



## DESCRIPTION

The ESD9D3.3C 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.

The ESD9D3.3C is available in SOD-923 package.

## ORDERING INFORMATION

Package Type	Part Number
SOD-923	ESD9D3.3C
Note	SPQ: 8,000pcs/Reel
AiT provides all RoHS Compliant Products	

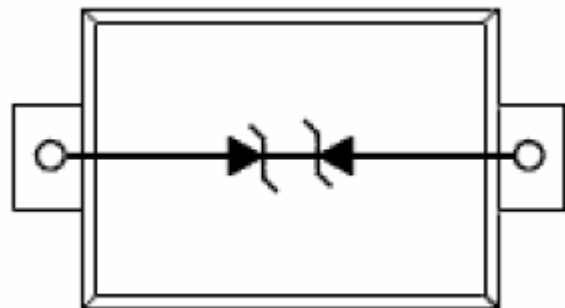
## FEATURES

- Small Body Outline Dimensions
- Low Body Height
- Peak Power up to 150Watts @ 8 x 20 $\mu$ s Pulse
- Low Leakage current
- Response Time is Typically < 1ns
- ESD Rating of Class 3 (> 16kV) per Human Body Model
- IEC61000-4-2 Level 4 ESD Protection
- IEC61000-4-4 Level 4 EFT Protection
- Available in SOD-923 package

## APPLICATIONS

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

## PIN DESCRIPTION





## ABSOLUTE MAXIMUM RATINGS

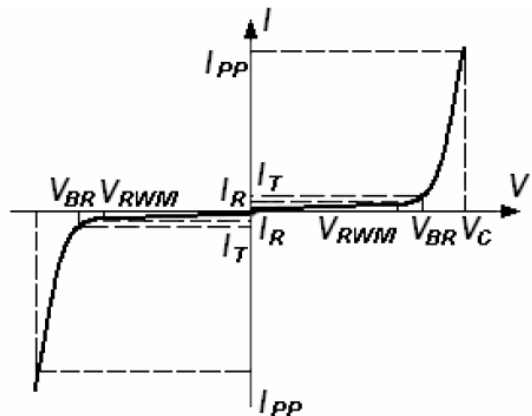
T<sub>amb</sub>=25°C

P <sub>PP</sub> , Peak Pulse Power (t <sub>p</sub> = 8/20μs)		150W
T <sub>L</sub> , Maximum lead temperature for soldering during 10s		260°C
T <sub>STG</sub> , Storage Temperature Range		-55°C ~ 155°C
T <sub>op</sub> , Operating Temperature Range		-40°C ~ 125°C
T <sub>J</sub> , Maximum Junction Temperature		150°C
IEC 61000-4-2 (ESD)	air discharge	±15kV
	contact discharge	±8kV
IEC61000-4-4 (EFT)		40A
ESD Voltage	Per Human Body Model	16kV

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

## ELECTRICAL PARAMETER

Symbol	Parameter
I <sub>PP</sub>	Maximum Reverse Peak Pulse Current
V <sub>C</sub>	Clamping Voltage @ I <sub>PP</sub>
V <sub>RWM</sub>	Working Peak Reverse Voltage
I <sub>R</sub>	Maximum Reverse Leakage Current @ V <sub>RWM</sub>
I <sub>T</sub>	Test Current
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>



## ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. V<sub>F</sub> = 0.9V at I<sub>F</sub> = 10mA

Part Number	V <sub>RWM</sub> (V)	I <sub>R</sub> (μA) @ V <sub>RWM</sub>	V <sub>BR</sub> (V) @ I <sub>T</sub> NOTE2	I <sub>T</sub>	V <sub>C</sub> (V) @ I <sub>PP</sub> = 5A*	V <sub>C</sub> (V) @ Max I <sub>PP</sub> *	I <sub>PP</sub> (A)*	P <sub>PK</sub> (W)*	C (pF)
	Max	Max	Min	mA	Typ	Max	Max	Max	Typ
ESD9D3.3C	3.3	1	5.0	1.0	8.4	14.1	11.2	158	25

NOTE1: \*Surge current waveform per Figure 1.

NOTE2: V<sub>BR</sub> is measured with a pulse test current I<sub>T</sub> at an ambient temperature of 25°C .



## TYPICAL CHARACTERISTICS

Figure 1. Pulse Waveform

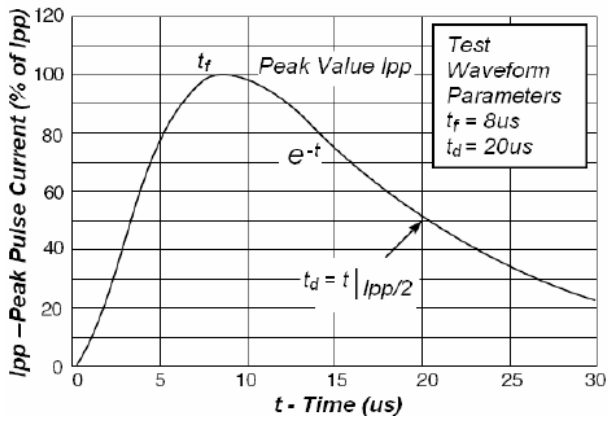
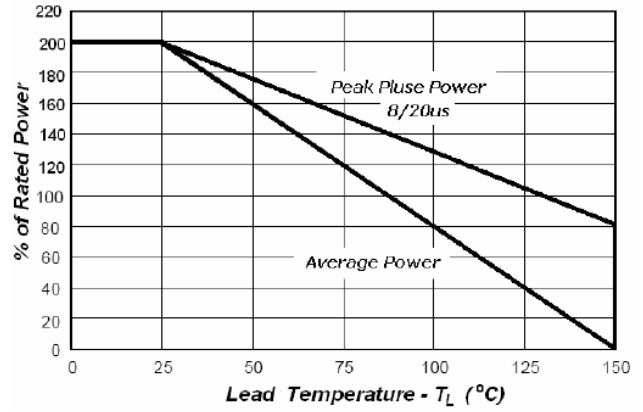


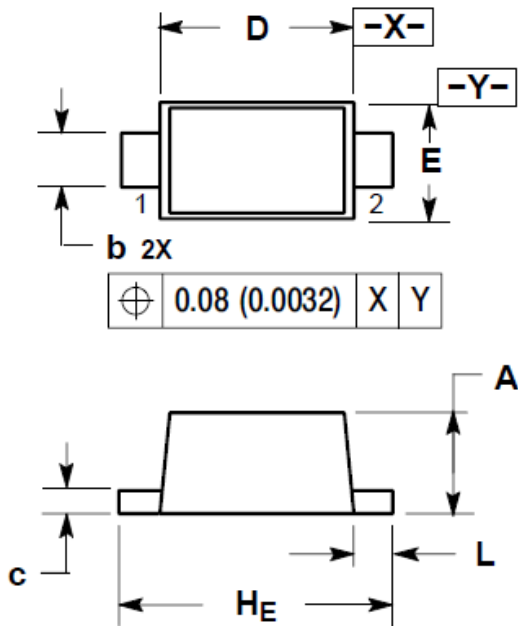
Figure 2. Power Derating Curve



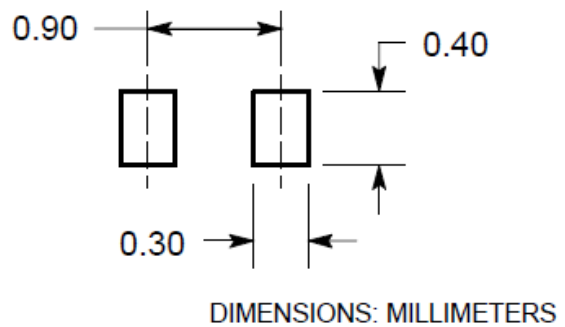


**PACKAGE INFORMATION**

Dimension in SOD-923 Package (Unit: mm)



**SOLDERING FOOTPRINT**



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.34	0.40	0.013	0.016
b	0.15	0.25	0.006	0.010
c	0.07	0.17	0.003	0.007
D	0.75	0.85	0.030	0.033
E	0.55	0.65	0.022	0.026
HE	0.95	1.05	0.037	0.041
L	0.05	0.15	0.002	0.006



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