



## Description

Low capacitance bidirectional ElectroStatic Discharge (ESD) protection diode in a ultra-small and flat lead SOD-323 plastic package designed to protect one signal line from the damage caused by ESD and other transients.



SOD-323

## Features

- ★ Bidirectional ESD protection of one line
- ★ Reverse stand-off voltage: 12.0V Max
- ★ Low leakage current: nA Level
- ★ Response time is typically < 1 ns
- ★ Low clamping voltage:  $VC < 18$  V @ IPP = 18A
- ★ ESD Protection: 30kV(air)/ 30kV(contact) ( IEC61000-4-2)
- ★ RoHS compliant



Circuit Diagram

## Applications

- ★ Cell Phone Handsets and Accessories
- ★ Microprocessor based equipment
- ★ Personal Digital Assistants (PDA's)
- ★ Notebooks, Desktops, and Servers

## Ordering Information

Product ID	Pack	Qty(PCS)
DF2B18FUH3F	SOD-323	3000



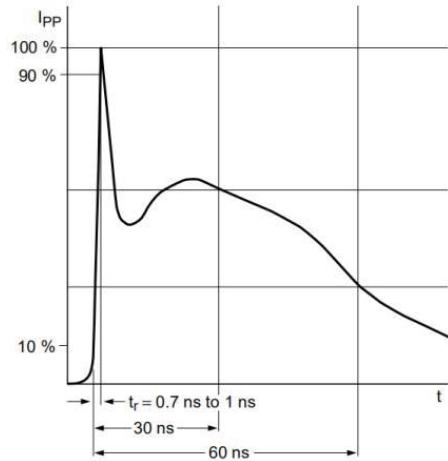
### Absolute Ratings(T<sub>amb</sub> = 25°C)

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20μs)	P <sub>PPM</sub>	160	W
Peak Pulse Current(tp = 8/20μs)	I <sub>PPM</sub>	9	A
ESD voltage IEC 61000-4-2 (air discharge)	V <sub>ESD</sub>	30	kV
ESD voltage IEC 61000-4-2 (contact discharge)	V <sub>ESD</sub>	30	kV
Maximum lead temperature for soldering during 10s	T <sub>L</sub>	260	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C
Operating Temperature Range	T <sub>OP</sub>	-40 to +125	°C

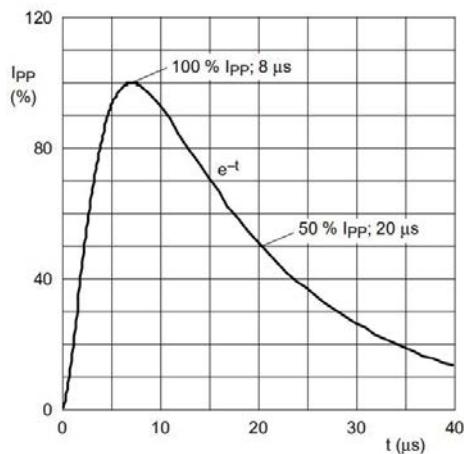
### Electrical Characteristics

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V <sub>RWM</sub>	Reverse Working Voltage				12.0	V
V <sub>BR</sub>	Reverse Breakdown Voltage	I <sub>T</sub> = 1mA	13.5			V
I <sub>R</sub>	Reverse Leakage Current	V <sub>RWM</sub> = 5.0V			0.1	uA
V <sub>C</sub>	Clamping Voltage	I <sub>RWM</sub> = 4A, t <sub>p</sub> = 8/20μs			18	V
C <sub>J</sub>	Junction Capacitance	V <sub>R</sub> = 0V, f = 1MHz		8		pF

### Typical Characteristics



IEC61000-4-2 Waveform



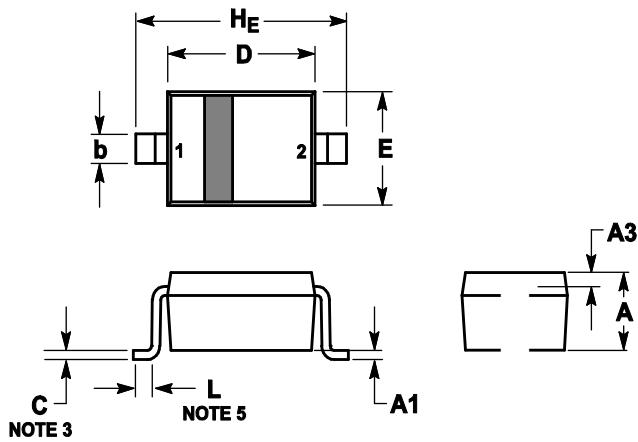
IEC 61000-4-5 Waveform( 8/20μs pulse)



## Outline And Dimensions

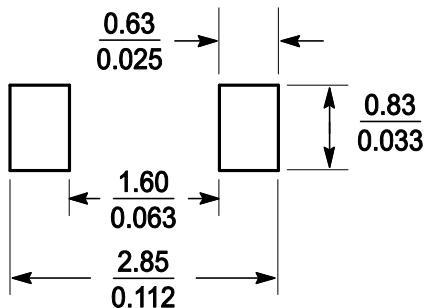
### Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.8	0.9	1	0.031	0.035	0.04
A1	0	0.05	0.1	0	0.002	0.004
A3	0.15REF			0.006REF		
b	0.25	0.32	0.4	0.01	0.012	0.016
C	0.089	0.12	0.177	0.003	0.005	0.007
D	1.6	1.7	1.8	0.062	0.066	0.07
E	1.15	1.25	1.35	0.045	0.049	0.053
L	0.08			0.003		
H <sub>E</sub>	2.3	2.5	2.7	0.09	0.098	0.105

## Soldering Footprint





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