

1. Description

The AZ5125-01H has been specifically designed to protect sensitive components which are connected to power and control lines from over-voltage damage and latch-up caused by Electrostatic Discharging (ESD), Electrical Fast Transients (EFT), and Cable Discharge Event (CDE).

3. Features

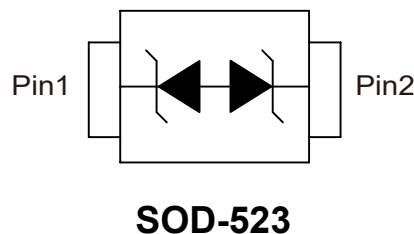
- ESD Protection for 1 Line with Bi-directional.
- Provide ESD protection for the protected line to IEC 61000-4-2 (ESD) $\pm 20\text{kV}$ (air), $\pm 15\text{kV}$ (contact)
IEC 61000-4-4 (EFT) 50A (5/50ns)
Cable Discharge Event (CDE)
- Ultra-small SOD-523 package saves board space.

2. Applications

- Computer Interfaces Protection
- Microprocessors Protection
- Serial and Parallel Ports Protection
- Control Signal Lines Protection
- Power lines on PCB Protection
- Latchup Protection

- Protect one I/O line or one power line
- Fast turn-on and Low clamping voltage
- For low operating voltage applications:
5V maximum
- Solid-state silicon-avalanche and active circuit triggering technology
- Green Part

4. Pinning information





5. Absolute Maximum Ratings

Parameter	Symbol	Value	Units
Operating Supply voltage	V_{DC}	± 6	V
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 20	kV
ESD per IEC 61000-4-2 (Contact)		± 15	kV
Lead Soldering Temperature	T_{SOL}	260 (10 sec.)	°C
Junction Temperature	T_{OP}	-55 to 85	°C
Storage Temperature	T_{STO}	-55 to 150	°C

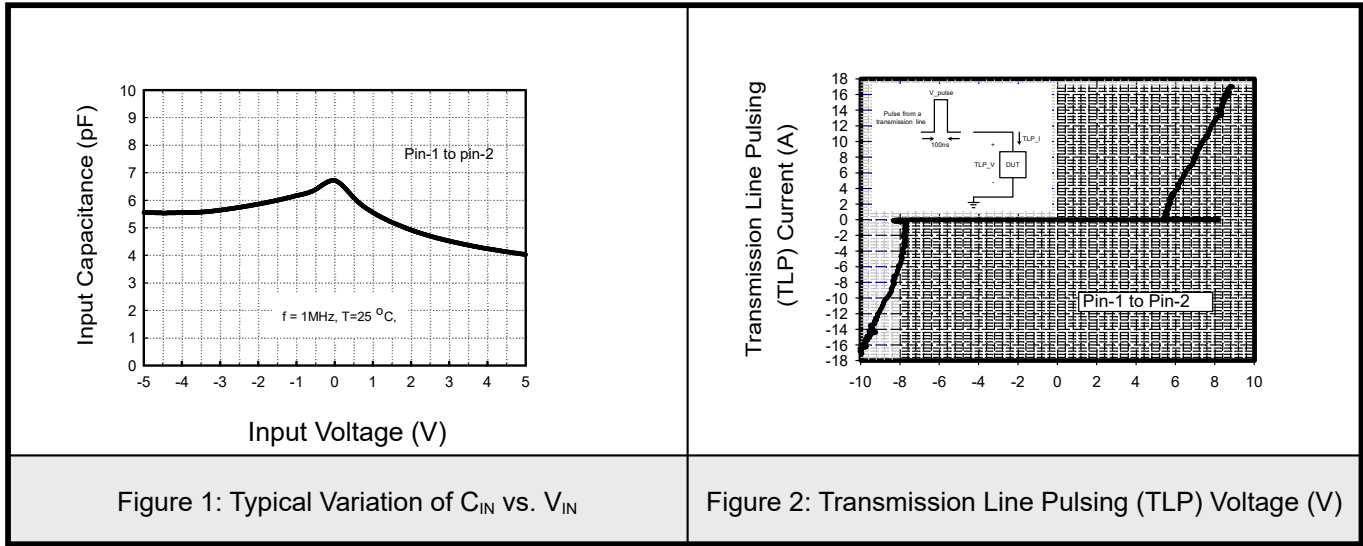


6. Electrical Characteristic ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Stand-off Voltage	V_{RWM}	$T=25^{\circ}\text{C}$	-5		5	V
Reverse Leakage Current	I_{Leak}	$V_{RWM}=\pm 5\text{V}$, $T=25^{\circ}\text{C}$			1	μA
Reverse Breakdown Voltage	V_{BV}	$I_{BV}=1\text{mA}$, $T=25^{\circ}\text{C}$	6		9	V
ESD Clamping Voltage	V_{ESD_CL}	IEC 61000-4-2 +6kV, $T=25^{\circ}\text{C}$, Contact mode.		10		V
Channel Input Capacitance	C_{IN}	$V_R=0\text{V}$, $f=1\text{MHz}$, $T=25^{\circ}\text{C}$		7	9	pF



7. Typical characteristic





8.Applications Information

The AZ5125-01H is designed to protect one line against System ESD/EFT/Cable-Discharge pulses by clamping them to an acceptable reference. It provides bi-directional protection.

The usage of the AZ5125-01H is shown in Fig. 1. Protected line, such as data lines, control lines, or power lines, is connected at pin 1. The pin 2 is connected to a ground plane on the board. Since AZ5125-01H is bi-directional, these connections can be reversed (protected line to pin 2, ground to pin 1). In order to minimize parasitic inductance in the board traces, all path lengths connected to the pins of AZ5125-01H should be kept as short as possible.

In order to obtain enough suppression of ESD induced transient, good circuit board is critical. Thus, the following guidelines are recommended:

- Minimize the path length between the protected lines and the AZ5125-01H.
- Place the AZ5125-01H near the input terminals or connectors to restrict transient coupling.
- The ESD current return path to ground should be kept as short as possible.
- Use ground planes whenever possible.
- NEVER route critical signals near board edges and near the lines which the ESD transient easily injects to

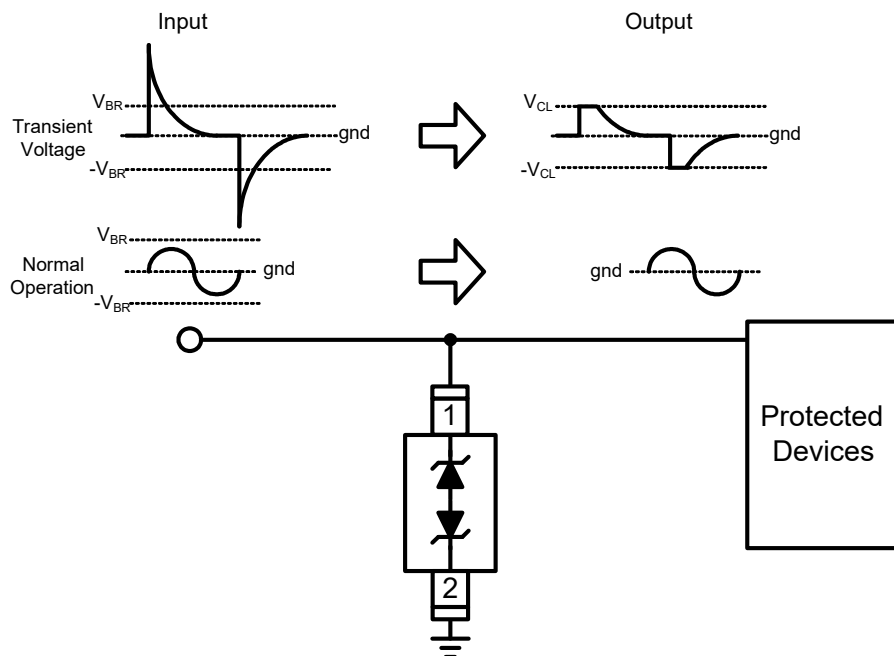
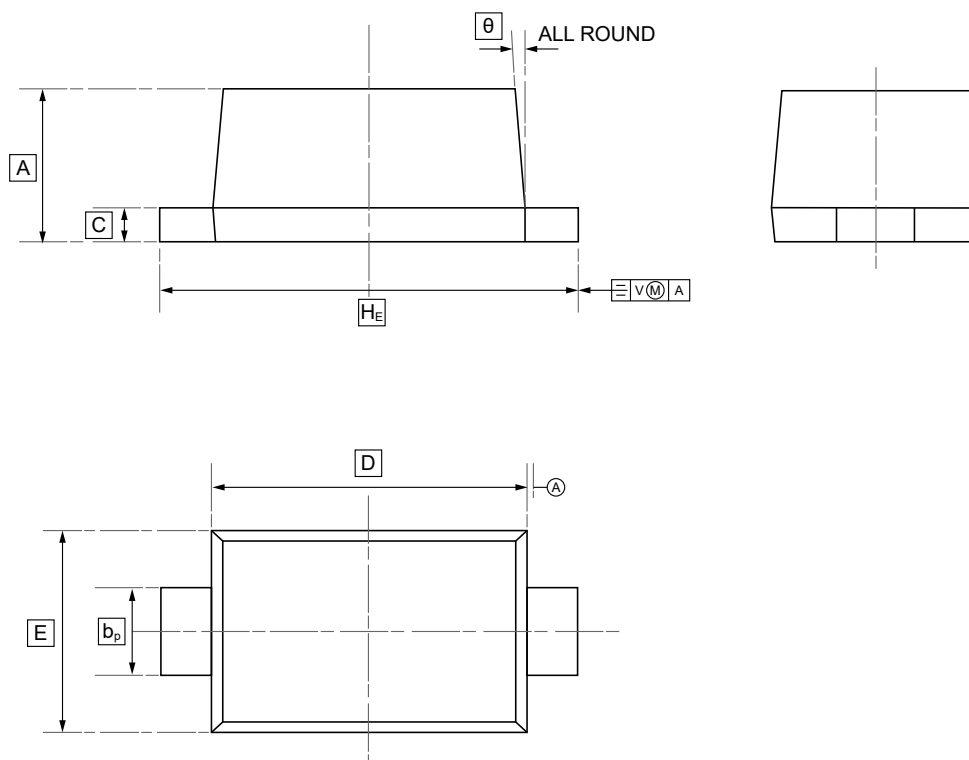


Fig. 1



9.SOD-523 Package Outline Dimensions

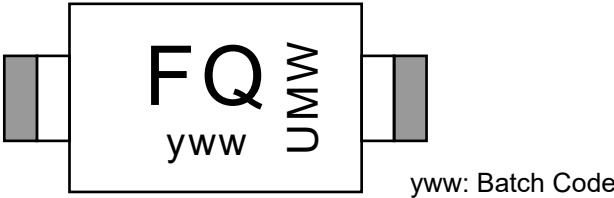


DIMENSIONS (mm are the original dimensions)

Symbol	A	b _p	C	D	E	H _E	θ
Min	0.58	0.3	0.100	1.15	0.75	1.5	5°
Max	0.68	0.4	0.135	1.25	0.85	1.7	



10.Ordering information



Order Code	Package	Base QTY	Delivery Mode
UMW AZ5125-01H	SOD-523	3000	Tape and reel



11.Disclaimer

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