



## Socay 8KP100CA Bi-Directional TVS Axial Lead Transient Voltage Suppressors

Our Product Introduction

### Basic Information

- Place of Origin: Shenzhen, Guangdong, China
- Brand Name: Socay
- Certification: UL, REACH, RoHS, ISO
- Model Number: 8KP100CA
- Minimum Order Quantity: 250PCS
- Price: Negotiable
- Delivery Time: 5-8 work days



### Product Specification

- Product Name: TVS Diodes
- Package Type: R6/P600
- Reverse Stand-Off Voltage: 100.0V
- Breakdown Voltage@It Min: 111.0V
- Breakdown Voltage@It Max: 123.0V
- Tact Current: 5mA
- Maximum Clamping Voltage@Ipp: 162.0V
- Maximum Peak Pulse Current: 50.0A
- Maximum Reverse Leakage@Vrwm: 5μA
- Storage Temperature Range: -55 To +150

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## Product Description

### Socay 8KP100CA Bi-Directional TVS Axial Lead Transient Voltage Suppressors

**DATASHEET: 8KP Series\_v2309.1.pdf**

#### 8KP100CA TVS Diode Profile:

The 8KP series is designed to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

#### 8KP100CA TVS Diode Application:

TVS devices are suitable for protecting I/O interfaces, Vcc buses, and other vulnerable circuits used in Telecom, Computer, Industrial, and Consumer electronic applications.

#### 8KP100CA TVS Diode Feature:

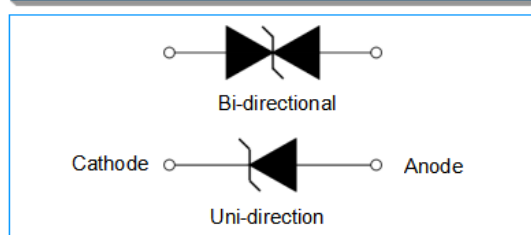
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Fast response time
- RoHS compliant
- Glass passivated chip junction in P600 Package
- 8000W Peak power capability at 10 × 1000μs waveform Repetition rate (duty cycle):0.01%

| Parameter                                                                        | Symbol         | Value          | Unit               |
|----------------------------------------------------------------------------------|----------------|----------------|--------------------|
| Peak Pulse Power Dissipation with a 10/1000μs waveform (Fig.1)(Note 1), (Note 2) | $P_{PPM}$      | 8000           | Watts              |
| Peak Pulse Current with a 10/1000μs waveform.(Note1, Fig.3)                      | $I_{PP}$       | See Next Table | Amps               |
| Power Dissipation on Infinite Heat Sink at $T_L=75^{\circ}\text{C}$              | $P_{M(AV)}$    | 8.0            | Watt               |
| Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 3)                 | $I_{FSM}$      | 500            | Amps               |
| Operating junction and Storage Temperature Range.                                | $T_J, T_{STG}$ | -55 to +150    | $^{\circ}\text{C}$ |

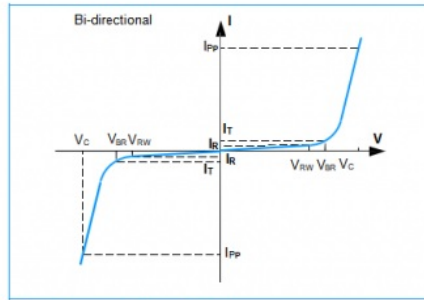
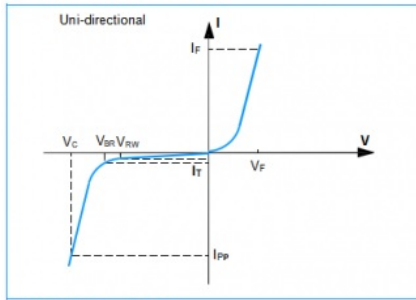
#### Electrical Characteristic

| Part Number |          | Reverse Stand-Off Voltage $V_{RWM}$ (V) | Breakdown Voltage $V_{BR}$ (V) @ $I_T$ |       | Test Current $I_T$ (mA) | Maximum Clamping Voltage $V_C$ (V) @ $I_{PP}$ | Maximum Peak Pulse Current $I_{PP}$ (A) | Maximum Reverse Leakage $I_R$ (μA) @ $V_{RWM}$ |
|-------------|----------|-----------------------------------------|----------------------------------------|-------|-------------------------|-----------------------------------------------|-----------------------------------------|------------------------------------------------|
| Uni         | Bi       |                                         | MIN                                    | MAX   |                         |                                               |                                         |                                                |
| 8KP51A      | 8KP51CA  | 51                                      | 56.7                                   | 62.7  | 5                       | 82.4                                          | 97.1                                    | 5                                              |
| 8KP58A      | 8KP58CA  | 58                                      | 64.4                                   | 71.2  | 5                       | 93.6                                          | 86.5                                    | 5                                              |
| 8KP60A      | 8KP60CA  | 60                                      | 66.7                                   | 73.7  | 5                       | 96.8                                          | 83.7                                    | 5                                              |
| 8KP64A      | 8KP64CA  | 64                                      | 71.1                                   | 78.6  | 5                       | 103.0                                         | 78.6                                    | 5                                              |
| 8KP70A      | 8KP70CA  | 70                                      | 77.8                                   | 86.0  | 5                       | 113.0                                         | 71.7                                    | 5                                              |
| 8KP75A      | 8KP75CA  | 75                                      | 83.3                                   | 92.1  | 5                       | 121.0                                         | 66.9                                    | 5                                              |
| 8KP78A      | 8KP78CA  | 78                                      | 86.7                                   | 95.8  | 5                       | 126.0                                         | 64.3                                    | 5                                              |
| 8KP85A      | 8KP85CA  | 85                                      | 94.4                                   | 104.0 | 5                       | 137.0                                         | 59.1                                    | 5                                              |
| 8KP90A      | 8KP90CA  | 90                                      | 100.0                                  | 111.0 | 5                       | 146.0                                         | 55.5                                    | 5                                              |
| 8KP100A     | 8KP100CA | 100                                     | 111.0                                  | 123.0 | 5                       | 162.0                                         | 50.0                                    | 5                                              |

#### Functional Diagram



## I-V Curve Characteristics



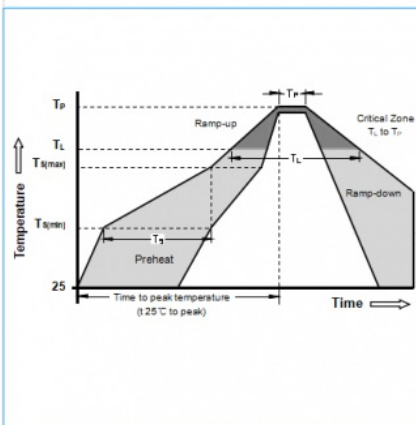
## Physical Specifications

|          |                                                              |
|----------|--------------------------------------------------------------|
| Weight   | 0.007 ounce, 0.21 gram                                       |
| Case     | JEDEC DO-214AB Molded Plastic over glass passivated junction |
| Polarity | Color band denotes cathode except Bipolar                    |
| Terminal | Matte Tin-plated leads, Solderable per JESD22-B102D          |

## Environmental Specifications

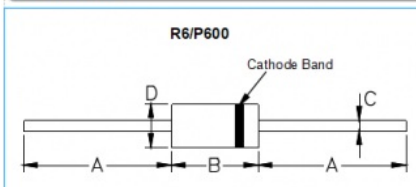
|                    |             |
|--------------------|-------------|
| Temperature Cycle  | JESD22-A104 |
| Pressure Cooker    | JESD22-A102 |
| High Temp. Storage | JESD22-A103 |
| HTRB               | JESD22-A108 |
| Thermal Shock      | JESD22-A106 |

## Soldering Parameters



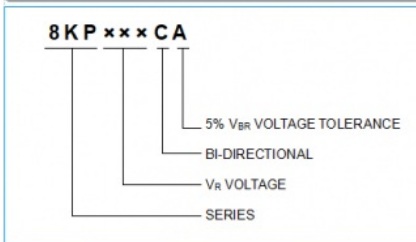
| Reflow Condition                                      |                                    | Lead-free assembly |
|-------------------------------------------------------|------------------------------------|--------------------|
| Pre Heat                                              | - Temperature Min ( $T_{s(min)}$ ) | 150°C              |
|                                                       | - Temperature Max ( $T_{s(max)}$ ) | 200°C              |
|                                                       | - Time (min to max) ( $T_s$ )      | 60 - 180 Seconds   |
| Average ramp up rate (Liquidus Temp $T_L$ ) to peak   |                                    | 3°C/second max     |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                  |                                    | 3°C/second max     |
| Reflow                                                | - Temperature ( $T_L$ ) (Liquidus) | 217°C              |
|                                                       | - Time (min to max) ( $T_L$ )      | 60 - 150 Seconds   |
| Peak Temperature ( $T_P$ )                            |                                    | 260 ±0.5°C         |
| Time within 5 °C of actual peak Temperature ( $t_p$ ) |                                    | 20 - 40 Seconds    |
| Ramp-down Rate                                        |                                    | 6°C/second max     |
| Time 25°C to peak Temperature ( $T_P$ )               |                                    | 8 minutes Max      |
| Do not exceed                                         |                                    | 260°C              |

## Dimensions

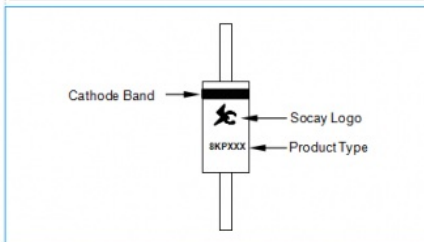


| Dimensions | Inches |       | Millimeters |      |
|------------|--------|-------|-------------|------|
|            | Min    | Max   | Min         | Max  |
| A          | 1.000  | -     | 25.40       | -    |
| B          | 0.340  | 0.360 | 8.64        | 9.14 |
| C          | 0.048  | 0.052 | 1.22        | 1.32 |
| D          | 0.340  | 0.360 | 8.64        | 9.14 |

## Part Numbering



## Part Marking



| Packaging   |                   |          |                  |
|-------------|-------------------|----------|------------------|
| Part Number | Component Package | Quantity | Packaging Option |
| 8KP Series  | R6/P600           | 250 PCS  | Box              |

| Packaging Dimensions | Unit: Inches (Millimeters) |
|----------------------|----------------------------|
|----------------------|----------------------------|

Diagram illustrating the packaging dimensions for the R6/P600 component. The dimensions are given in inches and millimeters.

- Total Height: 2.56 (65.00)
- Pin Pitch: 0.25 (6.35)
- Pin Diameter:  $0.40 \pm 0.020$  (10.16  $\pm$  0.508)

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