# UL VDE Metal Oxide Mov 10D511K Varistor Epoxy Resin Film 510V For Power Supply

Our Product Introduction

## Basic Information

- Place of Origin: Shenzhen, Guangdong, China
- Brand Name: SOCAY
- Certification: UL,VDE,REACH,RoHS,ISO
- Model Number: 10D511k
- Minimum Order Quantity: 100PCS
- Price: Negotiable
- Delivery Time: 5-8 work days


## Product Specification

- Item: MOV Varistor
- Package Size: Φ25mm
- VAC: 320V
- VDC: 415V
- Varistor Voltage: 510(459~561)V
- IP: 25A
- VC: 845V
- Rated Power: 0.4W
- Typ. Capacitance: 200pF
- Withstanding Surge Current: 2.5KA (1 Time)
- Highlight: **UL Mov 10D511K**, **Mov 10D511K 510V**, **10D511K Varistor**

## Product Description

**UL VDE Varistor Varistor Varistor Metal Oxide 10D511K Epoxy Resin Film Varistor 510V For Power Supply**

**DATASHEET:** 25D Series_v2306.1.pdf

| Type Number | | Maximum Allowable voltage | | Varistor Voltage | Maximum Clamping Voltage | | Withstanding Surge Current 8/20μS | | Rated Power | Energy (10/1000 μs) | Capacitance |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard | High Surge | $V_{AC}$ (V) | $V_{DC}$ (V) | V 1mA (V) | $I_P$ (A) | $V_C$ (V) | Standard (A) | High Surge (A) | (W) | (J) | @1KHZ (pF) |
| | | | | | | | 1 Time | 1 Time | | | |
| 25D101K | 25D101KJ | 60 | 85 | 100(90-110) | 150 | 165 | 10000 | 20000 | 1.4 | 100 | 6300 |
| 25D201K | 25D201KJ | 130 | 170 | 200(185-225) | 150 | 330 | 15000 | 20000 | 1.0 | 215 | 2000 |
| 25D221K | 25D221KJ | 140 | 180 | 220(198-242) | 150 | 360 | 15000 | 20000 | 1.0 | 235 | 1800 |
| 25D241K | 25D241KJ | 150 | 200 | 240(216-264) | 150 | 395 | 15000 | 20000 | 1.0 | 245 | 1650 |
| 25D271K | 25D271KJ | 175 | 225 | 270(243-297) | 150 | 455 | 15000 | 20000 | 1.0 | 260 | 1500 |
| 25D301K | 25D301KJ | 190 | 250 | 300(270-330) | 150 | 505 | 15000 | 20000 | 1.0 | 275 | 1300 |
| 25D331K | 25D331KJ | 210 | 275 | 330(297-363) | 150 | 550 | 15000 | 20000 | 1.0 | 295 | 1200 |
| 25D361K | 25D361KJ | 230 | 300 | 360(324-396) | 150 | 595 | 15000 | 20000 | 1.0 | 305 | 1100 |
| 25D391K | 25D391KJ | 250 | 320 | 390(351-429) | 150 | 650 | 15000 | 20000 | 1.0 | 335 | 1000 |
| 25D431K | 25D431KJ | 275 | 350 | 430(387-473) | 150 | 710 | 15000 | 20000 | 1.0 | 365 | 930 |
| 25D471K | 25D471KJ | 300 | 385 | 470(423-517) | 150 | 775 | 15000 | 20000 | 1.0 | 390 | 850 |
| 25D511K | 25D511KJ | 320 | 415 | 510(459-561) | 150 | 845 | 15000 | 20000 | 1.0 | 440 | 780 |
| 25D561K | 25D561KJ | 350 | 460 | 560(504-616) | 150 | 920 | 15000 | 20000 | 1.0 | 490 | 715 |
| 25D621K | 25D621KJ | 385 | 505 | 620(558-682) | 150 | 1025 | 15000 | 20000 | 1.0 | 540 | 650 |
| 25D681K | 25D681KJ | 420 | 560 | 680(612-748) | 150 | 1120 | 15000 | 20000 | 1.0 | 570 | 600 |
| 25D751K | 25D751KJ | 460 | 615 | 750(675-825) | 150 | 1240 | 15000 | 20000 | 1.0 | 590 | 530 |
| 25D781K | 25D781KJ | 485 | 640 | 780(702-858) | 150 | 1290 | 15000 | 20000 | 1.0 | 620 | 510 |
| 25D821K | 25D821KJ | 510 | 670 | 820(738-902) | 150 | 1355 | 15000 | 20000 | 1.0 | 655 | 500 |
| 25D911K | 25D911KJ | 550 | 745 | 910(819-1001) | 150 | 1500 | 15000 | 20000 | 1.0 | 726 | 440 |
| 25D102K | 25D102KJ | 625 | 825 | 1000(900-1100) | 150 | 1650 | 15000 | 20000 | 1.0 | 685 | 650 |
| 25D112K | 25D112KJ | 680 | 895 | 1100(990-1210) | 150 | 1815 | 15000 | 20000 | 1.0 | 770 | 600 |
| 25D122K | 25D122KJ | 750 | 990 | 1200(1080-1320) | 150 | 1980 | 15000 | 20000 | 1.0 | 770 | 550 |


**About Varistor**

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.

**Description:**
The 25D series radial leaded varistors provides an ideal circuit protection solution for lower DC voltage applications by offering higher surge ratings than ever before available in such small discs.
The maximum peak surge current rating can reach up to 20KA (8/20 μs pulse) to protect against high peak surges, including indirect lightning strike interference, system switching transients and abnormal fast transients from the power source.

**Selection of varistor:**
When selecting a varistor, the specific conditions of the circuit must be considered. Generally, the following principles should be followed:
1. Selection of varistor voltage V1mA
According to the selection of the power supply voltage, the power supply voltage continuously applied to both ends of the varistor must not exceed the specified
The "maximum continuous operating voltage" value listed in the grid. That is, the maximum DC operating voltage of the varistor must
Greater than the DC operating voltage VIN of the power line (signal line), that is, VDC≥VIN; for the varistor selection of the 220V AC power supply, the fluctuation range of the grid operating voltage must be fully considered. When selecting the varistor voltage value of the varistor, the Leave enough margin. The general fluctuation range of domestic power grid is 25%. It is more appropriate to choose a varistor with a varistor voltage of 470V ~ 620V. Choosing a varistor with a higher varistor voltage can reduce the failure rate and extend the service life, but the residual voltage will slightly increase.
2. Selection of traffic flow
The nominal discharge current of the varistor should be greater than the surge current required to withstand or the maximum surge current that may occur during equipment operation. The nominal discharge current should be calculated based on the value of more than 10 impacts in the varistor surge life rating curve, which is about 30% of the maximum impact flow (i.e. 0.3 IP).
3. Selection of clamping voltage
The clamping voltage of the varistor must be less than the maximum voltage that the protected component or equipment can withstand (ie, safety voltage).
4. Selection of capacitor Cp
For high-frequency transmission signals, the capacitance Cp should be smaller, and vice versa
5. Internal resistance matching (Resistance Match)
The relationship between the internal resistance R (R ≥ 2Ω) of the protected component (line) and the transient internal resistance Rv of the varistor: R ≥ 5 Rv; for protected components with small internal resistance, the signal transmission rate will not be affected if the signal transmission rate is not affected. Below, try to use large capacitance varistor.

**Applications:**

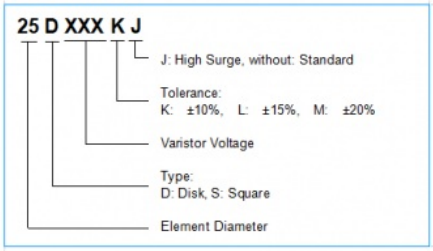
| |
|---|
| u Transistor, diode, IC, thyristor or triac semiconductor protection<br>u Surge protection in consumer electronics<br>u Surge protection in industrial electronics<br>u Surge protection in electronic home appliances, gas and petroleum appliances<br>u Relay and electromagnetic valve surge absorption |

| | |
|---|---|
| **Operating Temperature** | -40 ~ +85 |
| **Storage Temperature** | -40 ~ +85 |
| **Working Surface Temperature** | +115 |
| **Insulation Resistance** | > 100MΩ |
| **Coating (Epoxy Resin)** | Flame-Retardant to<br>UL 94 V-0 |

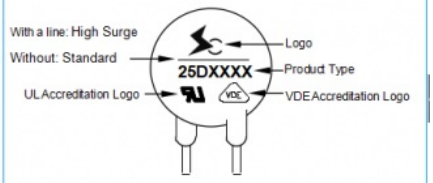
| | |
|---|---|
| **Coating** | Epoxy Resin |
| **Lead Wire** | The Copper Wire |
| **Electrode** | Silver Solder |
| **Disk** | Zinc Oxide |

| Dimension | Part Number | Bag | Small Carton | Carton |
|---|---|---|---|---|
| 25D | 25DXXXXX | 100 PCS | 1000 PCS | 2000 PCS |

**Part Numbering**




**Part Marking**




**Package Dimensions Unit: mm**

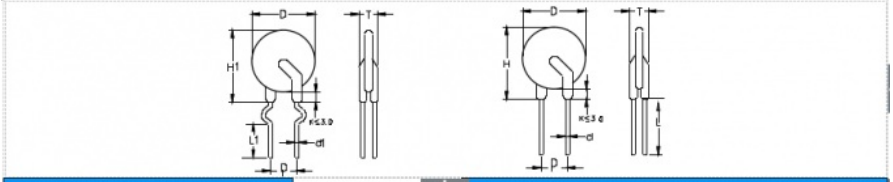



**TABLE1**

| Symbol | Dimensions |
|---|---|
| H(max.) | 31.0 |
| H1(max.) | 31.0 |
| L(min.) | 20.0 |
| L1(min.) | 20.0 |
| D(max.) | 29.0 |
| P(±1.0) | 10.0 |
| T(max.) | TABLE2 |
| d(±0.05) | 1.0 |
| d1(±0.05) | 1.0 |

**TABLE2**

| Model | T(max.) | Model | T(max.) |
|---|---|---|---|
| 101K | 5.7 | 511K | 7.8 |
| 201K | 5.5 | 561K | 8.1 |
| 221K | 5.6 | 621K | 8.5 |
| 241K | 5.7 | 681K | 8.6 |
| 271K | 5.9 | 751K | 9.1 |
| 301K | 6.1 | 781K | 9.3 |
| 331K | 6.3 | 821K | 9.6 |
| 361K | 6.6 | 911K | 10.2 |
| 391K | 6.8 | 102K | 10.8 |
| 431K | 7.1 | 112K | 11.5 |
| 471K | 7.4 | 122K | 8.8 |

**1.FAQ**

Q1. Can I have a sample order ?
A: Yes, we welcome sample order to test and check quality. Mixed samples are acceptable.
Q2. What about the lead time?
A:Sample needs 1 days, mass production time needs 1-2 weeks for order quantity more than
Q3. Do you have any MOQ ?
A: MOQ depend on the type of product, 1pc for sample checking is available
Q4. How do you ship the goods and how long does it take to arrive?
A: We usually ship by DHL, UPS, FedEx or TNT. It usually takes 3-5 days to arrive. Airline and sea shipping also optional.
Q5. How to proceed an order ?
A: Firstly let us know your requirements or application.
Secondly We quote according to your requirements or our suggestions.
Thirdly customer confirms the samples and places deposit for formal order.
Fourthly We arrange the production.

+8618126201429 sylvia@socay.com socaydiode.com

4/F, Block C, HeHengXing Science & Technology Park, 19 MinQing Road, LongHua District, Shenzhen City, GuangDong Province, China