

## VARISTOR Series

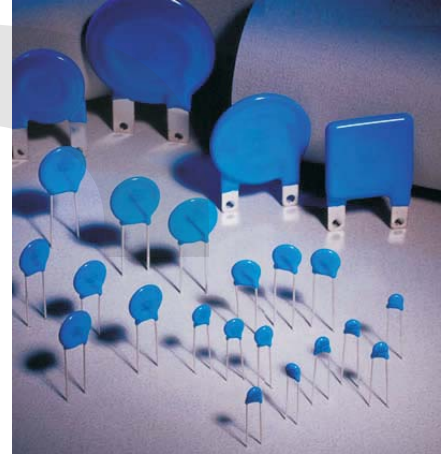
### KLS6-(ZOV HEL Overvoltage Protection) Voltage Dependent Series

#### 1.Applications

- Transistor, diode, IC, thyristor and trial, semi conductor switch element and kinds of electronic equipment protection
- Surge absorption in house-hold appliance, industrial electronics, relay and electro magnetic valva.
- Electrostatic discharge noise spike suppression
- Leakage-protection switch over-voltage protection
- Thunderbolt and over-voltage protection on such telecommunication apparatus as telephone, miles-control exchanger at so on.

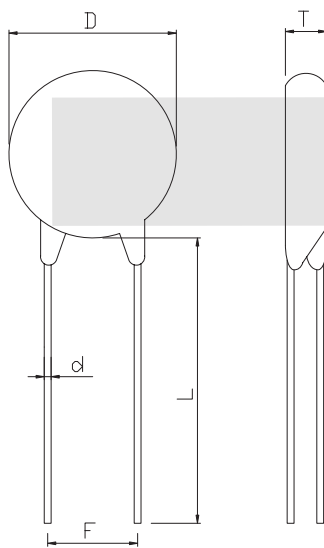
#### 2.Features and technological characteristics

- Small figure, large capacitance and energy
- Security working, operating easily ethoxyline resin-envenloped
- Response time: <25ns
- Using ambiend temperature: -40°C~ +85°C
- Using ambiend temperature:  $\geq 500M\Omega$
- Insulation resistance: -0.5% /°C
- Temperature coefficience of varistor voltage: -0.5% /°C
- chip diameter:: 5,7,10,14,20,25,32,40 mm
- Allowable tolerance of varistor voltage:  $K \pm 10\%$



VI

#### Dimension (Unit: mm)



| Part No. | Dimensions (mm) |      |      |           |             |
|----------|-----------------|------|------|-----------|-------------|
|          | Dmax            | Tmax | Lmin | F $\pm 1$ | d $\pm 0.1$ |
| 05D      | 7.5             | 6    | 20   | 5         | 0.6         |
| 07D      | 9               | 6    | 20   | 5         | 0.6         |
| 10D      | 14              | 8    | 25   | 7.5       | 0.8         |
| 14D      | 17              | 12   | 25   | 7.5       | 0.8         |
| 20D      | 25              | 12   | 25   | 10        | 1           |
| 25D      | 30              | 12   | 25   | 12.5      | 1           |
| 32D      | 39              | 12   | 25   | 25        | 1           |
| 40D      | 48              | 12   | 25   | 25        | 1           |

## ORDER INFORMATION

KLS6- 05D - 180 K  
 Part Number \_\_\_\_\_  
 Chip Diameter \_\_\_\_\_  
 Allowable tolerance of varistor voltage:  $K \pm 10\%$   
 Varistor Voltage \_\_\_\_\_

**VARISTOR Series**
**KLS6-(ZOV HEL Overvoltage Protection) Voltage Dependent Series**

| Model number | Max allowable Operating Voltage |        | Varistor Voltage   | Max Clamping Voltage |                    | Capacity of with standing surge current (8/20u s) |        | Max Energy (J) |      | Rated Power | Capacitance |
|--------------|---------------------------------|--------|--------------------|----------------------|--------------------|---------------------------------------------------|--------|----------------|------|-------------|-------------|
|              | AC (V)                          | DC (V) | V <sub>0</sub> 1mA | V <sub>p</sub> (V)   | I <sub>p</sub> (A) | 1次 (A)                                            | 2次 (A) | 10/1000us      | 2ms  | (W)         | 1KHZ (pF)   |
| KLS6-05D180K | 11                              | 14     | 18 (16-20)         | 40                   | 1                  | 250                                               | 125    | 0.6            | 0.5  | 0.01        | 1400        |
| KLS6-05D220K | 14                              | 18     | 22 (20-24)         | 48                   | 1                  | 250                                               | 125    | 0.7            | 0.7  | 0.01        | 1150        |
| KLS6-05D270K | 17                              | 22     | 27 (24-30)         | 60                   | 1                  | 250                                               | 125    | 0.9            | 0.8  | 0.01        | 930         |
| KLS6-05D330K | 20                              | 26     | 33 (30-36)         | 73                   | 1                  | 250                                               | 125    | 1.1            | 0.9  | 0.01        | 760         |
| KLS6-05D390K | 25                              | 31     | 39 (35-43)         | 86                   | 1                  | 250                                               | 125    | 1.2            | 1.1  | 0.01        | 640         |
| KLS6-05D470K | 30                              | 38     | 47 (42-52)         | 104                  | 1                  | 250                                               | 125    | 1.5            | 1.4  | 0.01        | 530         |
| KLS6-05D560K | 35                              | 45     | 56 (50-62)         | 123                  | 1                  | 250                                               | 125    | 1.8            | 1.7  | 0.01        | 450         |
| KLS6-05D680K | 40                              | 56     | 68 (61-75)         | 145                  | 1                  | 250                                               | 125    | 2.2            | 2    | 0.01        | 370         |
| KLS6-05D820K | 50                              | 65     | 82 (74-90)         | 150                  | 5                  | 800                                               | 600    | 4              | 2.5  | 0.1         | 300         |
| KLS6-05D101K | 60                              | 85     | 100 (90-110)       | 175                  | 5                  | 800                                               | 600    | 4.1            | 3    | 0.1         | 250         |
| KLS6-05D121K | 75                              | 100    | 120 (108-132)      | 210                  | 5                  | 800                                               | 600    | 4.9            | 3.6  | 0.1         | 210         |
| KLS6-05D151K | 95                              | 125    | 150 (135-165)      | 260                  | 5                  | 800                                               | 600    | 6.5            | 4.5  | 0.1         | 165         |
| KLS6-05D181K | 115                             | 150    | 180 (162-198)      | 320                  | 5                  | 800                                               | 600    | 7.5            | 5    | 0.1         | 140         |
| KLS6-05D201K | 130                             | 170    | 200 (185-225)      | 355                  | 5                  | 800                                               | 600    | 8.5            | 6    | 0.1         | 125         |
| KLS6-05D221K | 140                             | 180    | 220 (198-242)      | 380                  | 5                  | 800                                               | 600    | 9              | 6.5  | 0.1         | 110         |
| KLS6-05D241K | 150                             | 200    | 240 (216-264)      | 415                  | 5                  | 800                                               | 600    | 10.5           | 7.5  | 0.1         | 100         |
| KLS6-05D271K | 175                             | 225    | 270 (243-297)      | 475                  | 5                  | 800                                               | 600    | 11             | 8    | 0.1         | 95          |
| KLS6-05D301K | 190                             | 250    | 300 (270-330)      | 520                  | 5                  | 800                                               | 600    | 12             | 8.5  | 0.1         | 85          |
| KLS6-05D331K | 210                             | 275    | 330 (297-363)      | 570                  | 5                  | 800                                               | 600    | 13             | 9.5  | 0.1         | 75          |
| KLS6-05D361K | 230                             | 300    | 360 (324-396)      | 620                  | 5                  | 800                                               | 600    | 16             | 11   | 0.1         | 70          |
| KLS6-05D391K | 250                             | 320    | 390 (351-429)      | 675                  | 5                  | 800                                               | 600    | 17             | 12   | 0.1         | 65          |
| KLS6-05D431K | 275                             | 350    | 430 (387-473)      | 745                  | 5                  | 800                                               | 600    | 20             | 13.5 | 0.1         | 60          |
| KLS6-05D471K | 300                             | 385    | 470 (423-517)      | 810                  | 5                  | 800                                               | 600    | 21             | 15   | 0.1         | 55          |
| KLS6-05D511K | 320                             | 415    | 510 (459-561)      | 845                  | 5                  | 800                                               | 600    | 22.5           | 16   | 0.1         | 50          |
| KLS6-05D561K | 350                             | 460    | 560 (504-616)      | 920                  | 5                  | 800                                               | 600    | 24             | 17   | 0.1         | 45          |
| KLS6-07D180K | 11                              | 14     | 18 (16-20)         | 36                   | 2.5                | 500                                               | 250    | 2              | 1    | 0.02        | 2800        |
| KLS6-07D220K | 14                              | 18     | 22 (20-24)         | 43                   | 2.5                | 500                                               | 250    | 2              | 1.3  | 0.02        | 2300        |
| KLS6-07D270K | 17                              | 22     | 27 (24-30)         | 53                   | 2.5                | 500                                               | 250    | 3              | 1.6  | 0.02        | 1800        |
| KLS6-07D330K | 20                              | 26     | 33 (30-36)         | 65                   | 2.5                | 500                                               | 250    | 4              | 1.9  | 0.02        | 1500        |
| KLS6-07D390K | 25                              | 31     | 39 (35-43)         | 77                   | 2.5                | 500                                               | 250    | 4              | 2.3  | 0.02        | 1300        |
| KLS6-07D470K | 30                              | 38     | 47 (42-52)         | 93                   | 2.5                | 500                                               | 250    | 5              | 2.8  | 0.02        | 1100        |
| KLS6-07D560K | 35                              | 45     | 56 (50-62)         | 110                  | 2.5                | 500                                               | 250    | 6              | 3.3  | 0.02        | 890         |
| KLS6-07D680K | 40                              | 56     | 68 (61-75)         | 135                  | 2.5                | 500                                               | 250    | 7              | 4.1  | 0.02        | 740         |
| KLS6-07D820K | 50                              | 65     | 82 (74-90)         | 135                  | 10                 | 1750                                              | 1250   | 10             | 4.8  | 0.25        | 600         |
| KLS6-07D101K | 60                              | 85     | 100 (90-110)       | 165                  | 10                 | 1750                                              | 1250   | 12             | 6    | 0.25        | 500         |
| KLS6-07D121K | 75                              | 100    | 120 (108-132)      | 200                  | 10                 | 1750                                              | 1250   | 13             | 7.3  | 0.25        | 420         |
| KLS6-07D151K | 95                              | 125    | 150 (135-165)      | 250                  | 10                 | 1750                                              | 1250   | 13             | 9    | 0.25        | 330         |
| KLS6-07D181K | 115                             | 150    | 181 (162-198)      | 300                  | 10                 | 1750                                              | 1250   | 16             | 11   | 0.25        | 280         |
| KLS6-07D201K | 130                             | 170    | 200 (185-225)      | 340                  | 10                 | 1750                                              | 1250   | 17.5           | 12.5 | 0.25        | 250         |
| KLS6-07D221K | 140                             | 180    | 220 (198-242)      | 360                  | 10                 | 1750                                              | 1250   | 19             | 13.5 | 0.25        | 230         |

All specification & dimensions are subject to change, please call your nearest KLS sales representative for update information

**VARISTOR Series**
**KLS6-(ZOV HEL Overvoltage Protection) Voltage Dependent Series**

VI

|              |     |     |               |      |    |      |      |    |      |      |      |
|--------------|-----|-----|---------------|------|----|------|------|----|------|------|------|
| KLS6-07D241K | 150 | 200 | 240 (216-264) | 395  | 10 | 1750 | 1250 | 21 | 15   | 0.25 | 210  |
| KLS6-07D271K | 175 | 225 | 270 (243-297) | 455  | 10 | 1750 | 1250 | 24 | 17   | 0.25 | 185  |
| KLS6-07D301K | 190 | 250 | 300 (270-330) | 500  | 10 | 1750 | 1250 | 26 | 18.5 | 0.25 | 165  |
| KLS6-07D331K | 210 | 275 | 330 (297-363) | 550  | 10 | 1750 | 1250 | 28 | 20   | 0.25 | 150  |
| KLS6-07D361K | 230 | 300 | 360 (324-396) | 595  | 10 | 1750 | 1250 | 32 | 23   | 0.25 | 140  |
| KLS6-07D391K | 250 | 320 | 390 (351-429) | 650  | 10 | 1750 | 1250 | 35 | 25   | 0.25 | 130  |
| KLS6-07D431K | 275 | 350 | 430 (387-437) | 710  | 10 | 1750 | 1250 | 40 | 27.5 | 0.25 | 115  |
| KLS6-07D471K | 300 | 385 | 470 (423-517) | 775  | 10 | 1750 | 1250 | 42 | 30   | 0.25 | 105  |
| KLS6-07D511K | 320 | 415 | 510 (495-561) | 845  | 10 | 1750 | 1250 | 45 | 32   | 0.25 | 100  |
| KLS6-07D561K | 350 | 460 | 560 (504-616) | 920  | 10 | 1750 | 1250 | 49 | 35   | 0.25 | 90   |
| KLS6-07D621K | 385 | 505 | 620 (558-682) | 1025 | 10 | 1750 | 1250 | 55 | 38   | 0.25 | 80   |
| KLS6-07D681K | 420 | 560 | 680 (612-748) | 1120 | 10 | 1750 | 1250 | 60 | 42   | 0.25 | 75   |
| KLS6-10D180K | 11  | 14  | 18 (16-20)    | 36   | 5  | 1000 | 500  | 3  | 2.1  | 0.05 | 5600 |
| KLS6-10D220K | 14  | 18  | 22 (20-24)    | 43   | 5  | 1000 | 500  | 5  | 2.6  | 0.05 | 4500 |
| KLS6-10D270K | 17  | 22  | 27 (24-30)    | 53   | 5  | 1000 | 500  | 6  | 3.2  | 0.05 | 3700 |
| KLS6-10D330K | 20  | 26  | 33 (30-36)    | 65   | 5  | 1000 | 500  | 7  | 3.9  | 0.05 | 3000 |
| KLS6-10D390K | 25  | 31  | 39 (35-43)    | 77   | 5  | 1000 | 500  | 9  | 4.7  | 0.05 | 2400 |
| KLS6-10D470K | 30  | 38  | 47 (42-52)    | 93   | 5  | 1000 | 500  | 11 | 5.6  | 0.05 | 2100 |
| KLS6-10D560K | 35  | 45  | 56 (50-62)    | 110  | 5  | 1000 | 500  | 13 | 6.6  | 0.05 | 1800 |
| KLS6-10D680K | 40  | 56  | 68 (61-75)    | 135  | 5  | 1000 | 500  | 15 | 8.1  | 0.05 | 1500 |
| KLS6-10D820K | 50  | 65  | 82 (74-90)    | 135  | 25 | 3500 | 2500 | 17 | 9.8  | 0.4  | 1200 |
| KLS6-10D101K | 60  | 85  | 100 (90-110)  | 165  | 25 | 3500 | 2500 | 18 | 11.6 | 0.4  | 1000 |
| KLS6-10D121K | 75  | 100 | 120 (108-132) | 200  | 25 | 3500 | 2500 | 21 | 14   | 0.4  | 830  |
| KLS6-10D151K | 95  | 125 | 150 (135-165) | 250  | 25 | 3500 | 2500 | 25 | 18   | 0.4  | 670  |
| KLS6-10D181K | 115 | 150 | 180 (162-198) | 300  | 25 | 3500 | 2500 | 30 | 21   | 0.4  | 560  |
| KLS6-10D201K | 130 | 170 | 200 (185-225) | 340  | 25 | 3500 | 2500 | 35 | 25   | 0.4  | 500  |
| KLS6-10D221K | 140 | 180 | 220 (198-242) | 360  | 25 | 3500 | 2500 | 39 | 27.5 | 0.4  | 450  |
| KLS6-10D241K | 150 | 200 | 240 (216-264) | 395  | 25 | 3500 | 2500 | 42 | 30   | 0.4  | 420  |
| KLS6-10D271K | 175 | 225 | 270 (243-297) | 455  | 25 | 3500 | 2500 | 49 | 35   | 0.4  | 370  |
| KLS6-10D301K | 190 | 250 | 300 (270-330) | 500  | 25 | 3500 | 2500 | 54 | 38   | 0.4  | 330  |
| KLS6-10D331K | 210 | 275 | 330 (297-363) | 550  | 25 | 3500 | 2500 | 58 | 42   | 0.4  | 300  |
| KLS6-10D361K | 230 | 300 | 360 (324-396) | 595  | 25 | 3500 | 2500 | 65 | 45   | 0.4  | 280  |
| KLS6-10D391K | 250 | 320 | 390 (351-429) | 650  | 25 | 3500 | 2500 | 70 | 50   | 0.4  | 260  |
| KLS6-10D431K | 275 | 350 | 430 (387-473) | 710  | 25 | 3500 | 2500 | 80 | 55   | 0.4  | 230  |
| KLS6-10D471K | 300 | 385 | 470 (423-517) | 775  | 25 | 3500 | 2500 | 85 | 60   | 0.4  | 210  |
| KLS6-10D511K | 320 | 415 | 510 (459-561) | 845  | 25 | 3500 | 2500 | 92 | 67   | 0.4  | 200  |
| KLS6-10D561K | 350 | 460 | 560 (504-616) | 925  | 25 | 3500 | 2500 | 92 | 67   | 0.4  | 180  |
| KLS6-10D621K | 385 | 505 | 620 (558-682) | 1025 | 25 | 3500 | 2500 | 92 | 67   | 0.4  | 160  |

## VARISTOR Series

### KLS6-(ZOV HEL Overvoltage Protection) Voltage Dependent Series

| Model number | Max allowable Operating Voltage |        | Varistor Voltage | Max Clamping Voltage |                    | Capacity of with standing surge current (8/20u s) |        | Max Energy (J) |      | Rated Power (W) | Capacitance 1KHZ (pF) |
|--------------|---------------------------------|--------|------------------|----------------------|--------------------|---------------------------------------------------|--------|----------------|------|-----------------|-----------------------|
|              | AC (V)                          | DC (V) |                  | V <sub>p</sub> (V)   | I <sub>p</sub> (A) | 1次 (A)                                            | 2次 (A) | 10/1000us      | 2ms  |                 |                       |
| KLS6-10D681K | 420                             | 560    | 680 (612-748)    | 1120                 | 25                 | 3500                                              | 2500   | 92             | 67   | 0.4             | 150                   |
| KLS6-10D751K | 460                             | 615    | 750 (675-825)    | 1240                 | 25                 | 3500                                              | 2500   | 100            | 70   | 0.4             | 130                   |
| KLS6-10D781K | 485                             | 640    | 780 (702-858)    | 1290                 | 25                 | 3500                                              | 2500   | 105            | 75   | 0.4             | 130                   |
| KLS6-10D821K | 510                             | 670    | 820 (738-902)    | 1355                 | 25                 | 3500                                              | 2500   | 110            | 80   | 0.4             | 120                   |
| KLS6-10D911K | 550                             | 745    | 910 (819-1001)   | 1500                 | 25                 | 3500                                              | 2500   | 130            | 90   | 0.4             | 110                   |
| KLS6-10D102K | 625                             | 825    | 1000 (900-1100)  | 1650                 | 25                 | 3500                                              | 2500   | 140            | 100  | 0.4             | 100                   |
| KLS6-10D112K | 680                             | 895    | 1100 (990-1210)  | 1815                 | 25                 | 3500                                              | 2500   | 155            | 110  | 0.4             | 90                    |
| KLS6-14D180K | 11                              | 14     | 18 (16-20)       | 36                   | 10                 | 2000                                              | 1000   | 7              | 4.7  | 0.1             | 11100                 |
| KLS6-14D220K | 14                              | 18     | 22 (20-24)       | 43                   | 10                 | 2000                                              | 1000   | 8              | 5.7  | 0.1             | 9100                  |
| KLS6-14D270K | 17                              | 22     | 27 (24-30)       | 53                   | 10                 | 2000                                              | 1000   | 10             | 6.9  | 0.1             | 7400                  |
| KLS6-14D330K | 20                              | 26     | 33 (30-36)       | 65                   | 10                 | 2000                                              | 1000   | 12             | 8.4  | 0.1             | 6100                  |
| KLS6-14D390K | 25                              | 31     | 39 (35-43)       | 77                   | 10                 | 2000                                              | 1000   | 13             | 9.9  | 0.1             | 5100                  |
| KLS6-14D470K | 30                              | 38     | 47 (42-52)       | 93                   | 10                 | 2000                                              | 1000   | 17             | 11.9 | 0.1             | 4300                  |
| KLS6-14D560K | 35                              | 45     | 56 (50-62)       | 110                  | 10                 | 2000                                              | 1000   | 20             | 14.2 | 0.1             | 3600                  |
| KLS6-14D680K | 40                              | 56     | 58 (61-75)       | 135                  | 10                 | 2000                                              | 1000   | 24             | 17.3 | 0.1             | 2900                  |
| KLS6-14D820K | 50                              | 65     | 82 (74-90)       | 135                  | 50                 | 6000                                              | 5000   | 27             | 20.5 | 0.6             | 2400                  |
| KLS6-14D101K | 60                              | 85     | 100 (90-110)     | 165                  | 50                 | 6000                                              | 5000   | 33             | 25   | 0.6             | 2000                  |
| KLS6-14D121K | 75                              | 100    | 120 (108-132)    | 200                  | 50                 | 6000                                              | 5000   | 40             | 30   | 0.6             | 1700                  |
| KLS6-14D151K | 95                              | 125    | 150 (135-165)    | 250                  | 50                 | 6500                                              | 5000   | 53             | 37.5 | 0.6             | 1300                  |
| KLS6-14D181K | 115                             | 150    | 180 (162-198)    | 300                  | 50                 | 6500                                              | 5000   | 60             | 42   | 0.6             | 1100                  |
| KLS6-14D201K | 130                             | 170    | 200 (185-225)    | 340                  | 50                 | 6500                                              | 5000   | 70             | 50   | 0.6             | 1000                  |
| KLS6-14D221K | 140                             | 180    | 220 (198-242)    | 360                  | 50                 | 6500                                              | 5000   | 78             | 55   | 0.6             | 900                   |
| KLS6-14D241K | 150                             | 200    | 240 (216-264)    | 395                  | 50                 | 6500                                              | 5000   | 84             | 60   | 0.6             | 830                   |
| KLS6-14D271K | 175                             | 225    | 270 (243-297)    | 455                  | 50                 | 6500                                              | 5000   | 99             | 70   | 0.6             | 740                   |
| KLS6-14D301K | 190                             | 250    | 300 (270-330)    | 500                  | 50                 | 6500                                              | 5000   | 108            | 75   | 0.6             | 670                   |
| KLS6-14D331K | 210                             | 275    | 330 (297-363)    | 550                  | 50                 | 6500                                              | 5000   | 115            | 80   | 0.6             | 610                   |
| KLS6-14D361K | 230                             | 300    | 360 (324-396)    | 595                  | 50                 | 6500                                              | 5000   | 130            | 90   | 0.6             | 560                   |
| KLS6-14D391K | 250                             | 320    | 390 (351-429)    | 650                  | 50                 | 6500                                              | 5000   | 140            | 100  | 0.6             | 510                   |
| KLS6-14D431K | 275                             | 350    | 430 (387-473)    | 710                  | 50                 | 6500                                              | 5000   | 155            | 110  | 0.6             | 460                   |
| KLS6-14D471K | 300                             | 385    | 470 (423-517)    | 775                  | 50                 | 6500                                              | 5000   | 175            | 125  | 0.6             | 430                   |
| KLS6-14D511K | 320                             | 415    | 510 (459-561)    | 845                  | 50                 | 6500                                              | 5000   | 190            | 136  | 0.6             | 390                   |
| KLS6-14D561K | 350                             | 460    | 560 (504-616)    | 925                  | 50                 | 6500                                              | 5000   | 190            | 136  | 0.6             | 360                   |
| KLS6-14D621K | 385                             | 505    | 620 (558-682)    | 1025                 | 50                 | 6500                                              | 5000   | 190            | 136  | 0.6             | 320                   |
| KLS6-14D681K | 420                             | 560    | 680 (612-748)    | 1120                 | 50                 | 6500                                              | 5000   | 190            | 136  | 0.6             | 290                   |
| KLS6-14D751K | 460                             | 615    | 750 (675-825)    | 1240                 | 50                 | 6500                                              | 5000   | 210            | 150  | 0.6             | 270                   |
| KLS6-14D781K | 485                             | 640    | 780 (702-858)    | 1290                 | 50                 | 6500                                              | 5000   | 220            | 155  | 0.6             | 260                   |
| KLS6-14D821K | 510                             | 670    | 820 (738-902)    | 1355                 | 50                 | 6500                                              | 5000   | 235            | 165  | 0.6             | 240                   |

**VARISTOR Series**
**KLS6-(ZOV HEL Overvoltage Protection) Voltage Dependent Series**

| Model number | Max allowable Operating Voltage |        | Varistor Voltage | Max Clamping Voltage |                    | Capacity of with standing surge current (8/20 $\mu$ s) |        | Max Energy (J)  |     | Rated Power (W) | Capacitance (pF) |
|--------------|---------------------------------|--------|------------------|----------------------|--------------------|--------------------------------------------------------|--------|-----------------|-----|-----------------|------------------|
|              | AC (V)                          | DC (V) |                  | V <sub>p</sub> (V)   | I <sub>p</sub> (A) | 1次 (A)                                                 | 2次 (A) | 10/1000 $\mu$ s | 2ms |                 |                  |
| KLS6-14D911K | 550                             | 745    | 910 (819-1001)   | 1500                 | 50                 | 6500                                                   | 5000   | 255             | 180 | 0.6             | 220              |
| KLS6-14D102K | 625                             | 825    | 1000 (900-1100)  | 1650                 | 50                 | 6500                                                   | 5000   | 280             | 200 | 0.6             | 200              |
| KLS6-14D112K | 680                             | 895    | 1100 (990-1210)  | 1815                 | 50                 | 6500                                                   | 5000   | 310             | 220 | 0.6             | 180              |
| KLS6-20D180K | 11                              | 14     | 18 (16-20)       | 36                   | 20                 | 3000                                                   | 2000   | 13              | 11  | 0.2             | 28500            |
| KLS6-20D220K | 14                              | 18     | 22 (20-24)       | 43                   | 20                 | 3000                                                   | 2000   | 16              | 13  | 0.2             | 18500            |
| KLS6-20D270K | 17                              | 22     | 27 (24-30)       | 53                   | 20                 | 3000                                                   | 2000   | 19              | 15  | 0.2             | 13000            |
| KLS6-20D330K | 20                              | 26     | 33 (30-36)       | 65                   | 20                 | 3000                                                   | 2000   | 24              | 20  | 0.2             | 11500            |
| KLS6-20D390K | 25                              | 31     | 39 (35-43)       | 77                   | 20                 | 3000                                                   | 2000   | 28              | 24  | 0.2             | 8500             |
| KLS6-20D470K | 30                              | 38     | 47 (42-52)       | 93                   | 20                 | 3000                                                   | 2000   | 34              | 30  | 0.2             | 7400             |
| KLS6-20D560K | 35                              | 45     | 56 (50-62)       | 110                  | 20                 | 3000                                                   | 2000   | 41              | 35  | 0.2             | 6500             |
| KLS6-20D680K | 40                              | 56     | 68 (61-75)       | 135                  | 20                 | 3000                                                   | 2000   | 49              | 40  | 0.2             | 5800             |
| KLS6-20D820K | 50                              | 65     | 82 (74-90)       | 135                  | 100                | 10000                                                  | 7000   | 56              | 41  | 1               | 4900             |
| KLS6-20D101K | 60                              | 85     | 100 (90-110)     | 165                  | 100                | 10000                                                  | 7000   | 70              | 56  | 1               | 4000             |
| KLS6-20D121K | 75                              | 100    | 120 (108-132)    | 200                  | 100                | 10000                                                  | 7000   | 85              | 66  | 1               | 3300             |
| KLS6-20D151K | 95                              | 125    | 150 (135-165)    | 250                  | 100                | 13000                                                  | 7000   | 106             | 75  | 1               | 2700             |
| KLS6-20D181K | 115                             | 150    | 180 (162-198)    | 300                  | 100                | 13000                                                  | 7000   | 130             | 90  | 1               | 2200             |
| KLS6-20D201K | 130                             | 170    | 200 (185-225)    | 340                  | 100                | 13000                                                  | 7000   | 140             | 100 | 1               | 2000             |
| KLS6-20D221K | 140                             | 180    | 220 (198-242)    | 360                  | 100                | 13000                                                  | 7000   | 155             | 110 | 1               | 1800             |
| KLS6-20D241K | 150                             | 200    | 240 (216-264)    | 395                  | 100                | 13000                                                  | 7000   | 168             | 120 | 1               | 1650             |
| KLS6-20D271K | 175                             | 225    | 270 (243-297)    | 455                  | 100                | 13000                                                  | 7000   | 190             | 135 | 1               | 1500             |
| KLS6-20D301K | 190                             | 250    | 300 (270-330)    | 500                  | 100                | 13000                                                  | 7000   | 210             | 148 | 1               | 1300             |
| KLS6-20D331K | 210                             | 275    | 330 (297-363)    | 550                  | 100                | 13000                                                  | 7000   | 228             | 160 | 1               | 1200             |
| KLS6-20D361K | 230                             | 300    | 360 (324-396)    | 595                  | 100                | 13000                                                  | 7000   | 255             | 180 | 1               | 1100             |
| KLS6-20D391K | 250                             | 320    | 390 (351-429)    | 650                  | 100                | 13000                                                  | 7000   | 275             | 195 | 1               | 1000             |
| KLS6-20D431K | 275                             | 350    | 430 (387-473)    | 710                  | 100                | 13000                                                  | 7000   | 305             | 215 | 1               | 930              |
| KLS6-20D471K | 300                             | 385    | 470 (423-517)    | 775                  | 100                | 13000                                                  | 7000   | 350             | 250 | 1               | 850              |
| KLS6-20D511K | 320                             | 415    | 510 (459-561)    | 845                  | 100                | 13000                                                  | 7000   | 382             | 273 | 1               | 780              |
| KLS6-20D561K | 350                             | 460    | 560 (504-616)    | 925                  | 100                | 10000                                                  | 7000   | 380             | 273 | 1               | 710              |
| KLS6-20D621K | 385                             | 505    | 620 (558-682)    | 1025                 | 100                | 10000                                                  | 7000   | 380             | 273 | 1               | 650              |
| KLS6-20D681K | 420                             | 560    | 680 (612-748)    | 1120                 | 100                | 10000                                                  | 7000   | 380             | 273 | 1               | 600              |
| KLS6-20D751K | 460                             | 615    | 750 (675-825)    | 1240                 | 100                | 10000                                                  | 7000   | 420             | 300 | 1               | 530              |
| KLS6-20D781K | 480                             | 640    | 780 (702-858)    | 1290                 | 100                | 10000                                                  | 7000   | 440             | 310 | 1               | 510              |
| KLS6-20D821K | 510                             | 670    | 820 (738-902)    | 1355                 | 100                | 10000                                                  | 7000   | 460             | 325 | 1               | 500              |
| KLS6-20D911K | 550                             | 745    | 910 (819-1001)   | 1500                 | 100                | 10000                                                  | 7000   | 510             | 360 | 1               | 440              |
| KLS6-20D102K | 625                             | 825    | 1000 (900-1100)  | 1650                 | 100                | 10000                                                  | 7000   | 565             | 400 | 1               | 400              |
| KLS6-20D112K | 680                             | 895    | 1100 (990-1210)  | 1815                 | 100                | 10000                                                  | 7000   | 620             | 440 | 1               | 360              |

**VARISTOR Series**
**KLS6-(ZOV HEL Overvoltage Protection) Voltage Dependent Series**


| Model number | Max allowable Operating Voltage |        | Varistor Voltage<br>V0.1mA | Max Clamping Voltage |        | Capacity of with standing surge current (8/20μs) |        | Max Energy (J) |     | Rated Power (W) | Capacitance (pF) |
|--------------|---------------------------------|--------|----------------------------|----------------------|--------|--------------------------------------------------|--------|----------------|-----|-----------------|------------------|
|              | AC (V)                          | DC (V) |                            | Vp (V)               | Ip (A) | 1次 (A)                                           | 2次 (A) | 10/1000μs      | 2ms |                 |                  |
| KLS6-25D201K | 130                             | 170    | 200 (185-225)              | 340                  | 150    | 20000                                            | 14000  | 190            | 140 |                 | 3200             |
| KLS6-25D221K | 140                             | 180    | 220 (198-242)              | 360                  | 150    | 20000                                            | 14000  | 200            | 150 |                 | 2900             |
| KLS6-25D241K | 150                             | 200    | 240 (216-264)              | 395                  | 150    | 20000                                            | 14000  | 220            | 160 |                 | 2650             |
| KLS6-25D271K | 175                             | 225    | 270 (243-297)              | 455                  | 150    | 20000                                            | 14000  | 255            | 180 |                 | 2400             |
| KLS6-25D301K | 190                             | 250    | 300 (270-330)              | 500                  | 150    | 20000                                            | 14000  | 275            | 200 |                 | 2100             |
| KLS6-25D331K | 210                             | 275    | 330 (297-363)              | 550                  | 150    | 20000                                            | 14000  | 300            | 220 |                 | 1900             |
| KLS6-25D361K | 230                             | 300    | 360 (324-396)              | 595                  | 150    | 20000                                            | 14000  | 330            | 240 |                 | 1750             |
| KLS6-25D391K | 250                             | 320    | 390 (351-429)              | 650                  | 150    | 20000                                            | 14000  | 360            | 260 |                 | 1600             |
| KLS6-25D431K | 275                             | 350    | 430 (387-473)              | 710                  | 150    | 20000                                            | 14000  | 380            | 280 |                 | 1500             |
| KLS6-25D471K | 300                             | 385    | 470 (423-396)              | 775                  | 150    | 20000                                            | 14000  | 440            | 300 |                 | 1400             |
| KLS6-25D511K | 320                             | 415    | 510 (459-561)              | 845                  | 150    | 20000                                            | 14000  | 440            | 300 |                 | 1250             |
| KLS6-25D561K | 350                             | 460    | 560 (504-616)              | 925                  | 150    | 20000                                            | 14000  | 440            | 300 |                 | 1150             |
| KLS6-25D621K | 385                             | 505    | 620 (558-682)              | 1025                 | 150    | 20000                                            | 14000  | 440            | 300 |                 | 1050             |
| KLS6-25D681K | 420                             | 560    | 680 (612-748)              | 1120                 | 150    | 20000                                            | 14000  | 460            | 320 |                 | 950              |
| KLS6-25D751K | 460                             | 615    | 750 (675-825)              | 1240                 | 150    | 20000                                            | 14000  | 510            | 350 |                 | 850              |
| KLS6-25D781K | 485                             | 640    | 780 (702-858)              | 1290                 | 150    | 20000                                            | 14000  | 530            | 360 |                 | 850              |
| KLS6-25D821K | 510                             | 670    | 820 (738-902)              | 1355                 | 150    | 20000                                            | 14000  | 570            | 380 |                 | 800              |
| KLS6-25D911K | 550                             | 745    | 910 (819-1001)             | 1500                 | 150    | 20000                                            | 14000  | 620            | 430 |                 | 700              |
| KLS6-25D102K | 625                             | 825    | 1000 (900-1100)            | 1650                 | 150    | 20000                                            | 14000  | 685            | 460 |                 | 650              |
| KLS6-25D112K | 680                             | 895    | 1100 (990-1210)            | 1815                 | 150    | 20000                                            | 14000  | 770            | 500 |                 | 600              |
| KLS6-32D201K | 130                             | 170    | 200 (185-225)              | 340                  | 200    | 25000                                            | 20000  | 210            |     |                 | 5200             |
| KLS6-32D241K | 150                             | 200    | 240 (216-264)              | 395                  | 200    | 25000                                            | 20000  | 240            |     |                 | 5100             |
| KLS6-32D271K | 175                             | 225    | 270 (243-297)              | 455                  | 200    | 25000                                            | 20000  | 255            |     |                 | 4800             |
| KLS6-32D331K | 210                             | 275    | 330 (297-363)              | 550                  | 200    | 25000                                            | 20000  | 300            |     |                 | 4300             |
| KLS6-32D361K | 230                             | 300    | 360 (324-396)              | 595                  | 200    | 25000                                            | 20000  | 315            |     |                 | 3900             |
| KLS6-32D391K | 250                             | 320    | 390 (351-429)              | 650                  | 200    | 25000                                            | 20000  | 330            |     |                 | 3200             |
| KLS6-32D431K | 275                             | 350    | 430 (387-473)              | 710                  | 200    | 25000                                            | 20000  | 360            |     |                 | 3100             |
| KLS6-32D471K | 300                             | 385    | 470 (423-517)              | 775                  | 200    | 25000                                            | 20000  | 380            |     |                 | 2800             |
| KLS6-32D511K | 320                             | 415    | 510 (459-561)              | 845                  | 200    | 25000                                            | 20000  | 430            |     |                 | 2700             |
| KLS6-32D621K | 385                             | 505    | 620 (558-682)              | 1025                 | 200    | 25000                                            | 20000  | 470            |     |                 | 2400             |
| KLS6-32D681K | 420                             | 560    | 680 (612-748)              | 1120                 | 200    | 25000                                            | 20000  | 495            |     |                 | 2200             |
| KLS6-32D751K | 460                             | 615    | 750 (657-825)              | 1240                 | 200    | 25000                                            | 20000  | 520            |     |                 | 2000             |
| KLS6-32D781K | 485                             | 640    | 780 (702-858)              | 1290                 | 200    | 25000                                            | 20000  | 550            |     |                 | 1900             |
| KLS6-32D821K | 510                             | 670    | 820 (738-902)              | 1355                 | 200    | 25000                                            | 20000  | 580            |     |                 | 1800             |
| KLS6-32D911K | 550                             | 745    | 910 (819-1001)             | 1500                 | 200    | 25000                                            | 20000  | 620            |     |                 | 1300             |
| KLS6-32D951K | 575                             | 765    | 950 (855-1045)             | 1570                 | 200    | 25000                                            | 20000  | 650            |     |                 | 1200             |
| KLS6-32D102K | 625                             | 825    | 1000 (900-1100)            | 1650                 | 200    | 25000                                            | 20000  | 685            |     |                 | 1100             |
| KLS6-32D112K | 680                             | 895    | 1100 (990-1210)            | 1815                 | 200    | 25000                                            | 20000  | 750            |     |                 | 1000             |



**VARISTOR Series**
**KLS6-(ZOV HEL Overvoltage Protection) Voltage Dependent Series**


| Model number | Max allowable Operating Voltage |        | Varistor Voltage<br>V0.1mA | Max Clamping Voltage |        | Capacity of with standing surge current (8/20μs) |        | Max Energy (J) |     | Rated Power (W) | Capacitance (pF) |
|--------------|---------------------------------|--------|----------------------------|----------------------|--------|--------------------------------------------------|--------|----------------|-----|-----------------|------------------|
|              | AC (V)                          | DC (V) |                            | Vp (V)               | Ip (A) | 1次 (A)                                           | 2次 (A) | 10/1000μs      | 2ms |                 |                  |
| KLS6-40D201K | 130                             | 170    | 200 (185-225)              | 395                  | 250    | 40000                                            | 25000  | 310            |     |                 | 8400             |
| KLS6-40D241K | 150                             | 200    | 240 (216-264)              | 455                  | 250    | 40000                                            | 25000  | 360            |     |                 | 8000             |
| KLS6-40D271K | 175                             | 225    | 270 (243-297)              | 550                  | 250    | 40000                                            | 25000  | 390            |     |                 | 7600             |
| KLS6-40D331K | 210                             | 275    | 330 (297-363)              | 595                  | 250    | 40000                                            | 25000  | 460            |     |                 | 6700             |
| KLS6-40D361K | 230                             | 300    | 360 (324-396)              | 650                  | 250    | 40000                                            | 25000  | 475            |     |                 | 6200             |
| KLS6-40D391K | 250                             | 320    | 390 (351-429)              | 710                  | 250    | 40000                                            | 25000  | 490            |     |                 | 5100             |
| KLS6-40D431K | 275                             | 350    | 430 (387-473)              | 775                  | 250    | 40000                                            | 25000  | 550            |     |                 | 4900             |
| KLS6-40D471K | 300                             | 385    | 470 (423-517)              | 845                  | 250    | 40000                                            | 25000  | 600            |     |                 | 4300             |
| KLS6-40D511K | 320                             | 415    | 510 (459-561)              | 1025                 | 250    | 40000                                            | 25000  | 640            |     |                 | 4200             |
| KLS6-40D621K | 385                             | 505    | 620 (558-682)              | 1120                 | 250    | 40000                                            | 25000  | 720            |     |                 | 3800             |
| KLS6-40D681K | 420                             | 560    | 680 (612-748)              | 1240                 | 250    | 40000                                            | 25000  | 750            |     |                 | 3500             |
| KLS6-40D751K | 460                             | 615    | 750 (675-825)              | 1290                 | 250    | 40000                                            | 25000  | 780            |     |                 | 3200             |
| KLS6-40D781K | 485                             | 640    | 780 (702-858)              | 1355                 | 250    | 40000                                            | 25000  | 820            |     |                 | 3000             |
| KLS6-40D821K | 510                             | 670    | 820 (738-902)              | 1500                 | 250    | 40000                                            | 25000  | 900            |     |                 | 2900             |
| KLS6-40D911K | 550                             | 745    | 910 (819-1001)             | 1570                 | 250    | 40000                                            | 25000  | 960            |     |                 | 2200             |
| KLS6-40D951K | 575                             | 765    | 950 (855-1045)             | 1650                 | 250    | 40000                                            | 25000  | 1000           |     |                 | 2000             |
| KLS6-40D102K | 625                             | 825    | 1000 (900-1100)            | 1815                 | 250    | 40000                                            | 25000  | 1055           |     |                 | 1800             |
| KLS6-40D112K | 680                             | 895    | 1100 (990-1210)            | 340                  | 250    | 40000                                            | 25000  | 1155           |     |                 | 1600             |
| KLS6-53D201K | 130                             | 170    | 200 (185-225)              | 395                  | 500    | 70000                                            | 50000  | 550            |     |                 | 15000            |
| KLS6-53D241K | 150                             | 200    | 240 (216-264)              | 455                  | 500    | 70000                                            | 50000  | 650            |     |                 | 12500            |
| KLS6-53D271K | 175                             | 225    | 270 (243-297)              | 550                  | 500    | 70000                                            | 50000  | 700            |     |                 | 11000            |
| KLS6-53D331K | 210                             | 275    | 330 (297-363)              | 595                  | 500    | 70000                                            | 50000  | 825            |     |                 | 9000             |
| KLS6-53D361K | 230                             | 300    | 360 (324-396)              | 650                  | 500    | 70000                                            | 50000  | 850            |     |                 | 8500             |
| KLS6-53D391K | 250                             | 320    | 390 (351-429)              | 710                  | 500    | 70000                                            | 50000  | 885            |     |                 | 7500             |
| KLS6-53D431K | 275                             | 350    | 430 (387-473)              | 775                  | 500    | 70000                                            | 50000  | 990            |     |                 | 7000             |
| KLS6-53D471K | 300                             | 385    | 470 (423-517)              | 845                  | 500    | 70000                                            | 50000  | 1080           |     |                 | 6500             |
| KLS6-53D511K | 320                             | 415    | 510 (459-561)              | 1025                 | 500    | 70000                                            | 50000  | 1150           |     |                 | 6000             |
| KLS6-53D621K | 380                             | 505    | 620 (558-682)              | 1120                 | 500    | 70000                                            | 50000  | 1300           |     |                 | 5000             |
| KLS6-53D681K | 420                             | 560    | 685 (612-748)              | 1240                 | 500    | 70000                                            | 50000  | 1350           |     |                 | 4500             |
| KLS6-53D751K | 460                             | 615    | 750 (675-825)              | 1290                 | 500    | 70000                                            | 50000  | 1400           |     |                 | 4000             |
| KLS6-53D781K | 485                             | 640    | 780 (702-858)              | 1355                 | 500    | 70000                                            | 50000  | 1450           |     |                 | 3900             |
| KLS6-53D821K | 510                             | 670    | 820 (738-902)              | 1500                 | 500    | 70000                                            | 50000  | 1600           |     |                 | 3700             |
| KLS6-53D911K | 550                             | 745    | 910 (819-1001)             | 1570                 | 500    | 70000                                            | 50000  | 1700           |     |                 | 3300             |
| KLS6-53D951K | 575                             | 765    | 950 (855-1045)             | 1650                 | 500    | 70000                                            | 50000  | 1800           |     |                 | 3200             |
| KLS6-53D102K | 625                             | 825    | 1000 (900-1100)            | 18515                | 500    | 70000                                            | 50000  | 1890           |     |                 | 3000             |
| KLS6-53D112K | 680                             | 895    | 1100 (990-1210)            | 1980                 | 500    | 70000                                            | 50000  | 2050           |     |                 | 2700             |
| KLS6-53D122K | 750                             | 990    | 1200 (1080-1320)           | 2310                 | 500    | 70000                                            | 50000  | 2050           |     |                 | 2500             |
| KLS6-53D142K | 880                             | 1140   | 1400 (1260-1540)           | 2640                 | 500    | 70000                                            | 50000  | 2300           |     |                 | 2150             |
| KLS6-53D162K | 1000                            | 1280   | 1600 (1440-1760)           |                      | 500    | 70000                                            | 50000  | 2500           |     |                 | 1900             |