



## 14D High Power Varistor Surge Protection 14D101k Zov Varistor

Our Product Introduction

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### Basic Information

- Place of Origin: Shenzhen, Guangdong, China
- Brand Name: SOCAY
- Certification: UL, REACH, RoHS, ISO
- Model Number: 14D101k 14D101kj
- Minimum Order Quantity: 500PCS
- Price: Negotiable
- Packaging Details: AMMO packing bulk
- Delivery Time: 1-2weeks



### Product Specification

- Product Name: Metal Oxide Varistor
- Package Type:  $\Phi 14\text{mm}$
- VAC: 60V
- VDC: 85V
- Varistor Voltage: 100(90~110)V
- IP: 50A
- VC: 165V
- Rated Power: 0.6W
- Typ. Capacitance: 2000pF
- Withstanding Surge Current: 4.5KA (1 Time)
- Highlight: **14D High Power Varistor, High Power Varistor Surge Protection, 14D101k Zov Varistor**



### More Images



## Product Description

High Quality ZOV 14D Varistor High Power Varistor Zov Varistor 14D101k

**DATASHEET: [14D Series\\_v2308.1.pdf](#)**

| Type Number |            | Maximum Allowable Voltage |                     | Varistor Voltage     | Maximum Clamping Voltage |                    | Withstanding Surge Current |         |                 |         | Maximum Energy (10/1000μs) |                | Rated Power | Typical Capacitance (Reference) |
|-------------|------------|---------------------------|---------------------|----------------------|--------------------------|--------------------|----------------------------|---------|-----------------|---------|----------------------------|----------------|-------------|---------------------------------|
| Standard    | High Surge | V <sub>AC</sub> (V)       | V <sub>DC</sub> (V) | V <sub>1mA</sub> (V) | I <sub>P</sub> (A)       | V <sub>C</sub> (V) | I(A) Standard              |         | I(A) High Surge |         | (J) Standard               | (J) High Surge | (W)         | @1KHZ (pF)                      |
|             |            |                           |                     |                      |                          |                    | 1 Time                     | 2 Times | 1 Time          | 2 Times |                            |                |             |                                 |
| 14D180K     | 14D180KJ   | 11                        | 14                  | 18(15~21.6)          | 10                       | 36                 | 1000                       | 500     | 2000            | 1000    | 4.0                        | 7.0            | 0.1         | 11100                           |
| 14D220K     | 14D220KJ   | 14                        | 18                  | 22(19.5~26)          | 10                       | 43                 | 1000                       | 500     | 2000            | 1000    | 5.0                        | 8.0            | 0.1         | 9100                            |
| 14D270K     | 14D270KJ   | 17                        | 22                  | 27(24~30)            | 10                       | 53                 | 1000                       | 500     | 2000            | 1000    | 6.0                        | 10.0           | 0.1         | 7400                            |
| 14D330K     | 14D330KJ   | 20                        | 26                  | 33(29.5~36.5)        | 10                       | 66                 | 1000                       | 500     | 2000            | 1000    | 7.5                        | 12.0           | 0.1         | 6100                            |
| 14D390K     | 14D390KJ   | 25                        | 31                  | 39(35~43)            | 10                       | 77                 | 1000                       | 500     | 2000            | 1000    | 8.6                        | 13.0           | 0.1         | 5100                            |
| 14D470K     | 14D470KJ   | 30                        | 38                  | 47(42~54)            | 10                       | 93                 | 1000                       | 500     | 2000            | 1000    | 10.0                       | 17.0           | 0.1         | 4300                            |
| 14D560K     | 14D560KJ   | 35                        | 45                  | 56(50~62)            | 10                       | 100                | 1000                       | 500     | 2000            | 1000    | 11.0                       | 20.0           | 0.1         | 3600                            |
| 14D680K     | 14D680KJ   | 40                        | 56                  | 68(61~75)            | 10                       | 135                | 1000                       | 500     | 2000            | 1000    | 14.0                       | 24.0           | 0.1         | 2900                            |
| 14D820K     | 14D820KJ   | 50                        | 65                  | 82(74~90)            | 50                       | 135                | 4500                       | 2500    | 6000            | 5000    | 22.0                       | 27.0           | 0.6         | 2400                            |
| 14D101K     | 14D101KJ   | 60                        | 85                  | 100(90~110)          | 50                       | 165                | 4500                       | 2500    | 6000            | 5000    | 28.0                       | 33.0           | 0.6         | 2000                            |
| 14D121K     | 14D121KJ   | 75                        | 100                 | 120(108~132)         | 50                       | 200                | 4500                       | 2500    | 6000            | 5000    | 32.0                       | 40.0           | 0.6         | 1700                            |
| 14D151K     | 14D151KJ   | 95                        | 125                 | 150(135~165)         | 50                       | 250                | 4500                       | 2500    | 6000            | 5000    | 40.0                       | 53.0           | 0.6         | 1300                            |
| 14D181K     | 14D181KJ   | 115                       | 150                 | 180(162~198)         | 50                       | 300                | 4500                       | 2500    | 6000            | 5000    | 50.0                       | 60.0           | 0.6         | 1100                            |
| 14D201K     | 14D201KJ   | 130                       | 170                 | 200(180~220)         | 50                       | 340                | 4500                       | 2500    | 6000            | 5000    | 57.0                       | 70.0           | 0.6         | 1000                            |
| 14D221K     | 14D221KJ   | 140                       | 180                 | 220(198~242)         | 50                       | 360                | 4500                       | 2500    | 6000            | 5000    | 60.0                       | 78.0           | 0.6         | 900                             |
| 14D241K     | 14D241KJ   | 150                       | 200                 | 240(216~264)         | 50                       | 395                | 4500                       | 2500    | 6000            | 5000    | 63.0                       | 84.0           | 0.6         | 830                             |
| 14D271K     | 14D271KJ   | 175                       | 225                 | 270(243~297)         | 50                       | 455                | 4500                       | 2500    | 6000            | 5000    | 70.0                       | 99.0           | 0.6         | 740                             |
| 14D301K     | 14D301KJ   | 190                       | 250                 | 300(270~330)         | 50                       | 500                | 4500                       | 2500    | 6000            | 5000    | 77.0                       | 108            | 0.6         | 670                             |
| 14D331K     | 14D331KJ   | 210                       | 275                 | 330(297~363)         | 50                       | 550                | 4500                       | 2500    | 6000            | 5000    | 85.0                       | 115            | 0.6         | 610                             |
| 14D361K     | 14D361KJ   | 230                       | 300                 | 360(324~396)         | 50                       | 595                | 4500                       | 2500    | 6000            | 5000    | 93.0                       | 130            | 0.6         | 560                             |
| 14D391K     | 14D391KJ   | 250                       | 320                 | 390(351~429)         | 50                       | 650                | 4500                       | 2500    | 6000            | 5000    | 100                        | 140            | 0.6         | 510                             |
| 14D431K     | 14D431KJ   | 275                       | 350                 | 430(387~473)         | 50                       | 710                | 4500                       | 2500    | 6000            | 5000    | 115                        | 155            | 0.6         | 460                             |
| 14D471K     | 14D471KJ   | 300                       | 385                 | 470(423~517)         | 50                       | 775                | 4500                       | 2500    | 6000            | 5000    | 125                        | 175            | 0.6         | 430                             |
| 14D511K     | 14D511KJ   | 320                       | 415                 | 510(459~561)         | 50                       | 845                | 4500                       | 2500    | 6000            | 5000    | 125                        | 180            | 0.6         | 390                             |
| 14D561K     | 14D561KJ   | 350                       | 460                 | 560(504~616)         | 50                       | 925                | 4500                       | 2500    | 6000            | 5000    | 125                        | 185            | 0.6         | 360                             |
| 14D621K     | 14D621KJ   | 385                       | 505                 | 620(558~682)         | 50                       | 1025               | 4500                       | 2500    | 6000            | 5000    | 125                        | 190            | 0.6         | 320                             |
| 14D681K     | 14D681KJ   | 420                       | 560                 | 680(612~748)         | 50                       | 1120               | 4500                       | 2500    | 6000            | 5000    | 130                        | 200            | 0.6         | 290                             |
| 14D751K     | 14D751KJ   | 460                       | 615                 | 750(675~825)         | 50                       | 1240               | 4500                       | 2500    | 6000            | 5000    | 143                        | 210            | 0.6         | 270                             |

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|             |              |      |      |                 |    |          |          |          |          |          |     |     |     |     |
|-------------|--------------|------|------|-----------------|----|----------|----------|----------|----------|----------|-----|-----|-----|-----|
| 14D78<br>1K | 14D78<br>1KJ | 485  | 640  | 780(702~858)    | 50 | 129<br>0 | 450<br>0 | 250<br>0 | 600<br>0 | 500<br>0 | 148 | 220 | 0.6 | 260 |
| 14D82<br>1K | 14D82<br>1KJ | 510  | 670  | 820(738~902)    | 50 | 135<br>5 | 450<br>0 | 250<br>0 | 600<br>0 | 500<br>0 | 157 | 235 | 0.6 | 240 |
| 14D91<br>1K | 14D91<br>1KJ | 550  | 745  | 910(819~1001)   | 50 | 150<br>0 | 450<br>0 | 250<br>0 | 600<br>0 | 500<br>0 | 175 | 255 | 0.6 | 220 |
| 14D10<br>2K | 14D10<br>2KJ | 625  | 825  | 1000(900~1100)  | 50 | 165<br>0 | 450<br>0 | 250<br>0 | 600<br>0 | 500<br>0 | 190 | 280 | 0.6 | 200 |
| 14D11<br>2K | 14D11<br>2KJ | 680  | 895  | 1100(990~1210)  | 50 | 181<br>4 | 450<br>0 | 250<br>0 | 600<br>0 | 500<br>0 | 213 | 310 | 0.6 | 180 |
| 14D12<br>2K | 14D12<br>2KJ | 750  | 990  | 1200(1080~1320) | 50 | 198<br>0 | 450<br>0 | 250<br>0 | 600<br>0 | 500<br>0 | 213 | 310 | 0.6 | 150 |
| 14D14<br>2K | 14D14<br>2KJ | 880  | 1140 | 1400(1260~1540) | 50 | 231<br>0 | 450<br>0 | 250<br>0 | 600<br>0 | 500<br>0 | 238 | 327 | 0.6 | 150 |
| 14D16<br>2K | 14D16<br>2KJ | 1000 | 1280 | 1600(1400~1760) | 50 | 264<br>0 | 450<br>0 | 250<br>0 | 600<br>0 | 500<br>0 | 243 | 331 | 0.6 | 140 |
| 14D18<br>2K | 14D18<br>2KJ | 1000 | 1465 | 1800(1620~1980) | 50 | 297<br>0 | 450<br>0 | 250<br>0 | 600<br>0 | 500<br>0 | 250 | 335 | 0.6 | 130 |



#### Description:

The most used voltage limiting device is the varistor MOV/MLV, which is mainly made of zinc oxide and a variety of trace metal oxides, which are mixed and moulded.

#### Features:

- u Wide operating voltage (V1mA) range from 18V to 1800V
- u Fast responding to transient over-voltage
- u Large absorbing transient energy capability
- u Low clamping ratio and no following-on current
- u Meets MSL level 1, per J-STD-020

#### Applications:

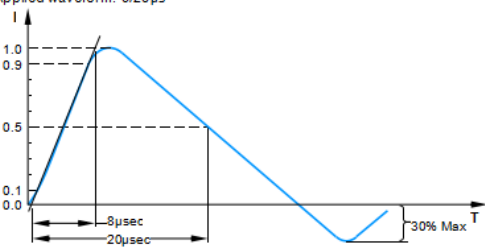
The most used voltage limiting device is the varistor MOV/MLV, which is mainly made of zinc oxide and a variety of trace metal oxides, which are mixed and moulded.

|                       |                         |
|-----------------------|-------------------------|
| Material              | No Radioactive Material |
| Operating Temperature | -40 ~ +85               |

|                      |               |
|----------------------|---------------|
| Storage Temperature  | -55 ~ +125    |
| Body                 | Nickel Plated |
| Leads                | Tin Plated    |
| Devices with No lead | Nickel Plated |

| Part Number | Quantity | Packaging Option | Packaging Specification |
|-------------|----------|------------------|-------------------------|
| 14DXXXXX    | 500      | Plastic bag      | Bulk Pack               |

#### Electrical Rating

| Item                               | Test Condition / Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Requirement                 |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------|--------------|--------------|--------------|--------------|-----------|--------------|--------------|--------------|--------------|------------|--------------|--------------|--------------|---------------|------------|--------------|--------------|--------------|---------------|------------|--------------|---------------|--------------|
| Maximum Allowable Voltage          | The recommended maximum sine wave voltage (RMS) or the maximum DC voltage can be applied continuously.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | To meet the specified value |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |
| Varistor Voltage                   | The voltage between two terminals with the specified measuring current 1mA.DC applied is call Vb.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                             |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |
| Maximum Clamping Voltage           | <p>The maximum voltage between two terminals with the specification standard impulse current.<br/>Applied waveform: 8/20μs</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                             |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |
| Rated Wattage                      | The maximum average power that can be applied within the specified ambient temperature.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                             |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |
| Energy                             | The maximum energy within the varistor voltage change of ±10% when one impulse of 10/1000μs. or 2 msec. is applied.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                             |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |
| Withstanding Surge Current         | The maximum current within the varistor voltage change of ±10% with the standard impulse current (8/20μsec.) applied one time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0.05% / °C max              |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |
| Varistor Voltage Temp. Coefficient | $\frac{V_b \text{ at } 20^{\circ}\text{C} - V_b \text{ at } 70^{\circ}\text{C}}{V_b \text{ at } 20^{\circ}\text{C}} \times \frac{1}{50} \times 100(\% / ^{\circ}\text{C})$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                             |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |
| Surge Life                         | <p>The change of Vb shall be measured after the impulse listed below is applied 10,000 times continuously with the interval of ten seconds at room temperature.</p> <table><tr><td rowspan="2">5D Series</td><td>180K to 680K</td><td>10A (8/20μs)</td></tr><tr><td>820K to 751K</td><td>20A (8/20μs)</td></tr><tr><td rowspan="2">7D Series</td><td>180K to 680K</td><td>25A (8/20μs)</td></tr><tr><td>820K to 821K</td><td>50A (8/20μs)</td></tr><tr><td rowspan="2">10D Series</td><td>180K to 680K</td><td>50A (8/20μs)</td></tr><tr><td>820K to 112K</td><td>100A (8/20μs)</td></tr><tr><td rowspan="2">14D Series</td><td>180K to 680K</td><td>75A (8/20μs)</td></tr><tr><td>820K to 182K</td><td>150A (8/20μs)</td></tr><tr><td rowspan="2">20D Series</td><td>180K to 680K</td><td>100A (8/20μs)</td></tr><tr><td>820K to 182K</td><td>200A (8/20μs)</td></tr></table> |                             | 5D Series | 180K to 680K | 10A (8/20μs) | 820K to 751K | 20A (8/20μs) | 7D Series | 180K to 680K | 25A (8/20μs) | 820K to 821K | 50A (8/20μs) | 10D Series | 180K to 680K | 50A (8/20μs) | 820K to 112K | 100A (8/20μs) | 14D Series | 180K to 680K | 75A (8/20μs) | 820K to 182K | 150A (8/20μs) | 20D Series | 180K to 680K | 100A (8/20μs) | 820K to 182K |
| 5D Series                          | 180K to 680K                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 10A (8/20μs)                |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |
|                                    | 820K to 751K                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 20A (8/20μs)                |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |
| 7D Series                          | 180K to 680K                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 25A (8/20μs)                |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |
|                                    | 820K to 821K                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 50A (8/20μs)                |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |
| 10D Series                         | 180K to 680K                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 50A (8/20μs)                |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |
|                                    | 820K to 112K                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 100A (8/20μs)               |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |
| 14D Series                         | 180K to 680K                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 75A (8/20μs)                |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |
|                                    | 820K to 182K                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 150A (8/20μs)               |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |
| 20D Series                         | 180K to 680K                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 100A (8/20μs)               |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |
|                                    | 820K to 182K                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 200A (8/20μs)               |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |
|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                             |           |              |              |              |              |           |              |              |              |              |            |              |              |              |               |            |              |              |              |               |            |              |               |              |

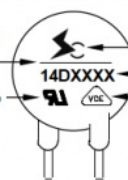
#### Part Numbering

14 D XXX K J

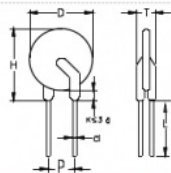
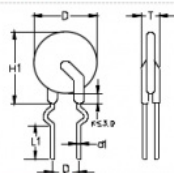
J: High Surge, without: Standard  
Tolerance:  
K: ±10%, L: ±15%, M: ±20%  
Varistor Voltage  
Type:  
D: Disk, S: Square  
Element Diameter

#### Part Marking

With a line: High Surge  
Without: Standard  
UL Accreditation Logo  
Logo  
Product Type  
VDE Accreditation Logo



# Package Dimensions (Unit: mm)



| TABLE1    |            |
|-----------|------------|
| Symbol    | Dimensions |
| H(max.)   | 20.0       |
| H1(max.)  | 20.0       |
| L(min.)   | 15.0       |
| L1(min.)  | 15.0       |
| D(max.)   | 17.0       |
| P(±0.8)   | 7.5        |
| T(max.)   | TABLE2     |
| d(±0.05)  | 0.8        |
| d1(±0.05) | 0.8        |

| TABLE2 |         |       |         |
|--------|---------|-------|---------|
| Model  | T(max.) | Model | T(max.) |
| 180K   | 4.6     | 361K  | 6.0     |
| 220K   | 4.7     | 391K  | 6.2     |
| 270K   | 4.8     | 431K  | 6.5     |
| 330K   | 5.0     | 471K  | 6.7     |
| 390K   | 5.3     | 511K  | 6.8     |
| 470K   | 5.4     | 561K  | 7.0     |
| 560K   | 5.5     | 621K  | 7.3     |
| 680K   | 5.6     | 681K  | 7.6     |
| 820K   | 4.7     | 751K  | 8.0     |
| 101K   | 4.9     | 781K  | 8.1     |
| 121K   | 5.1     | 821K  | 8.3     |
| 151K   | 5.4     | 911K  | 8.8     |
| 181K   | 4.8     | 102K  | 9.3     |
| 201K   | 5.0     | 112K  | 9.9     |
| 221K   | 5.1     | 122K  | 10.4    |
| 241K   | 5.2     | 142K  | 10.5    |
| 271K   | 5.4     | 162K  | 11.0    |
| 301K   | 5.5     | 182K  | 13.0    |
| 331K   | 5.8     | —     | —       |

SOCAY Electronics Co.,Ltd was established in 1998, with more than 600 employees and a production area of 40,000 square meters. Over the years,SOCAY has been committed to becoming the most professional one-stop electronics omponents parts supplier.

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