

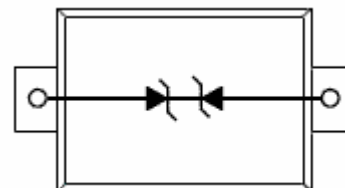


## PSD0XXC

### Transient Voltage Suppressors for ESD Protection

#### Applications

- Cellular phones
- Portable devices
- Digital cameras
- Power supplies
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.



#### Features

- Small Body Outline Dimensions
- 300 Watts peak pulse power ( $t_p = 8/20\mu s$ )
- Transient protection for data lines to  
**IEC 61000-4-2 (ESD)  $\pm 15kV$  (air),  $\pm 8kV$  (contact)**  
**IEC 61000-4-4 (EFT) 40A (5/50ns)**  
**IEC 61000-4-5 (Lightning) 24A (8/20 $\mu s$ )**
- Small package for use in portable electronics
- Suitable replacement for MLV's in ESD protection applications
- Protects one I/O or power line
- Low clamping voltage
- Working voltages: 3.3V and 36V
- Low leakage current
- Solid-state silicon-avalanche technology
- We declare that the material of product compliance with RoHS requirements.
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

#### Absolute Ratings ( $T_{amb}=25^{\circ}C$ )

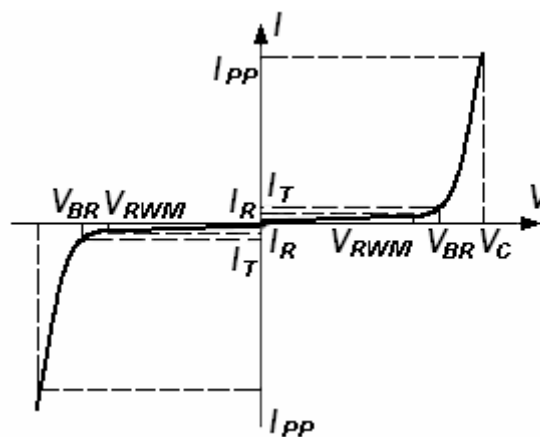
| Symbol    | Parameter   | Value                              | Units                     |
|-----------|---|------------------------------------|---------------------------|
| $P_{PP}$  | Peak Pulse Power ( $t_p = 8/20 \mu s$ )           | 200                                | W                         |
| $T_L$     | Maximum lead temperature for soldering during 10s | 260                                | $^{\circ}C$               |
| $T_{stg}$ | Storage Temperature Range                         | -55 to +155                        | $^{\circ}C$               |
| $T_{op}$  | Operating Temperature Range                       | -40 to +125                        | $^{\circ}C$               |
| $T_j$     | Maximum junction temperature                      | 150                                | $^{\circ}C$               |
|           | IEC61000-4-2 (ESD)                                | air discharge<br>contact discharge | $\pm 15$<br>$\pm 8$<br>KV |
|           | IEC61000-4-4 (EFT)                                | 40                                 | A                         |
|           | ESD Voltage                                       | Per Human Body Model               | 16<br>KV                  |



# PSD0XXC

## Electrical Parameter

| Symbol    | Parameter                                   |
|-----------|---|
| $I_{PP}$  | Maximum Reverse Peak Pulse Current          |
| $V_C$     | Clamping Voltage @ $I_{PP}$                 |
| $V_{RWM}$ | Working Peak Reverse Voltage                |
| $I_R$     | Maximum Reverse Leakage Current @ $V_{RWM}$ |
| $I_T$     | Test Current                                |
| $V_{BR}$  | Breakdown Voltage @ $I_T$                   |

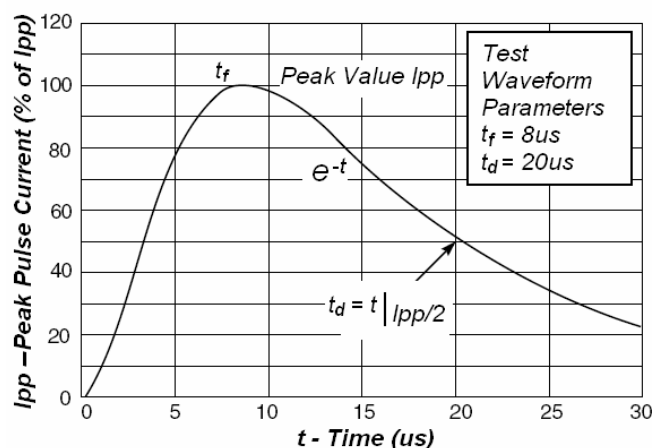


## Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified. VF = 0.9V at IF = 10mA

| $V_{RWM}$ (V) | $I_R$ (uA) @ $V_{RWM}=5V$ | $V_{BR}$ (V) @ $I_T=1mA$ | $V_C$ (V) @ $I_{PP}=5A$<br>$t_p=8/20\mu s$ | $V_C$ (V) @ $I_{PP}=24A$<br>$t_p=8/20\mu s$ | $I_{PP}$ (A) @ $t_p=8/20\mu s$ | C (pF) |
|---------------|---------------------------|--------------------------|--|---|--------------------------------|--------|
| Max           | Max                       | Min                      | Typ  | Max   | Max                            | Typ    |
| PSD03V3C      | 1.0                       | 4.0                      | 7.2  | 9.5   | 31.6                           | 30     |
| PSD05C        | 1.0                       | 6.0                      | 9.8  | 10.5  | 28.6                           | 35     |
| PSD12C        | 1.0                       | 13.3                     | 19.0                                       | 16.5  | 18.9                           | 35     |
| PSD15C        | 1.0                       | 16.7                     | 24.5                                       | 29.2  | 15.8                           | 35     |
| PSD24C        | 1.0                       | 26.7                     | 46.0                                       | 40.0  | 12.2                           | 42     |
| PSD36C        | 1.0                       | 40.0                     | 75.0                                       | 60.0  | 5.5                            | 42     |

- $V_{BR}$  is measured with a pulse test current  $I_T$  at an ambient temperature of 25°C.

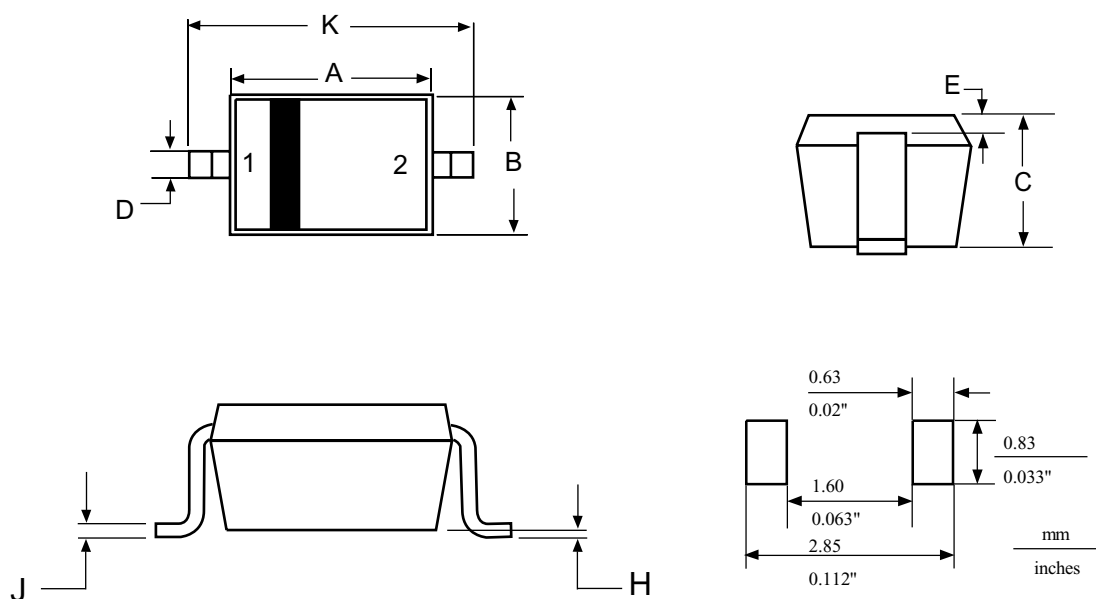


**Fig1. Pulse Waveform**



PSD0XXC

SOD-323



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS

| DIM | MILLIMETERS |       | INCHES    |        |
|-----|-------------|-------|-----------|--------|
|     | MIN         | MAX   | MIN       | MAX    |
| A   | 1.60        | 1.80  | 0.063     | 0.071  |
| B   | 1.15        | 1.35  | 0.045     | 0.053  |
| C   | 0.80        | 1.00  | 0.031     | 0.039  |
| D   | 0.25        | 0.40  | 0.010     | 0.016  |
| E   | 0.15 REF    |       | 0.006 REF |        |
| H   | 0.00        | 0.10  | 0.000     | 0.004  |
| J   | 0.089       | 0.177 | 0.0035    | 0.0070 |
| K   | 2.30        | 2.70  | 0.091     | 0.106  |

PIN: 1. CATHODE  
2. ANODE