

## ESD Protection –ESD3V3D8

### Description

The ESD3V3D8 is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. 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.

### Feature

- Case : SOD882 package
- Stand-off Voltage: 3.3 V – 12 V
- Low clamping voltage
- Low Leakage current
- Response Time is Typically < 1.0 ns
- IEC61000-4-2 Level 4 ESD Protection
- ESD Rating of Class 3 (> 16 kV) per Human Body Model
- These are Pb-Free Devices

### Applications

- Cellular phones audio
- MP3 players
- Digital cameras
- Portable applications
- Mobile telephone

### Absolute Maximum Ratings

Parameter	Symbol	Value	Units
IEC61000-4-2 (Contact)	$V_{ESD}$	8	kV
IEC61000-4-2 (Air)	$V_{ESD}$	15	kV
Lead Soldering Temperature	$T_L$	260 (10 sec)	° C
Junction and Storage Temperature Range	$T_{STG}$	-55 to 150	° C
Maximum junction temperature	$T_j$	150	° C
Peak Pulse Power ( $t_p = 8/20s$ )	$P_{pk}$	102	W



### Schematic & PIN Configuration



Electrical Characteristics (T = 25° C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	$V_{RWM}$				3.3	V
Reverse Breakdown Voltage	$V_{BR}$	$I_t = 1mA$	5			V
Reverse Leakage Current	$I_R$	$V_R = V_{RWM}$			2.5	$\mu A$
Clamping Voltage	$V_C$	@ $I_{PP}$ $t_p = 8/20\mu s$			10.4	V
Peak pulse Current	$I_{PP}$	$t_p = 8/20\mu s$			9.8	A
Junction Capacitance	$C_J$	$V_R = 0V, f = 1MHz$		80		pF

Rating & Characteristic Curves

Figure 1 - Electrical Parameter

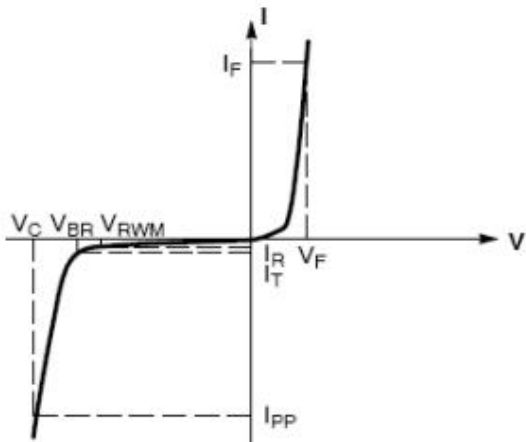


Figure 2- Pulse Waveform

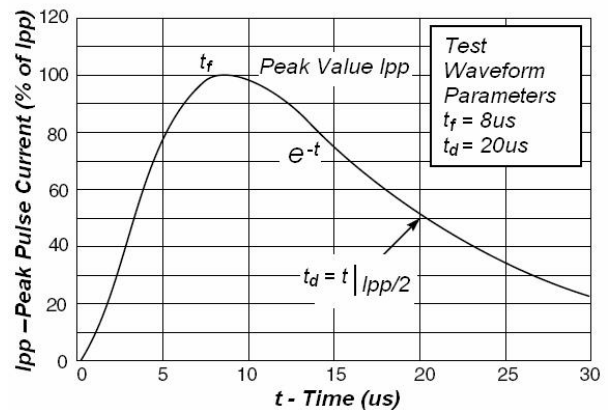


Figure 3-Typical Breakdown Voltage versus Temperature

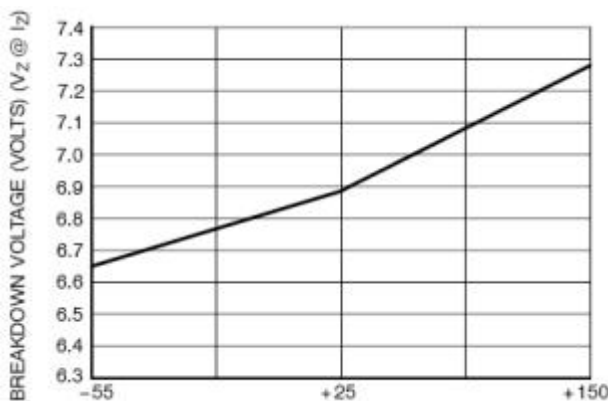


Figure 4-Typical Leakage Current versus Temperature

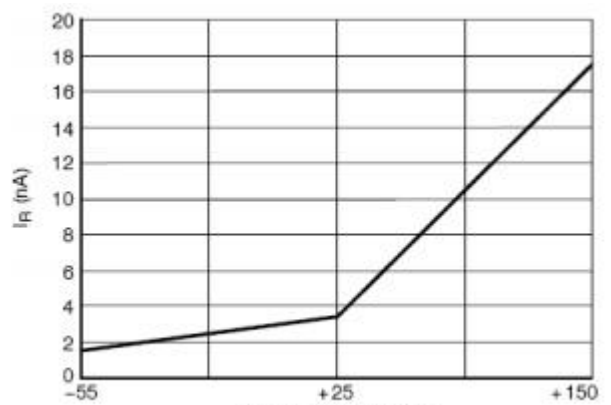


Figure 5- Positive 8kV contact per IEC 61000-4-2

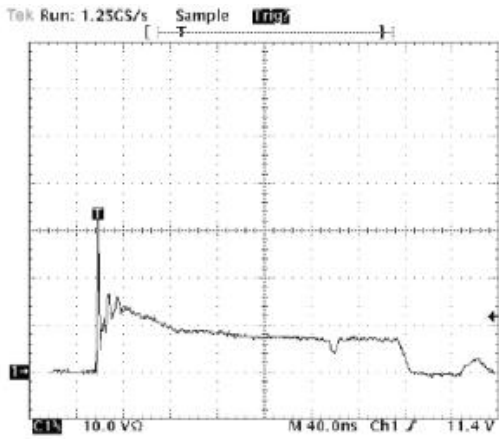
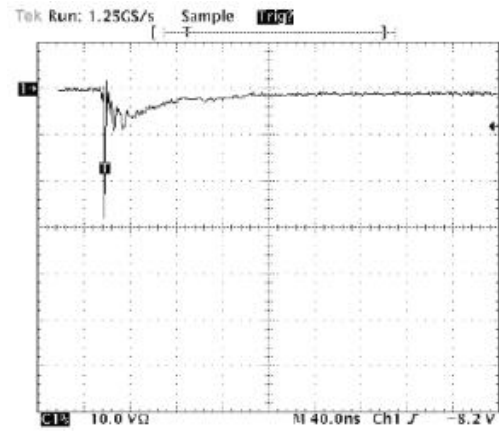
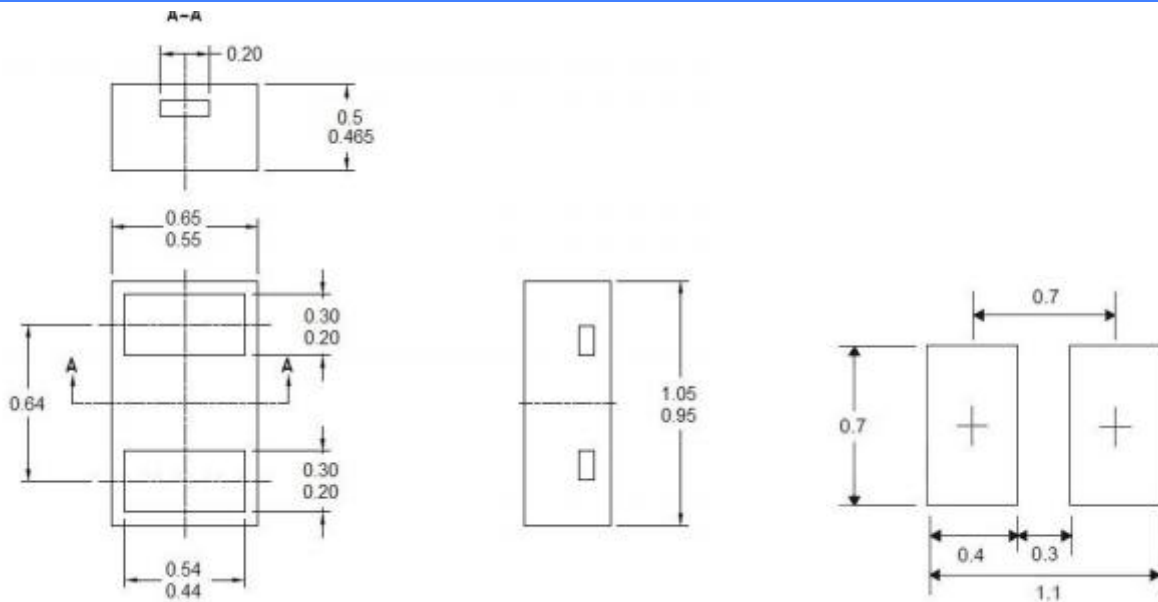


Figure 6-Negative 8kV contact per IEC 61000-4-2



**PACKAGE OUTLINE DIMENSIONS in millimeters :SOD882**



**Disclaimer**

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.