# Blue ZOV Metal Mov Varistor Surge Protection Device 7D680K Radial Leaded

Our Product Introduction

## Basic Information

- Place of Origin: Shenzhen, Guangdong, China
- Brand Name: SOCAY
- Certification: VDE ,UL,REACH,RoHS,ISO
- Model Number: 7D 680K 7D 680KJ
- Minimum Order Quantity: 1000PCS
- Price: Negotiable
- Packaging Details: AMMO packing/bulk
- Delivery Time: 5-8 work days

## Product Specification

- Name: Metal Oxide Varistor
- Footprint: Φ7mm
- VAC: 40V
- VDC: 56V
- Varistor Voltage: 68(61~75)V
- IP: 10A
- VC: 135V
- Rated Power: 0.25W
- Typ. Capacitance: 100pF
- Highlight: **Metal Varistor Surge Protection**, **Varistor Surge Protection 7D680K**, **Blue Mov Surge Protection Device**

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Our Product Introduction

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## Product Description

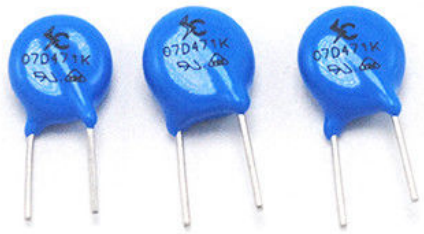
**Blue ZOV Metal Mov Varistor Surge Protection Device 7D680K Radial Leaded**

**DATASHEET: 07D Series_v2306.1.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 | $V_{AC}$ (V) | $V_{DC}$ (V) | V1mA (V) | $I_P$ (A) | $V_C$ (V) | I(A) Standard | | I(A) High Surge | | (J) Standard | (J) High Surge | (W) | @1KHZ (pf) |
| | | | | | | | 1 Time | 2 Times | 1 Time | 2 Times | | | | |
| 07D180K | 07D180KJ | 11 | 14 | 18(15~21.6) | 2.5 | 36 | 250 | 125 | 500 | 250 | 0.9 | 2.0 | 0.02 | 2800 |
| 07D220K | 07D220KJ | 14 | 18 | 22(19.5~26) | 2.5 | 43 | 250 | 125 | 500 | 250 | 1.1 | 2.4 | 0.02 | 2300 |
| 07D270K | 07D270KJ | 17 | 22 | 27(24~30) | 2.5 | 53 | 250 | 125 | 500 | 250 | 1.4 | 3.0 | 0.02 | 1800 |
| 07D330K | 07D330KJ | 20 | 26 | 33(29.5~36.5) | 2.5 | 66 | 250 | 125 | 500 | 250 | 1.7 | 3.5 | 0.02 | 1500 |
| 07D390K | 07D390KJ | 25 | 31 | 39(35~43) | 2.5 | 77 | 250 | 125 | 500 | 250 | 2.1 | 4.0 | 0.02 | 1300 |
| 07D470K | 07D470KJ | 30 | 38 | 47(42~54) | 2.5 | 93 | 250 | 125 | 500 | 250 | 2.5 | 5.0 | 0.02 | 1100 |
| 07D560K | 07D560KJ | 35 | 45 | 56(50~62) | 2.5 | 110 | 250 | 125 | 500 | 250 | 3.1 | 6.0 | 0.02 | 900 |
| 07D680K | 07D680KJ | 40 | 56 | 68(61~75) | 2.5 | 135 | 250 | 125 | 500 | 250 | 3.6 | 7.0 | 0.02 | 740 |
| 07D820K | 07D820KJ | 50 | 65 | 82(74~90) | 10 | 135 | 1200 | 600 | 1750 | 1250 | 5.5 | 10.0 | 0.25 | 600 |
| 07D101K | 07D101KJ | 60 | 85 | 100(90~110) | 10 | 165 | 1200 | 600 | 1750 | 1250 | 6.5 | 12.0 | 0.25 | 500 |
| 07D121K | 07D121KJ | 75 | 100 | 120(108~132) | 10 | 200 | 1200 | 600 | 1750 | 1250 | 7.8 | 13.0 | 0.25 | 420 |
| 07D151K | 07D151KJ | 95 | 125 | 150(135~165) | 10 | 250 | 1200 | 600 | 1750 | 1250 | 9.7 | 13.0 | 0.25 | 330 |
| 07D181K | 07D181KJ | 115 | 150 | 180(162~198) | 10 | 300 | 1200 | 600 | 1750 | 1250 | 11.7 | 16.0 | 0.25 | 280 |
| 07D201K | 07D201KJ | 130 | 170 | 200(180~220) | 10 | 340 | 1200 | 600 | 1750 | 1250 | 13.0 | 17.0 | 0.25 | 250 |
| 07D221K | 07D221KJ | 140 | 180 | 220(198~242) | 10 | 360 | 1200 | 600 | 1750 | 1250 | 14.0 | 19.0 | 0.25 | 230 |
| 07D241K | 07D241KJ | 150 | 200 | 240(216~264) | 10 | 395 | 1200 | 600 | 1750 | 1250 | 15.0 | 21.0 | 0.25 | 210 |
| 07D271K | 07D271KJ | 175 | 225 | 270(243~297) | 10 | 455 | 1200 | 600 | 1750 | 1250 | 18.0 | 24.0 | 0.25 | 185 |
| 07D301K | 07D301KJ | 190 | 250 | 300(270~330) | 10 | 500 | 1200 | 600 | 1750 | 1250 | 20.0 | 26.0 | 0.25 | 165 |
| 07D331K | 07D331KJ | 210 | 275 | 330(297~363) | 10 | 550 | 1200 | 600 | 1750 | 1250 | 23.0 | 28.0 | 0.25 | 150 |
| 07D361K | 07D361KJ | 230 | 300 | 360(324~396) | 10 | 595 | 1200 | 600 | 1750 | 1250 | 25.0 | 32.0 | 0.25 | 140 |
| 07D391K | 07D391KJ | 250 | 320 | 390(351~429) | 10 | 650 | 1200 | 600 | 1750 | 1250 | 25.0 | 35.0 | 0.25 | 130 |
| 07D431K | 07D431KJ | 275 | 350 | 430(387~473 | 10 | 710 | 1200 | 600 | 1750 | 1250 | 28.0 | 40.0 | 0.25 | 115 |
| 07D471K | 07D471KJ | 300 | 385 | 470(423~517) | 10 | 775 | 1200 | 600 | 1750 | 1250 | 30.0 | 42.0 | 0.25 | 105 |
| 07D511K | 07D511KJ | 320 | 415 | 510(459~561) | 10 | 845 | 1200 | 600 | 1750 | 1250 | 30.0 | 45.0 | 0.25 | 100 |
| 07D561K | 07D561KJ | 350 | 460 | 560(504~616) | 10 | 925 | 1200 | 600 | 1750 | 1250 | 30.0 | 49.0 | 0.25 | 90 |
| 07D621K | 07D621KJ | 385 | 505 | 620(558~682) | 10 | 1025 | 1200 | 600 | 1750 | 1250 | 33.0 | 55.0 | 0.25 | 80 |
| 07D681K | 07D681KJ | 420 | 560 | 680(612~748) | 10 | 1120 | 1200 | 600 | 1750 | 1250 | 33.0 | 60.0 | 0.25 | 75 |
| 07D751K | 07D751KJ | 460 | 615 | 750(675~825) | 10 | 1240 | 1200 | 600 | 1750 | 1250 | 67.2 | 65.0 | 0.25 | 70 |
| 07D781K | 07D781KJ | 485 | 640 | 780(702~858) | 10 | 1290 | 1200 | 600 | 1750 | 1250 | 67.2 | 65.0 | 0.25 | 70 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07D821K | 07D821KJ | 510 | 670 | 820(738~902) | 10 | 1355 | 1200 | 600 | 1750 | 1250 | 67.2 | 70.0 | 0.25 | 60 |

**Remark:** Voltage>33V, K is ±10%

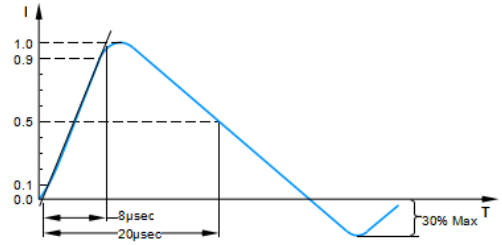


**Description:**
The 07D series radial leaded varistors provides an ideal circuit protection solution for lower DC voltage applications by offering higher surge ratings than ever before available in such small discs.
The maximum peak surge current rating can reach up to 1.75KA (8/20 μs pulse) to protect against high peak surges, including indirect lightning strike interference, system switching transients and abnormal fast transients from the power source.

The 07D680K 07D680KJ series of MOV products are low voltage, high surge current, radial leaded varistors that provide an ideal circuit solution for low DC voltage applications, providing higher ratings than ever before in these small wafers. voltage and maximum peak surge current to protect against high peak surges, including indirect lightning strike interference, system switching transients from the power supply, and abnormally fast transients
Product Features
High surge current handling capability
High energy absorbability
Wide operating voltages ranging from 10Vrms to 510Vrms
Fast response me of less than 25ns,instantly clamping the transient over voltage
Low clamping voltages, providing better surge protecon
Low capacitance values, providing digital switching circuitry protecon
High insulaon resistance,prevenng electric arching to the adjacent device or circuits
Applications
Surge protecon of consumer equipment
Surge protecon of communication,measuring and controller instrument
Surge protecon in electronic home appliances, gas and petroleum appliances
Relay and electromagnetic valve surge absorpon
Transistor,Diode,IC,Thyristor or Triac semiconductor protecon

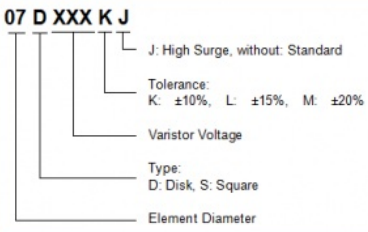
| | |
|---|---|
| **Material** | No Radioactive Material |
| **Operating Temperature** | -40 ~ +85 |
| **Storage Temperature** | -55 ~ +125 |
| **Body** | Nickel Plated |
| **Leads** | Tin Plated |
| **Devices with No lead** | Nickel Plated |

## Electrical Rating

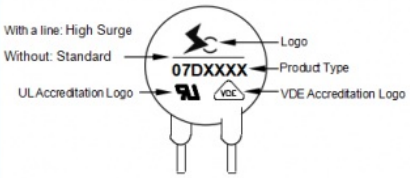
| Item | Test Condition / Description | Requirement |
|---|---|---|
| **Maximum Allowable Voltage** | The recommended maximum sine wave voltage (RMS) or the maximum DC voltage can be applied continuously. | To meet the specified value |
| **Varistor Voltage** | The voltage between two terminals with the specified measuring current 1mA.DC applied is call Vb. | |
| **Maximum Clamping Voltage** | The maximum voltage between two terminals with the specification standard impulse current.<br>Applied waveform: 8/20μs<br>  | |
| **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 | |
| **Varistor Voltage Temp. Coefficient** | $\frac{Vb\ at\ 20℃ - Vb\ at\ 70℃}{Vb\ at\ 20℃} \times \frac{1}{50} \times 100(\%/℃)$ | 0.05% / ℃ max |
| **Surge Life** | 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. | △Vb / Vb ≤ ±10% |

| | | |
|---|---|---|
| 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



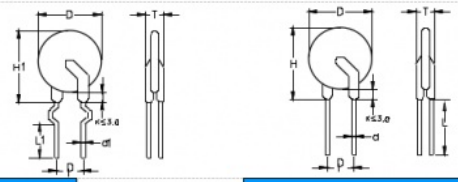

## Part Marking




## Packaging Information

| Part Number | Quantity | Packaging Option | Packaging Specification |
|---|---|---|---|
| 07DXXXXX | 1000 | Plastic bag | Bulk Pack |

## Package Dimensions Unit: mm




| TABLE1 | |
|---|---|
| Symbol | Dimensions |
| H(max.) | 12.0 |
| H1(max.) | 12.0 |
| L(min.) | 15.0 |
| L1(min.) | 15.0 |
| D(max.) | 9.0 |
| P(±0.8) | 5.0 |
| T(max.) | TABLE2 |
| d(±0.05) | 0.6 |
| d1(±0.05) | 0.6 |

| TABLE2 | | | |
|---|---|---|---|
| Model | T(max.) | Model | T(max.) |
| 180K | 4.50 | 241K | 4.60 |
| 220K | 4.60 | 271K | 4.90 |
| 270K | 4.70 | 301K | 5.00 |
| 330K | 4.90 | 331K | 5.10 |
| 390K | 4.80 | 361K | 5.20 |
| 470K | 4.90 | 391K | 5.40 |
| 560K | 5.00 | 431K | 5.70 |
| 680K | 5.20 | 471K | 6.00 |
| 820K | 4.10 | 511K | 6.20 |
| 101K | 4.30 | 561K | 6.50 |
| 121K | 4.50 | 621K | 7.10 |
| 151K | 4.80 | 681K | 7.30 |
| 181K | 4.30 | 751K | 7.06 |
| 201K | 4.40 | 781K | 7.24 |
| 221K | 4.50 | 821K | 7.28 |

**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 a

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