

**Bi-directional ESD Protection Diode****Peak Pulse Power - 400 Watts**  
**Reverse Working Voltage - 3.3V****Description**

The H23D53V3B is designed to protect sensitive semiconductor components from damage or upset due to Electro Static Discharge (ESD).

**Features**

- 1 Channel of ESD Protection (Bi-directional)
- Peak Pulse Power :P<sub>pp</sub> = 400W (tp=8/20 us)
- Reverse Working Voltage : 3.3V
- Low Leakage Current
- Low Clamping Voltage
- IEC 61000-4-2 (ESD) :±30kV(Contact) / ±30kV(Air)

**Applications**

- Computers and peripherals
- Audio and video equipment
- Communication system
- Data lines

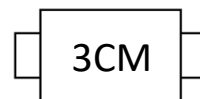
**Mechanical Data**

- Case: SOD523 Package
- Case Material: "Green" Molding Compound UL Flammability Classification Rating 94V-0
- Terminals: Tin plated, solderable per MIL-STD-750, method 2026
- Component in accordance to RoHS
- Halogen Free

Note: Products with logo  or  are made by HY Electronic (Cayman) Limited.

**Ordering Information**

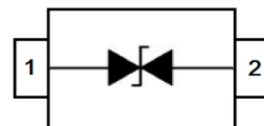
- Package :SOD523
- Reel Size :7 (inches)
- Quantity Per Reel :3,000/Tape & Reel
- Quantity One Box :45,000/Tape & Reel
- Quantity One Carton :180,000/Tape & Reel

**Marking Information**

"3CM" = Product Type Marking Code

**Package Outline**

SOD523 Top View

**Device Schematic & PIN Configuration****Maximum Ratings (@TA = +25°C, unless otherwise specified.)****Absolute Ratings**

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation (8/20 us)	P <sub>PP</sub>	400	W
Peak Pulse Current (8/20 us)	I <sub>PP</sub>	23	A
ESD Protection- Contact (Standard IEC 61000-4-2)	V <sub>ESD</sub>	±30	k V
ESD Protection- Air (Standard IEC 61000-4-2 )		±30	
Operating Temperature Range	T <sub>J</sub>	-55 to +125	° C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	° C
Soldering Temperature, t max =10s	T <sub>L</sub>	260	° C

**Electrical Characteristics**

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Reverse Working Voltage	---	V <sub>RWM</sub>	-	-	3.3	V
Reverse Breakdown Voltage	I <sub>T</sub> = 1mA	V <sub>B</sub>	4	-	6	V
Reverse Current	V <sub>R</sub> = 3.3V	I <sub>R</sub>	-	-	1	uA
Reverse Clamping Voltage	I <sub>PP</sub> = 1A (8/20μs)	V <sub>C</sub>	-	-	6.5	V
	I <sub>PP</sub> = 23A (8/20μs)	V <sub>C</sub>	-	-	18	V
Junction Capacitance	V <sub>R</sub> = 0V, F = 1MHz	C <sub>j</sub>	-	-	45	p F



## Rating and Characteristic Curves

FIG.1 - 8/20us Pulse Waveform According to IEC 61000-4-5

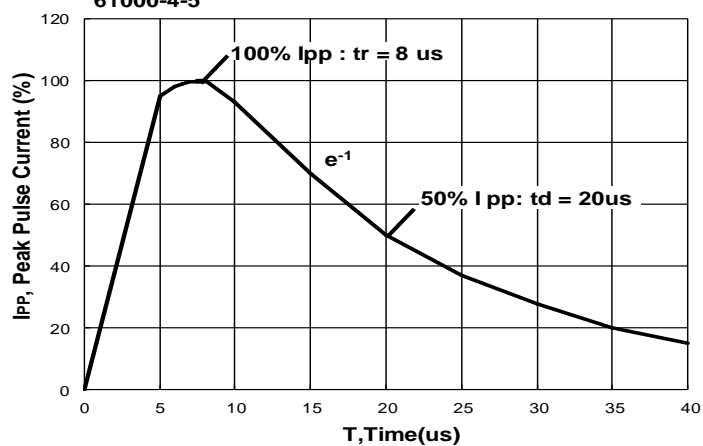


FIG.2 - Power Dissipation Versus Pulse Time

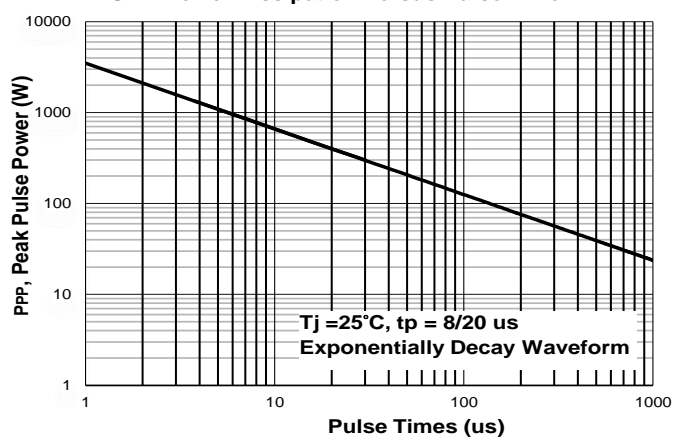


FIG.3 - Peak Pulse Power Versus Tj

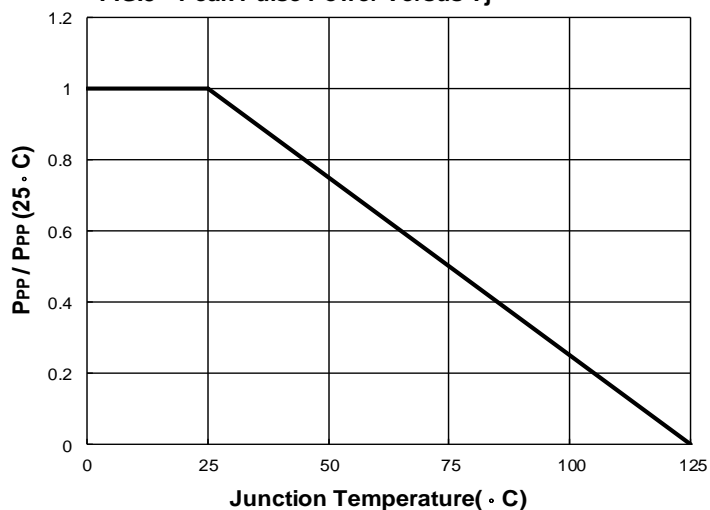
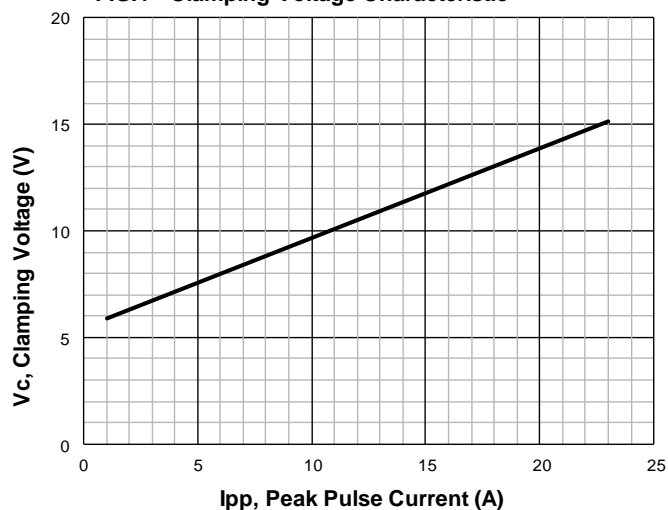
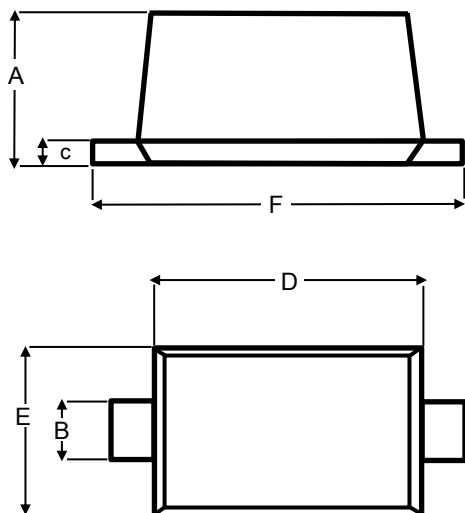


FIG.4 - Clamping Voltage Characteristic



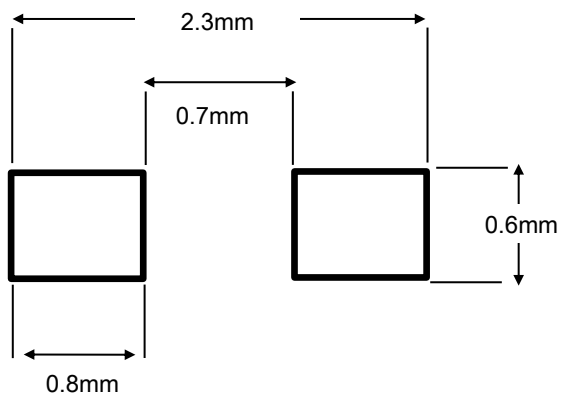


## Package Outline Dimensions



SOD523 Package		
Dim	Min	Max
A	0.5	0.7
B	0.25	0.35
c	-	0.2
D	1.1	1.3
E	0.7	0.9
F	1.5	1.7
All Dimensions in mm		

## Suggested Soldering Pad Layout





## Disclaimer

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