temperature: 15°C ~ 35°C

### Applications

- The over-voltage protection for transistors, IC, SCR and semiconductor switching components and a variety of electronic, electrical equipment
- Surge absorption and over-voltage protection for household appliances
- Industrial electrical surge absorption
- Electrostatic discharge and noise signal cancellation
- Surge absorption of relays and solenoid valves
- Over-voltage protection for leakage switch
- The lightning protection and over-voltage protection for Telephone program-controlled switches and communications equipment

### Applicable Standard

| Approval      |   | Organization | Safety Standards       | Certificate No.     |
|---------------|---|--------------|------------------------|---------------------|
| China         |                  | CQC          | GB/T10193<br>GB/T10194 | 5D: CQC07001020534  |
|               |   |              |                        | 7D: CQC07001020533  |
|               |   |              |                        | 10D: CQC07001020532 |
|               |   |              |                        | 14D: CQC07001020531 |
|               |   |              |                        | 20D: CQC07001020530 |
| USA<br>Canada |                  | UL           | UL1449                 | E330837             |
| Germany       | <br>REG.-Nr.C559 | VDE          | IEC61051               | 40023049            |

## Part Number Code

Inner Management

|     |    |   |     |   |   |   |    |   |   |   |   |   |   |
|-----|----|---|-----|---|---|---|----|---|---|---|---|---|---|
| STE | 10 | D | 471 | K | 1 | E | N0 | F | S | B | 0 | R | 0 |
|-----|----|---|-----|---|---|---|----|---|---|---|---|---|---|

**Songtian**  
(STE)

**Product Categories**  
D: (Circular)

**Tolerance**  
K:±10%

**Pitch**  
B:5.0mm  
E:7.5mm  
D:10.0mm

**Package**  
B: Bulk  
T:Tape

**Environmental Standard**  
R: RoHS  
F: RoHS+Halogen-Free

**Core Diameter**  
05:5mm  
07:7mm  
10:10mm  
14:14mm  
20:20mm

**Foot Type**  
1:Long straight  
2:Outside Crimped  
3:Short Straight  
8:Vertical Crimped

**Style**  
S: Standard

**Lead Material**  
F: Tinned copper clad steel wire  
C:Copper wire

**Nominal Varistor Voltage**  
220:22V  
471:470V  
122:1200V

**Lead Length**  
S0~S9:1.0~1.9mm  
X0~X9:2.0~2.9mm  
A0~A9:3.0~3.9mm  
B0~B9:4.0~4.9mm  
C0~C9:5.0~5.9mm  
D0~D9:6.0~6.9mm  
E0~E9:7.0~7.9mm

**Lead Length**  
F0~F9:8.0~8.9mm  
G0~G9:9.0~9.9mm  
H0~H9:10.0~10.9mm  
J0~J9:11.0~11.9mm  
K0~K9:12.0~12.9mm  
L0~L9:13.0~13.9mm  
M0~M9:14.0~14.9mm

**Lead Length**  
M0~M9:14.0~14.9mm  
N0:16~27.0mm(Bulk)  
**Crimped Lead Taped**  
N0:H0=16.5mm  
P0:H0=17.0mm  
Q0:H0=19.0mm  
**Straight Lead**  
Q0:20.0mm

## Electrical Characteristics

### 5D-S Series

| Part Number  | Maximum Allowable Voltage |                          | Varistor Voltage<br>$V_{0.1mA}$<br>(V) | Maximum Clamping Voltage |           | Peak Current Rating(8/20 $\mu$ s) |                | Maximum Energy<br>(10/1000 $\mu$ s)<br>(J) | Rated Power<br>(W) | Typical Capacitance<br>(Reference)<br>1KHz<br>(pF) |
|--------------|---------------------------|--------------------------|--|--------------------------|-----------|-----------------------------------|----------------|--|--------------------|--|
|              | AC <sub>rms</sub><br>(V)  | DC <sub>rms</sub><br>(V) |  | VC<br>(V)                | IP<br>(A) | 1 pulse<br>(A)                    | 2 pulse<br>(A) |  |                    |  |
| STE-05D180KS | 11                        | 14                       | 18(15-21.6)                            | 40                       | 1         | 100                               | 50             | 0.4  | 0.01               | 1400   |
| STE-05D220KS | 14                        | 18                       | 22(19.5-26)                            | 48                       | 1         | 100                               | 50             | 0.5  | 0.01               | 1150   |
| STE-05D270KS | 17                        | 22                       | 27(24-31)                              | 60                       | 1         | 100                               | 50             | 0.6  | 0.01               | 930  |
| STE-05D330KS | 20                        | 26                       | 33(29.5-36.5)                          | 73                       | 1         | 100                               | 50             | 0.8  | 0.01               | 760  |
| STE-05D390KS | 25                        | 31                       | 39(35-43)                              | 80                       | 1         | 100                               | 50             | 0.9  | 0.01               | 640  |
| STE-05D470KS | 30                        | 38                       | 47(42-52)                              | 104                      | 1         | 100                               | 50             | 1.1  | 0.01               | 530  |
| STE-05D560KS | 35                        | 45                       | 56(50-62)                              | 123                      | 1         | 100                               | 50             | 1.3  | 0.01               | 450  |
| STE-05D680KS | 40                        | 56                       | 68(61-75)                              | 145                      | 1         | 100                               | 50             | 1.6  | 0.01               | 370  |
| STE-05D820KS | 50                        | 65                       | 82(74-90)                              | 150                      | 5         | 400                               | 200            | 2.5  | 0.1                | 300  |
| STE-05D101KS | 60                        | 85                       | 100(90-110)                            | 175                      | 5         | 400                               | 200            | 3.0  | 0.1                | 250  |
| STE-05D121KS | 75                        | 100                      | 120(108-132)                           | 210                      | 5         | 400                               | 200            | 3.5  | 0.1                | 210  |
| STE-05D151KS | 95                        | 125                      | 150(135-165)                           | 260                      | 5         | 400                               | 200            | 4.5  | 0.1                | 165  |
| STE-05D181KS | 115                       | 150                      | 180(162-198)                           | 320                      | 5         | 400                               | 200            | 5.9  | 0.1                | 140  |
| STE-05D201KS | 130                       | 170                      | 200(180-220)                           | 355                      | 5         | 400                               | 200            | 6.5  | 0.1                | 125  |
| STE-05D221KS | 140                       | 180                      | 220(198-242)                           | 380                      | 5         | 400                               | 200            | 7.0  | 0.1                | 110  |
| STE-05D241KS | 150                       | 200                      | 240(216-264)                           | 415                      | 5         | 400                               | 200            | 8.0  | 0.1                | 100  |
| STE-05D271KS | 175                       | 225                      | 270(243-297)                           | 475                      | 5         | 400                               | 200            | 8.5  | 0.1                | 95   |
| STE-05D301KS | 190                       | 250                      | 300(270-330)                           | 520                      | 5         | 400                               | 200            | 9.0  | 0.1                | 85   |
| STE-05D331KS | 210                       | 275                      | 330(297-363)                           | 570                      | 5         | 400                               | 200            | 9.5  | 0.1                | 75   |
| STE-05D361KS | 230                       | 300                      | 360(324-396)                           | 620                      | 5         | 400                               | 200            | 10.0                                       | 0.1                | 70   |
| STE-05D391KS | 250                       | 320                      | 390(351-429)                           | 675                      | 5         | 400                               | 200            | 12.0                                       | 0.1                | 65   |
| STE-05D431KS | 275                       | 350                      | 430(387-473)                           | 745                      | 5         | 400                               | 200            | 13.0                                       | 0.1                | 60   |
| STE-05D471KS | 300                       | 385                      | 470(423-517)                           | 810                      | 5         | 400                               | 200            | 15.0                                       | 0.1                | 55   |
| STE-05D511KS | 320                       | 415                      | 510(459-561)                           | 845                      | 5         | 400                               | 200            | 16.0                                       | 0.1                | 50   |
| STE-05D561KS | 350                       | 460                      | 560(504-616)                           | 920                      | 5         | 400                               | 200            | 16.8                                       | 0.1                | 45   |
| STE-05D621KS | 385                       | 505                      | 620(558-682)                           | 1025                     | 5         | 400                               | 200            | 17.7                                       | 0.1                | 40   |
| STE-05D681KS | 420                       | 560                      | 680(612-748)                           | 1120                     | 5         | 400                               | 200            | 19.4                                       | 0.1                | 38   |

## 7D-S Series

| Part Number  | Maximum Allowable Voltage |                          | Varistor Voltage<br>$V_{1mA}$<br>(V) | Maximum Clamping Voltage |           | Peak Current Rating(8/20 $\mu$ s) |                | Maximum Energy<br>(10/1000 $\mu$ s)<br>(J) | Rated Power<br>(W) | Typical Capacitance<br>(Reference)<br>1KHz<br>(pF) |
|--------------|---------------------------|--------------------------|--------------------------------------|--------------------------|-----------|-----------------------------------|----------------|--|--------------------|--|
|              | AC <sub>rms</sub><br>(V)  | DC <sub>rms</sub><br>(V) |                                      | VC<br>(V)                | IP<br>(A) | 1 pulse<br>(A)                    | 2 pulse<br>(A) |  |                    |  |
| STE-07D180KS | 11                        | 14                       | 18(15-21.6)                          | 36                       | 2.5       | 250                               | 125            | 0.9  | 0.02               | 2800   |
| STE-07D220KS | 14                        | 18                       | 22(19.5-26)                          | 43                       | 2.5       | 250                               | 125            | 1.1  | 0.02               | 2300   |
| STE-07D270KS | 17                        | 22                       | 27(24-31)                            | 53                       | 2.5       | 250                               | 125            | 1.4  | 0.02               | 1800   |
| STE-07D330KS | 20                        | 26                       | 33(29.5-36.5)                        | 65                       | 2.5       | 250                               | 125            | 1.7  | 0.02               | 1500   |
| STE-07D390KS | 25                        | 31                       | 39(35-43)                            | 77                       | 2.5       | 250                               | 125            | 2.1  | 0.02               | 1300   |
| STE-07D470KS | 30                        | 38                       | 47(42-52)                            | 93                       | 2.5       | 250                               | 125            | 2.5  | 0.02               | 1100   |
| STE-07D560KS | 35                        | 45                       | 56(50-62)                            | 110                      | 2.5       | 250                               | 125            | 3.1  | 0.02               | 890  |
| STE-07D680KS | 40                        | 56                       | 68(61-75)                            | 135                      | 2.5       | 250                               | 125            | 3.6  | 0.02               | 740  |
| STE-07D820KS | 50                        | 65                       | 82(74-90)                            | 135                      | 10        | 1200                              | 600            | 5.5  | 0.25               | 810  |
| STE-07D101KS | 60                        | 85                       | 100(90-110)                          | 165                      | 10        | 1200                              | 600            | 6.5  | 0.25               | 700  |
| STE-07D121KS | 75                        | 100                      | 120(108-132)                         | 200                      | 10        | 1200                              | 600            | 7.8  | 0.25               | 590  |
| STE-07D151KS | 95                        | 125                      | 150(135-165)                         | 250                      | 10        | 1200                              | 600            | 9.7  | 0.25               | 500  |
| STE-07D181KS | 115                       | 150                      | 180(162-198)                         | 300                      | 10        | 1200                              | 600            | 11.7                                       | 0.25               | 280  |
| STE-07D201KS | 130                       | 170                      | 200(180-220)                         | 340                      | 10        | 1200                              | 600            | 13.0                                       | 0.25               | 200  |
| STE-07D221KS | 140                       | 180                      | 220(198-242)                         | 360                      | 10        | 1200                              | 600            | 14.0                                       | 0.25               | 190  |
| STE-07D241KS | 150                       | 200                      | 240(216-264)                         | 395                      | 10        | 1200                              | 600            | 15.0                                       | 0.25               | 170  |
| STE-07D271KS | 175                       | 225                      | 270(243-297)                         | 455                      | 10        | 1200                              | 600            | 18.0                                       | 0.25               | 150  |
| STE-07D301KS | 190                       | 250                      | 300(270-330)                         | 500                      | 10        | 1200                              | 600            | 20.0                                       | 0.25               | 140  |
| STE-07D331KS | 210                       | 275                      | 330(297-363)                         | 550                      | 10        | 1200                              | 600            | 23.0                                       | 0.25               | 130  |
| STE-07D361KS | 230                       | 300                      | 360(324-396)                         | 595                      | 10        | 1200                              | 600            | 24.0                                       | 0.25               | 130  |
| STE-07D391KS | 250                       | 320                      | 390(351-429)                         | 650                      | 10        | 1200                              | 600            | 26.0                                       | 0.25               | 130  |
| STE-07D431KS | 275                       | 350                      | 430(387-473)                         | 710                      | 10        | 1200                              | 600            | 28.0                                       | 0.25               | 120  |
| STE-07D471KS | 300                       | 385                      | 470(423-517)                         | 775                      | 10        | 1200                              | 600            | 29.0                                       | 0.25               | 100  |
| STE-07D511KS | 320                       | 415                      | 510(459-561)                         | 845                      | 10        | 1200                              | 600            | 31.0                                       | 0.25               | 90   |
| STE-07D561KS | 350                       | 460                      | 560(504-616)                         | 925                      | 10        | 1200                              | 600            | 35.0                                       | 0.25               | 90   |
| STE-07D621KS | 385                       | 505                      | 620(558-682)                         | 1025                     | 10        | 1200                              | 600            | 38.0                                       | 0.25               | 80   |
| STE-07D681KS | 420                       | 560                      | 680(612-748)                         | 1120                     | 10        | 1200                              | 600            | 42.0                                       | 0.25               | 75   |

## 10D-S Series

| Part Number  | Maximum Allowable Voltage |                          | Varistor Voltage<br>V <sub>1mA</sub><br>(V) | Maximum Clamping Voltage |           | Peak Current Rating(8/20μs) |                | Maximum Energy<br>(10/1000μs)<br>(J) | Rated Power<br>(W) | Typical Capacitance<br>(Reference)<br>1KHz<br>(pF) |
|--------------|---------------------------|--------------------------|---|--------------------------|-----------|-----------------------------|----------------|--------------------------------------|--------------------|--|
|              | AC <sub>rms</sub><br>(V)  | DC <sub>rms</sub><br>(V) |   | VC<br>(V)                | IP<br>(A) | 1 pulse<br>(A)              | 2 pulse<br>(A) |                                      |                    |  |
| STE-10D180KS | 11                        | 14                       | 18(15-21.6)                                 | 36                       | 5         | 500                         | 250            | 2.1                                  | 0.05               | 5600   |
| STE-10D220KS | 14                        | 18                       | 22(19.5-26)                                 | 43                       | 5         | 500                         | 250            | 2.5                                  | 0.05               | 4500   |
| STE-10D270KS | 17                        | 22                       | 27(24-31)                                   | 53                       | 5         | 500                         | 250            | 3.0                                  | 0.05               | 3700   |
| STE-10D330KS | 20                        | 26                       | 33(29.5-36.5)                               | 65                       | 5         | 500                         | 250            | 4.0                                  | 0.05               | 3000   |
| STE-10D390KS | 25                        | 31                       | 39(35-43)                                   | 77                       | 5         | 500                         | 250            | 4.6                                  | 0.05               | 2400   |
| STE-10D470KS | 30                        | 38                       | 47(42-52)                                   | 93                       | 5         | 500                         | 250            | 5.5                                  | 0.05               | 2100   |
| STE-10D560KS | 35                        | 45                       | 56(50-62)                                   | 110                      | 5         | 500                         | 250            | 7.0                                  | 0.05               | 1800   |
| STE-10D680KS | 40                        | 56                       | 68(61-75)                                   | 135                      | 5         | 500                         | 250            | 8.2                                  | 0.05               | 1500   |
| STE-10D820KS | 50                        | 65                       | 82(74-90)                                   | 135                      | 25        | 2500                        | 1250           | 12.0                                 | 0.4                | 2000   |
| STE-10D101KS | 60                        | 85                       | 100(90-110)                                 | 165                      | 25        | 2500                        | 1250           | 15.0                                 | 0.4                | 1700   |
| STE-10D121KS | 75                        | 100                      | 120(108-132)                                | 200                      | 25        | 2500                        | 1250           | 18.0                                 | 0.4                | 1400   |
| STE-10D151KS | 95                        | 125                      | 150(135-165)                                | 250                      | 25        | 2500                        | 1250           | 22.0                                 | 0.4                | 1100   |
| STE-10D181KS | 115                       | 150                      | 180(162-198)                                | 300                      | 25        | 2500                        | 1250           | 27.0                                 | 0.4                | 560  |
| STE-10D201KS | 130                       | 170                      | 200(180-220)                                | 340                      | 25        | 2500                        | 1250           | 30.0                                 | 0.4                | 430  |
| STE-10D221KS | 140                       | 180                      | 220(198-242)                                | 360                      | 25        | 2500                        | 1250           | 32.0                                 | 0.4                | 410  |
| STE-10D241KS | 150                       | 200                      | 240(216-264)                                | 395                      | 25        | 2500                        | 1250           | 35.0                                 | 0.4                | 380  |
| STE-10D271KS | 175                       | 225                      | 270(243-297)                                | 455                      | 25        | 2500                        | 1250           | 37.0                                 | 0.4                | 350  |
| STE-10D301KS | 190                       | 250                      | 300(270-330)                                | 500                      | 25        | 2500                        | 1250           | 40.0                                 | 0.4                | 330  |
| STE-10D331KS | 210                       | 275                      | 330(297-363)                                | 550                      | 25        | 2500                        | 1250           | 43.0                                 | 0.4                | 300  |
| STE-10D361KS | 230                       | 300                      | 360(324-396)                                | 595                      | 25        | 2500                        | 1250           | 47.0                                 | 0.4                | 300  |
| STE-10D391KS | 250                       | 320                      | 390(351-429)                                | 650                      | 25        | 2500                        | 1250           | 60.0                                 | 0.4                | 300  |
| STE-10D431KS | 275                       | 350                      | 430(387-473)                                | 710                      | 25        | 2500                        | 1250           | 65.0                                 | 0.4                | 270  |
| STE-10D471KS | 300                       | 385                      | 470(423-517)                                | 775                      | 25        | 2500                        | 1250           | 67.0                                 | 0.4                | 230  |
| STE-10D511KS | 320                       | 415                      | 510(459-561)                                | 845                      | 25        | 2500                        | 1250           | 69.0                                 | 0.4                | 210  |
| STE-10D561KS | 350                       | 460                      | 560(504-616)                                | 925                      | 25        | 2500                        | 1250           | 70.0                                 | 0.4                | 180  |
| STE-10D621KS | 385                       | 505                      | 620(558-682)                                | 1025                     | 25        | 2500                        | 1250           | 72.0                                 | 0.4                | 190  |
| STE-10D681KS | 420                       | 560                      | 680(612-748)                                | 1120                     | 25        | 2500                        | 1250           | 75.0                                 | 0.4                | 170  |
| STE-10D751KS | 460                       | 615                      | 750(675-825)                                | 1240                     | 25        | 2500                        | 1250           | 77.0                                 | 0.4                | 160  |
| STE-10D781KS | 485                       | 640                      | 780(702-858)                                | 1290                     | 25        | 2500                        | 1250           | 80.0                                 | 0.4                | 125  |
| STE-10D821KS | 510                       | 670                      | 820(738-902)                                | 1355                     | 25        | 2500                        | 1250           | 85.0                                 | 0.4                | 140  |
| STE-10D911KS | 550                       | 745                      | 910(819-1001)                               | 1500                     | 25        | 2500                        | 1250           | 93.0                                 | 0.4                | 120  |
| STE-10D102KS | 625                       | 825                      | 1000(900-1100)                              | 1650                     | 25        | 2500                        | 1250           | 102.0                                | 0.4                | 110  |
| STE-10D112KS | 680                       | 895                      | 1100(990-1210)                              | 1815                     | 25        | 2500                        | 1250           | 115.0                                | 0.4                | 90   |

## 14D-S Series

| Part Number  | Maximum Allowable Voltage |                          | Varistor Voltage<br>V <sub>1mA</sub><br>(V) | Maximum Clamping Voltage |           | Peak Current Rating(8/20μs) |                | Maximum Energy<br>(10/1000μs)<br>(J) | Rated Power<br>(W) | Typical Capacitance<br>(Reference)<br>1KHz<br>(pF) |
|--------------|---------------------------|--------------------------|---|--------------------------|-----------|-----------------------------|----------------|--------------------------------------|--------------------|--|
|              | AC <sub>rms</sub><br>(V)  | DC <sub>rms</sub><br>(V) |   | VC<br>(V)                | IP<br>(A) | 1 pulse<br>(A)              | 2 pulse<br>(A) |                                      |                    |  |
| STE-14D180KS | 11                        | 14                       | 18(15-21.6)                                 | 36                       | 10        | 1000                        | 500            | 4.0                                  | 0.1                | 11100  |
| STE-14D220KS | 14                        | 18                       | 22(19.5-26)                                 | 43                       | 10        | 1000                        | 500            | 5.0                                  | 0.1                | 9100   |
| STE-14D270KS | 17                        | 22                       | 27(24-31)                                   | 53                       | 10        | 1000                        | 500            | 6.0                                  | 0.1                | 7400   |
| STE-14D330KS | 20                        | 26                       | 33(29.5-36.5)                               | 65                       | 10        | 1000                        | 500            | 7.5                                  | 0.1                | 6100   |
| STE-14D390KS | 25                        | 31                       | 39(35-43)                                   | 77                       | 10        | 1000                        | 500            | 8.6                                  | 0.1                | 5100   |
| STE-14D470KS | 30                        | 38                       | 47(42-52)                                   | 93                       | 10        | 1000                        | 500            | 10.0                                 | 0.1                | 4300   |
| STE-14D560KS | 35                        | 45                       | 56(50-62)                                   | 110                      | 10        | 1000                        | 500            | 11.0                                 | 0.1                | 3600   |
| STE-14D680KS | 40                        | 56                       | 68(61-75)                                   | 135                      | 10        | 1000                        | 500            | 14.0                                 | 0.1                | 2900   |
| STE-14D820KS | 50                        | 65                       | 82(74-90)                                   | 135                      | 50        | 4500                        | 2500           | 22.0                                 | 0.6                | 3700   |
| STE-14D101KS | 60                        | 85                       | 100(90-110)                                 | 165                      | 50        | 4500                        | 2500           | 28.0                                 | 0.6                | 3200   |
| STE-14D121KS | 75                        | 100                      | 120(108-132)                                | 200                      | 50        | 4500                        | 2500           | 32.0                                 | 0.6                | 2700   |
| STE-14D151KS | 95                        | 125                      | 150(135-165)                                | 250                      | 50        | 4500                        | 2500           | 40.0                                 | 0.6                | 2200   |
| STE-14D181KS | 115                       | 150                      | 180(162-198)                                | 300                      | 50        | 4500                        | 2500           | 50.0                                 | 0.6                | 1100   |
| STE-14D201KS | 130                       | 170                      | 200(180-220)                                | 340                      | 50        | 4500                        | 2500           | 57.0                                 | 0.6                | 770  |
| STE-14D221KS | 140                       | 180                      | 220(198-242)                                | 360                      | 50        | 4500                        | 2500           | 60.0                                 | 0.6                | 740  |
| STE-14D241KS | 150                       | 200                      | 240(216-264)                                | 395                      | 50        | 4500                        | 2500           | 63.0                                 | 0.6                | 700  |
| STE-14D271KS | 175                       | 225                      | 270(243-297)                                | 455                      | 50        | 4500                        | 2500           | 70.0                                 | 0.6                | 640  |
| STE-14D301KS | 190                       | 250                      | 300(270-330)                                | 500                      | 50        | 4500                        | 2500           | 77.0                                 | 0.6                | 670  |
| STE-14D331KS | 210                       | 275                      | 330(297-363)                                | 550                      | 50        | 4500                        | 2500           | 85.0                                 | 0.6                | 580  |
| STE-14D361KS | 230                       | 300                      | 360(324-396)                                | 595                      | 50        | 4500                        | 2500           | 93.0                                 | 0.6                | 540  |
| STE-14D391KS | 250                       | 320                      | 390(351-429)                                | 650                      | 50        | 4500                        | 2500           | 100                                  | 0.6                | 500  |
| STE-14D431KS | 275                       | 350                      | 430(387-473)                                | 710                      | 50        | 4500                        | 2500           | 115                                  | 0.6                | 450  |
| STE-14D471KS | 300                       | 385                      | 470(423-517)                                | 775                      | 50        | 4500                        | 2500           | 118                                  | 0.6                | 400  |
| STE-14D511KS | 320                       | 415                      | 510(459-561)                                | 845                      | 50        | 4500                        | 2500           | 121                                  | 0.6                | 350  |
| STE-14D561KS | 350                       | 460                      | 560(504-616)                                | 925                      | 50        | 4500                        | 2500           | 125                                  | 0.6                | 360  |
| STE-14D621KS | 385                       | 505                      | 620(558-682)                                | 1025                     | 50        | 4500                        | 2500           | 128                                  | 0.6                | 330  |
| STE-14D681KS | 420                       | 560                      | 680(612-748)                                | 1120                     | 50        | 4500                        | 2500           | 130                                  | 0.6                | 320  |
| STE-14D751KS | 460                       | 615                      | 750(675-825)                                | 1240                     | 50        | 4500                        | 2500           | 143                                  | 0.6                | 310  |
| STE-14D781KS | 485                       | 640                      | 780(702-858)                                | 1290                     | 50        | 4500                        | 2500           | 148                                  | 0.6                | 260  |
| STE-14D821KS | 510                       | 670                      | 820(738-902)                                | 1355                     | 50        | 4500                        | 2500           | 157                                  | 0.6                | 280  |
| STE-14D911KS | 550                       | 745                      | 910(819-1001)                               | 1500                     | 50        | 4500                        | 2500           | 175                                  | 0.6                | 250  |
| STE-14D102KS | 625                       | 825                      | 1000(900-1100)                              | 1650                     | 50        | 4500                        | 2500           | 190                                  | 0.6                | 230  |
| STE-14D112KS | 680                       | 895                      | 1100(990-1210)                              | 1815                     | 50        | 4500                        | 2500           | 213                                  | 0.6                | 180  |

## 20D-S Series

| Part Number  | Maximum Allowable Voltage |                          | Varistor Voltage<br>V <sub>1mA</sub><br>(V) | Maximum Clamping Voltage |           | Peak Current Rating(8/20μs) |                | Maximum Energy<br>(10/1000μs)<br>(J) | Rated Power<br>(W) | Typical Capacitance<br>(Reference)<br>1KHz<br>(pF) |
|--------------|---------------------------|--------------------------|---|--------------------------|-----------|-----------------------------|----------------|--------------------------------------|--------------------|--|
|              | AC <sub>rms</sub><br>(V)  | DC <sub>rms</sub><br>(V) |   | VC<br>(V)                | IP<br>(A) | 1 pulse<br>(A)              | 2 pulse<br>(A) |                                      |                    |  |
| STE-20D180KS | 11                        | 14                       | 18(15-21.6)                                 | 36                       | 20        | 2000                        | 1000           | 11                                   | 0.2                | 28500  |
| STE-20D220KS | 14                        | 18                       | 22(19.5-26)                                 | 43                       | 20        | 2000                        | 1000           | 14                                   | 0.2                | 18500  |
| STE-20D270KS | 17                        | 22                       | 27(24-31)                                   | 53                       | 20        | 2000                        | 1000           | 16                                   | 0.2                | 13000  |
| STE-20D330KS | 20                        | 26                       | 33(29.5-36.5)                               | 65                       | 20        | 2000                        | 1000           | 23                                   | 0.2                | 11500  |
| STE-20D390KS | 25                        | 31                       | 39(35-43)                                   | 77                       | 20        | 2000                        | 1000           | 26                                   | 0.2                | 8500   |
| STE-20D470KS | 30                        | 38                       | 47(42-52)                                   | 93                       | 20        | 2000                        | 1000           | 30                                   | 0.2                | 7400   |
| STE-20D560KS | 35                        | 45                       | 56(50-62)                                   | 110                      | 20        | 2000                        | 1000           | 38                                   | 0.2                | 6500   |
| STE-20D680KS | 40                        | 56                       | 68(61-75)                                   | 135                      | 20        | 2000                        | 1000           | 41                                   | 0.2                | 5800   |
| STE-20D820KS | 50                        | 65                       | 82(74-90)                                   | 135                      | 100       | 6500                        | 4500           | 45                                   | 1.0                | 7500   |
| STE-20D101KS | 60                        | 85                       | 100(90-110)                                 | 165                      | 100       | 6500                        | 4500           | 50                                   | 1.0                | 6500   |
| STE-20D121KS | 75                        | 100                      | 120(108-132)                                | 200                      | 100       | 6500                        | 4500           | 55                                   | 1.0                | 5500   |
| STE-20D151KS | 95                        | 125                      | 150(135-165)                                | 250                      | 100       | 6500                        | 4500           | 70                                   | 1.0                | 4500   |
| STE-20D181KS | 115                       | 150                      | 180(162-198)                                | 300                      | 100       | 6500                        | 4500           | 85                                   | 1.0                | 2200   |
| STE-20D201KS | 130                       | 170                      | 200(180-220)                                | 340                      | 100       | 6500                        | 4500           | 95                                   | 1.0                | 1700   |
| STE-20D221KS | 140                       | 180                      | 220(198-242)                                | 360                      | 100       | 6500                        | 4500           | 100                                  | 1.0                | 1600   |
| STE-20D241KS | 150                       | 200                      | 240(216-264)                                | 395                      | 100       | 6500                        | 4500           | 108                                  | 1.0                | 1500   |
| STE-20D271KS | 175                       | 225                      | 270(243-297)                                | 455                      | 100       | 6500                        | 4500           | 127                                  | 1.0                | 1300   |
| STE-20D301KS | 190                       | 250                      | 300(270-330)                                | 500                      | 100       | 6500                        | 4500           | 136                                  | 1.0                | 1300   |
| STE-20D331KS | 210                       | 275                      | 330(297-363)                                | 550                      | 100       | 6500                        | 4500           | 150                                  | 1.0                | 1100   |
| STE-20D361KS | 230                       | 300                      | 360(324-396)                                | 595                      | 100       | 6500                        | 4500           | 163                                  | 1.0                | 1100   |
| STE-20D391KS | 250                       | 320                      | 390(351-429)                                | 650                      | 100       | 6500                        | 4500           | 180                                  | 1.0                | 1100   |
| STE-20D431KS | 275                       | 350                      | 430(387-473)                                | 710                      | 100       | 6500                        | 4500           | 190                                  | 1.0                | 1000   |
| STE-20D471KS | 300                       | 385                      | 470(423-517)                                | 775                      | 100       | 6500                        | 4500           | 204                                  | 1.0                | 900  |
| STE-20D511KS | 320                       | 415                      | 510(459-561)                                | 845                      | 100       | 6500                        | 4500           | 210                                  | 1.0                | 800  |
| STE-20D561KS | 350                       | 460                      | 560(504-616)                                | 925                      | 100       | 6500                        | 4500           | 215                                  | 1.0                | 710  |
| STE-20D621KS | 385                       | 505                      | 620(558-682)                                | 1025                     | 100       | 6500                        | 4500           | 224                                  | 1.0                | 700  |
| STE-20D681KS | 420                       | 560                      | 680(612-748)                                | 1120                     | 100       | 6500                        | 4500           | 230                                  | 1.0                | 650  |
| STE-20D751KS | 460                       | 615                      | 750(675-825)                                | 1240                     | 100       | 6500                        | 4500           | 255                                  | 1.0                | 600  |
| STE-20D781KS | 485                       | 640                      | 780(702-858)                                | 1290                     | 100       | 6500                        | 4500           | 265                                  | 1.0                | 510  |
| STE-20D821KS | 510                       | 670                      | 820(738-902)                                | 1355                     | 100       | 6500                        | 4500           | 282                                  | 1.0                | 530  |
| STE-20D911KS | 550                       | 745                      | 910(819-1001)                               | 1500                     | 100       | 6500                        | 4500           | 310                                  | 1.0                | 500  |
| STE-20D102KS | 625                       | 825                      | 1000(900-1100)                              | 1650                     | 100       | 6500                        | 4500           | 342                                  | 1.0                | 450  |
| STE-20D112KS | 680                       | 895                      | 1100(990-1210)                              | 1815                     | 100       | 6500                        | 4500           | 383                                  | 1.0                | 360  |

## Dimensions (mm) and Approval



### 5D-S Series

| Part No.     | Size (mm) |        |       |        | Approval |     |          |              |
|--------------|-----------|--------|-------|--------|----------|-----|----------|--------------|
|              | D Max.    | T Max. | F±0.8 | d±0.05 | CQC      | VDE | UL (USA) | cUL (Canada) |
| STE-05D180KS | 7.5       | 3.0    | 5.0   | 0.5    |          |     | √        | √            |
| STE-05D220KS | 7.5       | 3.5    | 5.0   | 0.5    |          |     | √        | √            |
| STE-05D270KS | 7.5       | 3.5    | 5.0   | 0.5    |          |     | √        | √            |
| STE-05D330KS | 7.5       | 3.5    | 5.0   | 0.5    |          |     | √        | √            |
| STE-05D390KS | 7.5       | 3.5    | 5.0   | 0.5    |          |     | √        | √            |
| STE-05D470KS | 7.5       | 4.0    | 5.0   | 0.5    |          |     |          |              |
| STE-05D560KS | 7.5       | 4.0    | 5.0   | 0.5    |          |     |          |              |
| STE-05D680KS | 7.5       | 4.5    | 5.0   | 0.5    |          |     |          |              |
| STE-05D820KS | 7.5       | 3.5    | 5.0   | 0.5    | √        |     | √        | √            |
| STE-05D101KS | 7.5       | 3.5    | 5.0   | 0.5    | √        |     | √        | √            |
| STE-05D121KS | 7.5       | 3.5    | 5.0   | 0.5    | √        |     | √        | √            |
| STE-05D151KS | 7.5       | 3.5    | 5.0   | 0.5    | √        |     | √        | √            |
| STE-05D181KS | 7.5       | 4.0    | 5.0   | 0.5    | √        |     | √        | √            |
| STE-05D201KS | 7.5       | 4.0    | 5.0   | 0.5    | √        |     | √        | √            |
| STE-05D221KS | 7.5       | 4.0    | 5.0   | 0.5    | √        |     | √        |              |
| STE-05D241KS | 7.5       | 4.0    | 5.0   | 0.5    | √        |     | √        |              |
| STE-05D271KS | 7.5       | 4.0    | 5.0   | 0.5    | √        |     | √        |              |
| STE-05D301KS | 7.5       | 4.5    | 5.0   | 0.5    | √        |     | √        |              |
| STE-05D331KS | 7.5       | 4.5    | 5.0   | 0.5    | √        |     | √        |              |
| STE-05D361KS | 7.5       | 4.5    | 5.0   | 0.5    | √        |     | √        |              |
| STE-05D391KS | 7.5       | 5.0    | 5.0   | 0.5    | √        |     | √        |              |
| STE-05D431KS | 7.5       | 4.5    | 5.0   | 0.5    | √        |     | √        |              |
| STE-05D471KS | 7.5       | 4.5    | 5.0   | 0.5    | √        |     | √        |              |
| STE-05D511KS | 7.5       | 5.0    | 5.0   | 0.5    | √        |     | √        |              |
| STE-05D561KS | 7.5       | 5.0    | 5.0   | 0.5    | √        |     | √        |              |
| STE-05D621KS | 7.5       | 5.0    | 5.0   | 0.5    |          |     |          |              |
| STE-05D681KS | 7.5       | 5.5    | 5.0   | 0.5    |          |     |          |              |



## 7D-S Series

| Part No.     | Size (mm) |        |       |        | Approval |     |          |              |
|--------------|-----------|--------|-------|--------|----------|-----|----------|--------------|
|              | D Max.    | T Max. | F±0.8 | d±0.05 | CQC      | VDE | UL (USA) | cUL (Canada) |
| STE-07D180KS | 9.0       | 3.5    | 5.0   | 0.5    |          |     | √        | √            |
| STE-07D220KS | 9.0       | 3.5    | 5.0   | 0.5    |          |     | √        | √            |
| STE-07D270KS | 9.0       | 3.5    | 5.0   | 0.5    |          |     | √        | √            |
| STE-07D330KS | 9.0       | 3.5    | 5.0   | 0.5    |          |     | √        | √            |
| STE-07D390KS | 9.0       | 3.5    | 5.0   | 0.5    |          |     | √        | √            |
| STE-07D470KS | 9.0       | 4.0    | 5.0   | 0.5    |          |     | √        | √            |
| STE-07D560KS | 9.0       | 4.0    | 5.0   | 0.5    |          |     | √        | √            |
| STE-07D680KS | 9.0       | 4.5    | 5.0   | 0.5    |          |     | √        | √            |
| STE-07D820KS | 9.0       | 3.5    | 5.0   | 0.5    | √        | √   | √        | √            |
| STE-07D101KS | 9.0       | 3.5    | 5.0   | 0.5    | √        | √   | √        | √            |
| STE-07D121KS | 9.0       | 3.5    | 5.0   | 0.5    | √        | √   | √        | √            |
| STE-07D151KS | 9.0       | 3.5    | 5.0   | 0.5    | √        | √   | √        | √            |
| STE-07D181KS | 9.0       | 4.0    | 5.0   | 0.5    | √        | √   | √        | √            |
| STE-07D201KS | 9.0       | 4.0    | 5.0   | 0.5    | √        | √   | √        | √            |
| STE-07D221KS | 9.0       | 4.5    | 5.0   | 0.5    | √        | √   | √        | √            |
| STE-07D241KS | 9.0       | 4.0    | 5.0   | 0.5    | √        | √   | √        | √            |
| STE-07D271KS | 9.0       | 4.0    | 5.0   | 0.5    | √        | √   | √        | √            |
| STE-07D301KS | 9.0       | 4.5    | 5.0   | 0.5    | √        | √   | √        | √            |
| STE-07D331KS | 9.0       | 4.5    | 5.0   | 0.5    | √        | √   | √        | √            |
| STE-07D361KS | 9.0       | 4.5    | 5.0   | 0.5    | √        | √   | √        | √            |
| STE-07D391KS | 9.0       | 5.0    | 5.0   | 0.5    | √        | √   | √        | √            |
| STE-07D431KS | 9.0       | 4.5    | 5.0   | 0.5    | √        | √   | √        | √            |
| STE-07D471KS | 9.0       | 4.5    | 5.0   | 0.5    | √        | √   | √        | √            |
| STE-07D511KS | 9.0       | 5.0    | 5.0   | 0.5    | √        | √   | √        | √            |
| STE-07D561KS | 9.0       | 5.0    | 5.0   | 0.5    | √        | √   | √        | √            |
| STE-07D621KS | 9.0       | 5.0    | 5.0   | 0.5    | √        | √   | √        | √            |
| STE-07D681KS | 9.0       | 5.5    | 5.0   | 0.5    | √        | √   | √        | √            |

## 10D-S Series

| Part No.     | Size (mm) |        |       |        | Approval |     |          |              |
|--------------|-----------|--------|-------|--------|----------|-----|----------|--------------|
|              | D Max.    | T Max. | F±0.8 | d±0.05 | CQC      | VDE | UL (USA) | cUL (Canada) |
| STE-10D180KS | 12.5      | 3.5    | 7.5   | 0.7    |          |     | √        | √            |
| STE-10D220KS | 12.5      | 3.5    | 7.5   | 0.7    |          |     | √        | √            |
| STE-10D270KS | 12.5      | 4.0    | 7.5   | 0.7    |          |     | √        | √            |
| STE-10D330KS | 12.5      | 4.0    | 7.5   | 0.7    |          |     | √        | √            |
| STE-10D390KS | 12.5      | 4.0    | 7.5   | 0.7    |          |     | √        | √            |
| STE-10D470KS | 12.5      | 4.0    | 7.5   | 0.7    |          |     | √        | √            |
| STE-10D560KS | 12.5      | 4.5    | 7.5   | 0.7    |          |     | √        | √            |
| STE-10D680KS | 12.5      | 5.0    | 7.5   | 0.7    |          |     | √        | √            |
| STE-10D820KS | 12.5      | 4.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D101KS | 12.5      | 4.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D121KS | 12.5      | 4.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D151KS | 12.5      | 4.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D181KS | 12.5      | 4.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D201KS | 12.5      | 4.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D221KS | 12.5      | 4.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D241KS | 12.5      | 4.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D271KS | 12.5      | 4.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D301KS | 12.5      | 5.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D331KS | 12.5      | 5.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D361KS | 12.5      | 5.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D391KS | 12.5      | 5.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D431KS | 12.5      | 5.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D471KS | 12.5      | 5.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D511KS | 12.5      | 5.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D561KS | 12.5      | 5.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D621KS | 12.5      | 5.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D681KS | 12.5      | 6.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D751KS | 12.5      | 6.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D781KS | 12.5      | 6.5    | 7.5   | 0.7    |          |     | √        | √            |
| STE-10D821KS | 12.5      | 6.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D911KS | 12.5      | 7.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D102KS | 12.5      | 7.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-10D112KS | 12.5      | 7.5    | 7.5   | 0.7    | √        |     | √        | √            |

## 14D-S Series

| Part No.     | Size (mm) |        |       |        | Approval |     |          |              |
|--------------|-----------|--------|-------|--------|----------|-----|----------|--------------|
|              | D Max.    | T Max. | F±0.8 | d±0.05 | CQC      | VDE | UL (USA) | cUL (Canada) |
| STE-14D180KS | 16.5      | 3.5    | 7.5   | 0.7    |          |     | √        | √            |
| STE-14D220KS | 16.5      | 3.5    | 7.5   | 0.7    |          |     | √        | √            |
| STE-14D270KS | 16.5      | 4.0    | 7.5   | 0.7    |          |     | √        | √            |
| STE-14D330KS | 16.5      | 4.0    | 7.5   | 0.7    |          |     | √        | √            |
| STE-14D390KS | 16.5      | 4.0    | 7.5   | 0.7    |          |     | √        | √            |
| STE-14D470KS | 16.5      | 4.0    | 7.5   | 0.7    |          |     | √        | √            |
| STE-14D560KS | 16.5      | 4.5    | 7.5   | 0.7    |          |     | √        | √            |
| STE-14D680KS | 16.5      | 5.0    | 7.5   | 0.7    |          |     | √        | √            |
| STE-14D820KS | 16.5      | 4.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D101KS | 16.5      | 4.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D121KS | 16.5      | 4.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D151KS | 16.5      | 4.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D181KS | 16.5      | 4.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D201KS | 16.5      | 4.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D221KS | 16.5      | 4.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D241KS | 16.5      | 4.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D271KS | 16.5      | 4.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D301KS | 16.5      | 5.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D331KS | 16.5      | 5.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D361KS | 16.5      | 5.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D391KS | 16.5      | 5.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D431KS | 16.5      | 5.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D471KS | 16.5      | 5.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D511KS | 16.5      | 5.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D561KS | 16.5      | 5.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D621KS | 16.5      | 5.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D681KS | 16.5      | 6.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D751KS | 16.5      | 6.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D781KS | 16.5      | 6.5    | 7.5   | 0.7    |          |     | √        | √            |
| STE-14D821KS | 16.5      | 6.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D911KS | 16.5      | 7.0    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D102KS | 16.5      | 7.5    | 7.5   | 0.7    | √        | √   | √        | √            |
| STE-14D112KS | 16.5      | 7.5    | 7.5   | 0.7    | √        |     | √        | √            |

## 20D-S Series

| Part No.     | Size (mm) |        |       |               |              | Approval |     |          |              |
|--------------|-----------|--------|-------|---------------|--------------|----------|-----|----------|--------------|
|              | D Max.    | T Max. | F±0.8 | d±0.05        |              | CQC      | VDE | UL (USA) | cUL (Canada) |
|              |           |        |       | Straight lead | Crimped lead |          |     |          |              |
| STE-20D180KS | 23.0      | 4.0    | 10.0  | 1.0           | 0.7          |          |     | √        | √            |
| STE-20D220KS | 23.0      | 4.0    | 10.0  | 1.0           | 0.7          |          |     | √        | √            |
| STE-20D270KS | 23.0      | 4.5    | 10.0  | 1.0           | 0.7          |          |     | √        | √            |
| STE-20D330KS | 23.0      | 4.5    | 10.0  | 1.0           | 0.7          |          |     | √        | √            |
| STE-20D390KS | 23.0      | 4.5    | 10.0  | 1.0           | 0.7          |          |     | √        | √            |
| STE-20D470KS | 23.0      | 5.0    | 10.0  | 1.0           | 0.7          |          |     | √        | √            |
| STE-20D560KS | 23.0      | 5.0    | 10.0  | 1.0           | 0.7          |          |     | √        | √            |
| STE-20D680KS | 23.0      | 5.5    | 10.0  | 1.0           | 0.7          |          |     | √        | √            |
| STE-20D820KS | 23.0      | 4.0    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D101KS | 23.0      | 4.5    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D121KS | 23.0      | 4.5    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D151KS | 23.0      | 5.0    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D181KS | 23.0      | 5.0    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D201KS | 23.0      | 5.0    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D221KS | 23.0      | 5.5    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D241KS | 23.0      | 5.0    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D271KS | 23.0      | 5.0    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D301KS | 23.0      | 5.5    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D331KS | 23.0      | 5.5    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D361KS | 23.0      | 5.5    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D391KS | 23.0      | 5.5    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D431KS | 23.0      | 5.5    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D471KS | 23.0      | 5.5    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D511KS | 23.0      | 6.0    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D561KS | 23.0      | 6.0    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D621KS | 23.0      | 6.5    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D681KS | 23.0      | 6.5    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D751KS | 23.0      | 7.0    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D781KS | 23.0      | 7.0    | 10.0  | 1.0           | 0.7          |          |     | √        | √            |
| STE-20D821KS | 23.0      | 7.0    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D911KS | 23.0      | 7.5    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D102KS | 23.0      | 8.0    | 10.0  | 1.0           | 0.7          | √        | √   | √        | √            |
| STE-20D112KS | 23.0      | 8.0    | 10.0  | 1.0           | 0.7          | √        |     | √        | √            |

## Lead Configuration

| Lead Style       | Drawing   | Lead Length L (mm)                     | Coating Lead Length C (mm) | Height H (mm) |
|------------------|---|--|----------------------------|---------------|
| Long Straight    |    | 16.0 min                               | 3.0 Max                    | /             |
| Short Straight   |    | ①[2.5≤L < 6.0]±0.5;<br>②[6.0≤L≤10]±1.0 | 3.0 Max                    | /             |
| Outside Crimped  |   | ①[2.5≤L < 6.0]±0.5;<br>②[6.0≤L≤10]±1.0 | Not exceed the bend point  | 5.5mm Max     |
| Vertical Crimped |  | ①[2.5≤L < 6.0]±0.5;<br>②[6.0≤L≤10]±1.0 | Not exceed the bend point  | 4.5mm Max     |

## Taping And Dimensions (mm)

| Figure  | Fig.1  |                             | Fig.2                       |                             |              |               |              |
|---|--|-----------------------------|-----------------------------|-----------------------------|--------------|---------------|--------------|
|   | Symbol   | P=5.0                       | P=7.5                       |                             | P=10.0       |               |              |
|  <p>Fig.1 (P=5.0)</p> | Po   | 12.7±0.3                    | 12.7±0.3                    | 12.7±0.3                    |              |               |              |
|   | P  | 12.7±1.0                    | 25.4±1.0                    | 25.4±1.0                    |              |               |              |
|   | P1   | 3.85±0.7                    | 8.95±0.7                    | 7.7±0.7                     |              |               |              |
|   | P2   | 6.35±1.3                    | 12.7±1.3                    | 12.7±1.3                    |              |               |              |
|   | F  | 5±0.8                       | 7.5±0.8                     | 10.0±0.8                    |              |               |              |
|   | Δh   | 0±2.0                       | 0±2.0                       | 0±2.0                       |              |               |              |
|   | W  | 18.0+1.5/-1.0               | 18.0 +1.5/-1.0              | 18.0 +1.5/-1.0              |              |               |              |
|   | Wo   | 10.5 Max                    | 10.5 Max                    | 10.5 Max                    |              |               |              |
|   | W1   | 9.0+0.75/-0.5               | 9.0+0.75/-0.5               | 9.0+0.75/-0.5               |              |               |              |
|   |  <p>Fig.2 (P=7.5 &amp; 10)</p> | W2                          | 3.0 Max                     | 3.0 Max                     | 3.0 Max      |               |              |
| Do  |  | 4.0±0.2                     | 4.0±0.2                     | 4.0±0.2                     |              |               |              |
| H   |  | 20+1.5/-1.0                 | 20+1.5/-1.0                 | 20+1.5/-1.0                 |              |               |              |
| Ho  |  | 16.5&17.0&19.0<br>+1.5/-1.0 | 16.5&17.0&19.0<br>+1.5/-1.0 | 16.5&17.0&19.0<br>+1.5/-1.0 |              |               |              |
| L   |  | Straight Lead               | Crimped Lead                | Straight Lead               | Crimped Lead | Straight Lead | Crimped Lead |
|   |  | 11.0 Max                    | 9.0 Max                     | 11.0 Max                    | 9.0 Max      | 11.0 Max      | 9.0 Max      |
| t1  |  | 0.5±0.2                     | 0.5±0.2                     | 0.5±0.2                     |              |               |              |
| t2  |  | 1.7 Max                     | 1.7 Max                     | 1.7 Max                     |              |               |              |

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