Bi-Directional Transient Voltage Suppressing Diode

HYESD2025S is a Bi-Directional transient suppressing diode to protection one power line, one control line, or one low speed data line from overvoltage hazard of Electrostatic Discharge (ESD), Electrical Fast Transients (EFT) and Lightning. The typical application are computer interfaces protection, control signal lines protection etc..

FEATURES

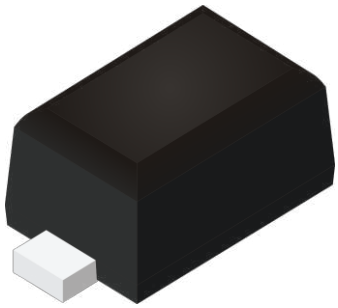
- Bi-Directional TVS
- Provides ESD protection to IEC61000-4-2 level 4
  - ± 15KV Air Discharge
  - ± 8KV Contact Discharge
- Fast response speed
- Low clamping voltage
- Low operation voltage

APPLICATION

- Computer interfaces protection
- Serial / parallel ports protection
- Control signal lines protection
- Power lines protection
- Latchup protection

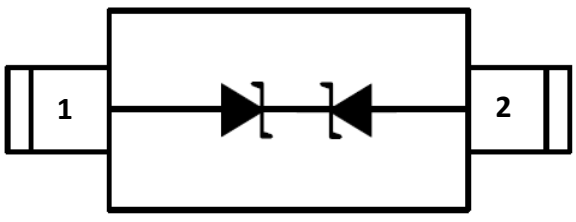
MECHANICAL INFORMATION

- Case : SOD-523 Package
- Pb-Free, Halogen Free, RoHS/WEEE Complian



HYESD2025S
SOD-523

PIN CONFIGURATION



Maximum Rating and Thermal Characteristics (T_C=25℃)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P_{PP}	200	W
Peak Pulse Current (8/20μs)	I_{PP}	8.5	A
ESD per IEC 61000-4-2(Air)	V_{ESD}	±15KV	V
ESD per IEC 61000-4-2(Contact)	V_{ESD}	±8KV	V
Operating Temperature Range	T_{OP}	-55 to +125	℃
Storage Temperature Range	T_{STO}	-55 to +150	℃
Lead Soldering Temperature (10sec.)	T_{SOL}	260	℃

Electrical Characteristics (T_C=25℃, unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}	T=25℃	-	-	5.0	V
Reverse Breakdown Voltage	V_{BR}	I_{BR} =1mA; T=25℃	6.0	-	9.0	V
Reverse Leakage Current	I_R	V_{RWM} =5V, T=25℃; I/O pin to GND	-	-	2.5	uA
Positive Clamping Voltage	V_C	I_{PP}=5A, t_P=8/20us; T=25℃	-	7.0	8.2	V
Negative Clamping Voltage	V_C	I_{PP}=8.5A, t_P=8/20us; T=25℃	-	13.5	18.6	V
ESD Holding Voltage	V_{hold}	IEC61000-4-2 6KV T=25℃, Contact mode	-	10.5	-	V
Channel Input Capacitance Between Channel	C_{IN}	V_R=0V, f=1MHz; T=25℃	-	13.5	15	pF

Typical Characteristic Curves (T_J=25℃, UNLESS OTHERWISE NOTED)

FIG.1 - Power Derating Curve

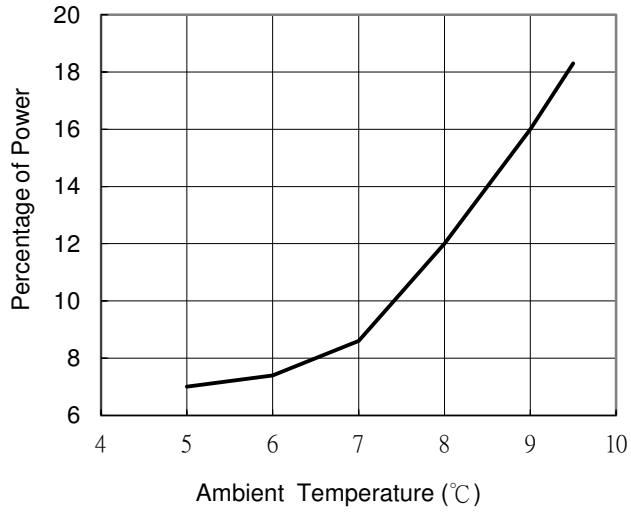


FIG.2 - Pulse Waveform

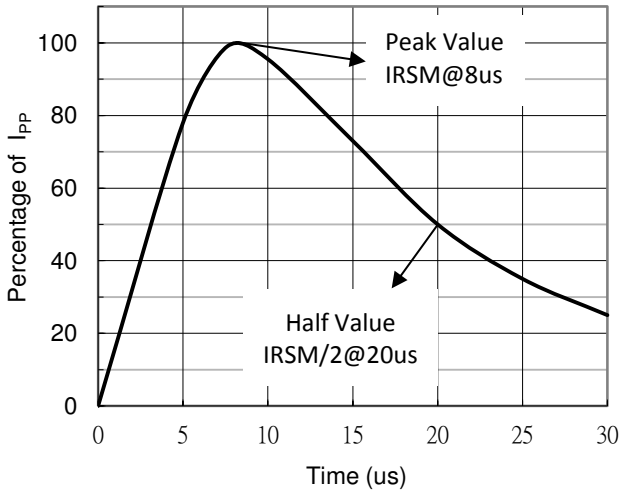


FIG.3 - Junction Capacitance
vs. Reverse Voltage

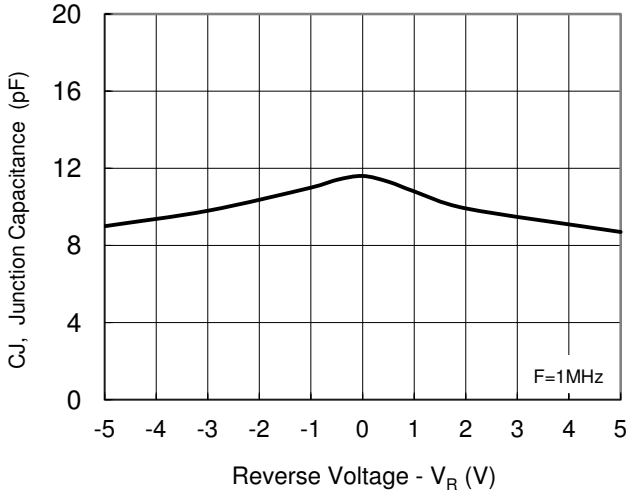
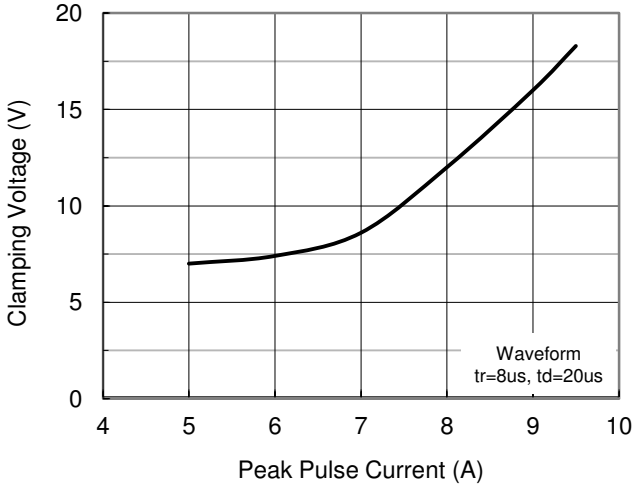


FIG.4 - Clamping Voltage
vs. Peak Pulse Current



Order & Marking Information

Part Number	Package	Marking	Packing	Q'ty
HYESD2025S	SOD-523	25S	7" Reel	3K

Package Outline Dimension

SOD-523 Package