

## Transient Voltage Suppressors for ESD Protection

### General Description

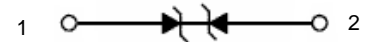
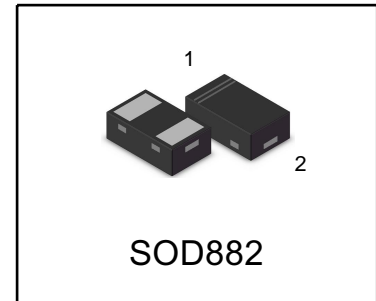
The is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space is at a premium.

### Applications

- Cellular phones
- Portable devices
- Digital cameras
- Power supplies

### Features

- Small Body Outline Dimensions
- Low Body Height
- Peak Power up to 150 Watts @ 8 x 20  $\mu$  s Pulse
- Low Leakage current
- Response Time is Typically < 1 ns
- ESD Rating of Class 3 (> 16 kV) per Human Body Model

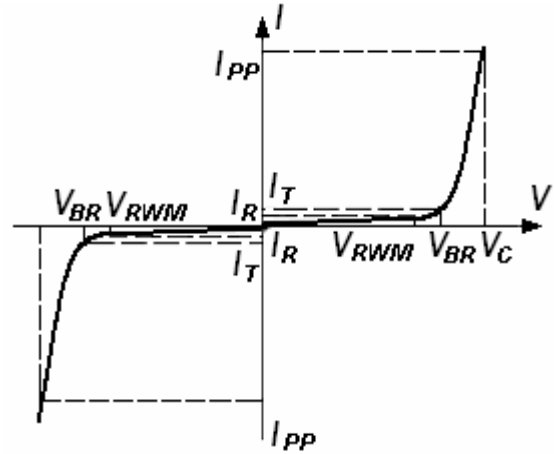


### Absolute Ratings ( $T_{amb}=25^{\circ}\text{C}$ )

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

## 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

Device	$V_{RWM}$ (V)	$I_{R1}$ (uA) @ $V_{RWM}$	$I_{R2}$ (uA) @ $V_R=3.5V$	$V_{BR}$ (V) @ $I_T$ (Note 1)	$I_T$	$V_C$ (V) @ $I_{PP}=5 A^*$	$V_C$ (V) @ Max $I_{PP}^*$	$I_{PP}$ (A)*	$P_{PK}$ (W)*	$C$ (pF)
	Max	Max	Max	Min	mA	Typ	Max	Max	Max	Typ
ESD5V0S1BL	5.0	0.5	0.3	5.6	1.0	11.6	18.6	9.4	174	15

\*Surge current waveform per Figure 1.

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

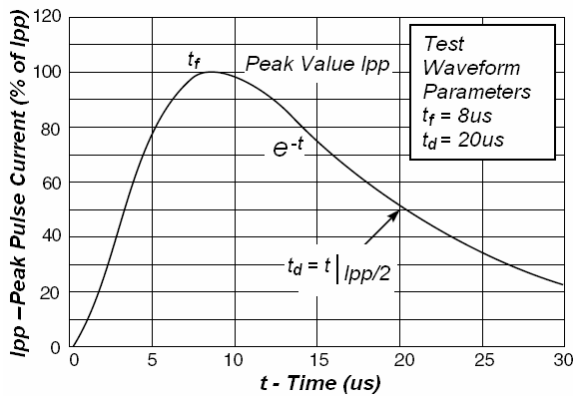


Fig1. Pulse Waveform

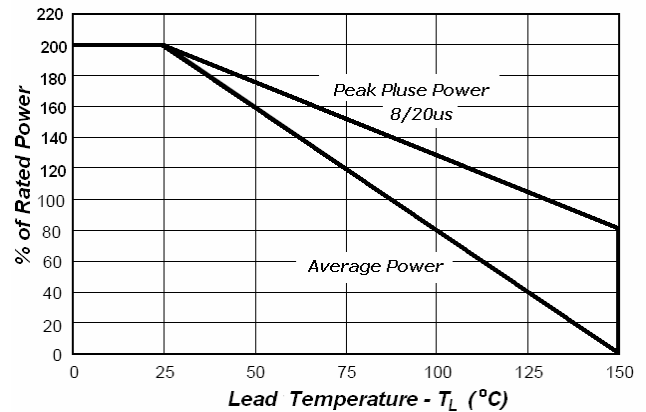


Fig2. Power Derating Curve

## SOD882

### DIMENSION OUTLINE

Unit:mm

