



## DO-214AA SMB 8KV TSS Thyristor Surge Suppressors Low Capacitance 150pF P0080SD

Our Product Introduction

### Basic Information

- Place of Origin: Shenzhen, Guangdong, China
- Brand Name: SOCAY
- Certification: REACH,RoHS,ISO
- Model Number: P0080SD
- Minimum Order Quantity: 3000PCS
- Price: Negotiable
- Packaging Details: AMMO packing bulk
- Delivery Time: 5-8 work days



### Product Specification

- Product Name: Thyristor Surge Suppressors (TSS)
- Foot Size: DO-214AA/SMB
- VDRM (Min.): 6V
- IDRM: 5 $\mu$ A
- Vs @100V/ $\mu$ S (Max.): 25V
- Is (Max.): 800mA
- Vt @It=2.2A (Max.): 4V
- It (Max.): 2.2A
- Ih (Min.): 50mA
- C0 @1MHz,2V Bias (Typ.): 150pF
- Highlight: 8KV Thyristor Surge Suppressors ,  
Thyristor Surge Suppressors 150pF

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## Product Description

TSS P0080SD @10/700 $\mu$ S, 8KV Thyristor Surge Suppressors Low Capacitance 150pF

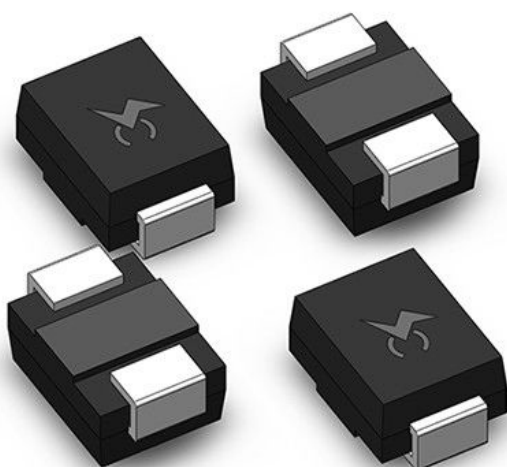
**DATASHEET:** [PXXX0SD\\_v2310.1.pdf](#)

| Part Number | Marking | V <sub>DRM</sub><br>@I <sub>DRM</sub> =1<br>$\mu$ A | V <sub>S</sub><br>@100V/<br>$\mu$ S | I <sub>S</sub> | V <sub>T</sub><br>@I <sub>T</sub> =2.2<br>A | I <sub>T</sub> | I <sub>H</sub> | C0<br>@1MHz, 2V<br>bias |
|-------------|---------|-----------------------------------------------------|-------------------------------------|----------------|---------------------------------------------|----------------|----------------|-------------------------|
|             |         | V Min.                                              | V Max.                              | mA max.        | V Max.                                      | A Max.         | mA Min.        | pF Typ.                 |
| P0080SD     | P-8D    | 6                                                   | 15                                  | 800            | 4                                           | 2.2            | 50             | 150                     |
| P0640SD     | P06D    | 58                                                  | 77                                  | 800            | 4                                           | 2.2            | 50             | 150                     |
| P0720SD     | P07D    | 65                                                  | 87                                  | 800            | 4                                           | 2.2            | 50             | 150                     |
| P0900SD     | P09D    | 75                                                  | 98                                  | 800            | 4                                           | 2.2            | 50             | 140                     |
| P1100SD     | P11D    | 90                                                  | 130                                 | 800            | 4                                           | 2.2            | 50             | 110                     |
| P1300SD     | P13D    | 120                                                 | 160                                 | 800            | 4                                           | 2.2            | 50             | 100                     |
| P1500SD     | P15D    | 140                                                 | 180                                 | 800            | 4                                           | 2.2            | 50             | 90                      |
| P1800SD     | P18D    | 170                                                 | 220                                 | 800            | 4                                           | 2.2            | 50             | 90                      |
| P2300SD     | P23D    | 190                                                 | 260                                 | 800            | 4                                           | 2.2            | 50             | 80                      |
| P2600SD     | P26D    | 220                                                 | 300                                 | 800            | 4                                           | 2.2            | 50             | 70                      |
| P3100SD     | P31D    | 275                                                 | 350                                 | 800            | 4                                           | 2.2            | 50             | 60                      |
| P3500SD     | P35D    | 320                                                 | 400                                 | 800            | 4                                           | 2.2            | 50             | 60                      |
| P3800SD     | P38D    | 340                                                 | 450                                 | 800            | 4                                           | 2.2            | 50             | 60                      |
| P4200SD     | P42D    | 400                                                 | 520                                 | 800            | 4                                           | 2.2            | 100            | 40                      |

**Notes:**

V<sub>S</sub> is measured at 100KV/s.

Off-state capacitance is measured in V<sub>DC</sub>=2V, V<sub>RMS</sub>=1V, f=1MHz.



**Description:**

PXXX0SD Series are designed to protect broadband equipment such as modems, line card, CPE and DSL from damaging over-voltage transients.

The series provides a surface mount solution that enables equipment to comply with global regulatory standards.

**Features:**

- u Low voltage overshoot
- u Low on-state voltage
- u Does not degrade surge capability after multiple surge events within limit
- u Fails short circuit when surged in excess of ratings
- u Low Capacitance

**Applicable Global Standards:**

- u TIA-968-A
- u ITU K.20/21 Enhanced level
- u ITU K.20/21 Basic Level
- u GR 1089 Inter building
- u GR 1089 Inter building
- u IEC 6100-4-5
- u YD/T 1082
- u YD/T 993
- u YD/T 950

| Series                                                               | 2/10 $\mu$ S <sup>1</sup> | 8/20 $\mu$ S <sup>1</sup>                                                                                                                                                                                                                                                               | 10/160 $\mu$ S <sup>1</sup> | 10/560 $\mu$ S <sup>1</sup> | 10/1000 $\mu$ S <sup>1</sup> | 5/310 $\mu$ S <sup>1</sup>  | I <sub>TSM</sub><br>50/60<br>Hz | di/dt                |
|----------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------|------------------------------|-----------------------------|---------------------------------|----------------------|
|                                                                      | 2/10 $\mu$ S <sup>2</sup> | 1.2/50 $\mu$ S <sup>2</sup>                                                                                                                                                                                                                                                             | 10/160 $\mu$ S <sup>2</sup> | 10/560 $\mu$ S <sup>2</sup> | 10/1000 $\mu$ S <sup>2</sup> | 10/700 $\mu$ S <sup>2</sup> |                                 |                      |
|                                                                      | A min                     | A min                                                                                                                                                                                                                                                                                   | A min                       | A min                       | A min                        | A min                       | A min                           | Amps/ $\mu$ s<br>max |
| D                                                                    | 800                       | 700                                                                                                                                                                                                                                                                                     | --                          | --                          | 200                          | 200                         | 70                              | 500                  |
| Notes:<br>Current waveform in $\mu$ s<br>Voltage waveform in $\mu$ s |                           | - Peak pulse current rating (I <sub>PP</sub> ) is repetitive and guaranteed for the life of the product.<br>- I <sub>PP</sub> ratings applicable over temperature range of -40°C to +85°C<br>- The device must initially be in thermal equilibrium with -40°C < T <sub>J</sub> < +150°C |                             |                             |                              |                             |                                 |                      |

| Part Number | Component Package | Quantity | Packaging Option           | Packaging Specification |
|-------------|-------------------|----------|----------------------------|-------------------------|
| Pxxx0SD     | DO-214AA          | 3000     | Tape & Reel - 12mm/13"tape | EIA -481 - D            |

## Thermal Considerations

| Package                                                                                       | Symbol          | Parameter                               | Value         | Unit |
|-----------------------------------------------------------------------------------------------|-----------------|-----------------------------------------|---------------|------|
| DO-214AA<br> | $T_J$           | Operating Junction Temperature Range    | - 40 to + 150 | °C   |
|                                                                                               | $T_S$           | Storage Temperature Range               | - 40 to +150  | °C   |
|                                                                                               | $R_{\theta JA}$ | Thermal Resistance: Junction to Ambient | 90            | °C/W |

Figure 1 - V-I Characteristics

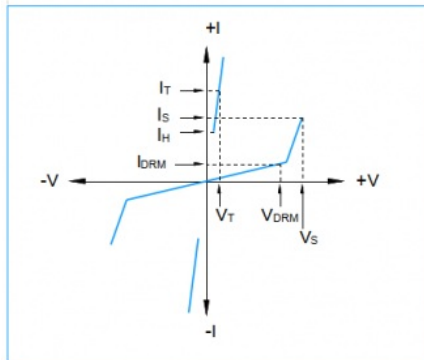


Figure 3 - Normalized  $V_S$  Change Versus Junction Temperature

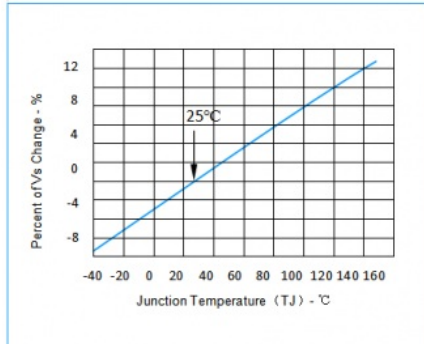


Figure 2 -  $t_r \times t_d$  Pulse Waveform

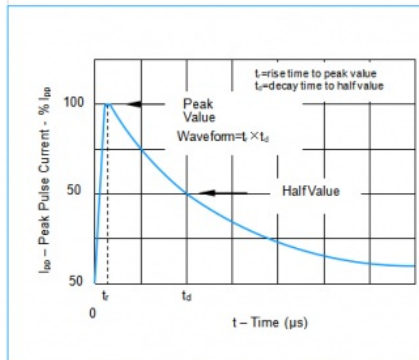
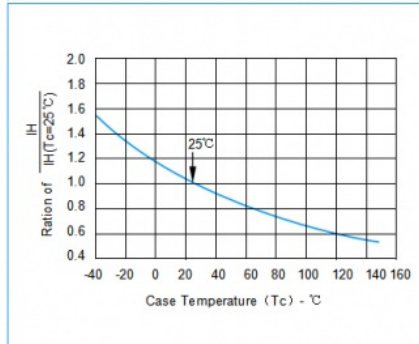
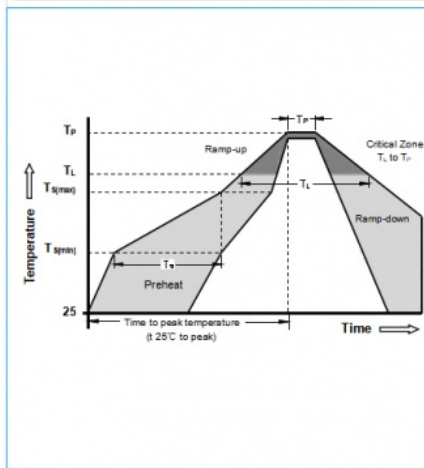


Figure 4 - Normalized DC Holding Current Versus Case Temperature

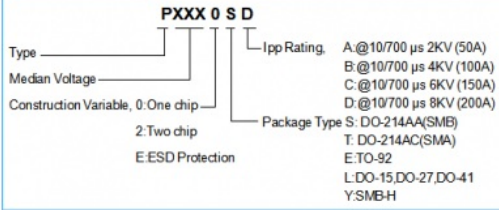


## Soldering Parameters



| Reflow Condition                                     |                                    | Lead-free assembly |
|------------------------------------------------------|------------------------------------|--------------------|
| Pre Heat                                             | -Temperature Min ( $T_{qmin}$ )    | +150°C             |
|                                                      | -Temperature Max ( $T_{qmax}$ )    | +200°C             |
|                                                      | -Time (min to max) ( $T_q$ )       | 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 ( $t_p$ ) |                                    | 30 Seconds Max     |
| Ramp-down Rate                                       |                                    | 6°C/Second Max     |
| Time 25°C to peak Temperature ( $T_P$ )              |                                    | 8 minutes Max      |
| Do not exceed                                        |                                    | +260°C             |

## Part Numbering

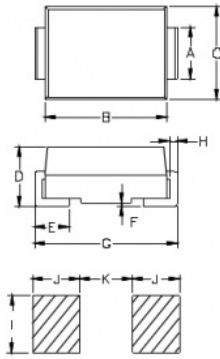


## Part Marking



## Dimensions

**DO-214AA (SMB)**



| Dimensions | Inches |       | Millimeters |       |
|------------|--------|-------|-------------|-------|
|            | Min    | Max   | Min         | Max   |
| A          | 0.075  | 0.087 | 1.90        | 2.20  |
| B          | 0.169  | 0.189 | 4.30        | 4.80  |
| C          | 0.130  | 0.155 | 3.30        | 3.94  |
| D          | 0.083  | 0.098 | 2.10        | 2.50  |
| E          | 0.037  | 0.060 | 0.95        | 1.52  |
| F          | 0.002  | 0.008 | 0.051       | 0.203 |
| G          | 0.200  | 0.220 | 5.08        | 5.60  |
| H          | 0.006  | 0.012 | 0.15        | 0.31  |
| I          | 0.091  | -     | 2.23        | -     |
| J          | 0.087  | -     | 2.20        | -     |
| K          | -      | 0.102 | -           | 2.60  |

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