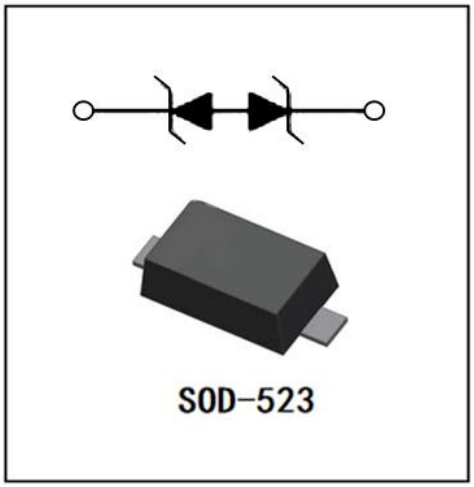
ESD Protection Diode



Features

- For sensitive ESD protection
- Low leakage
- Bi-directional ESD protection of one line
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Mechanical Data

- **Package**: SOD523
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** See Bellow



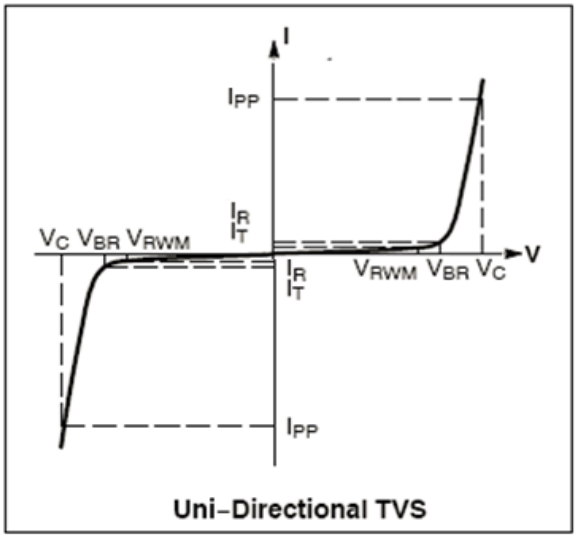
■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Operating Junction & Storage Temperature	T_J&T_{STG}	-45 to +125	℃
IEC61000-4-2(ESD)Air	V_{ESD}	±30	KV
IEC61000-4-2(ESD)Contact		±30	KV
JESD22-A114-B(ESD)Machine		±0.4	KV
JESD22-A114-B(ESD)Human Body		±16	KV
Peak Pulse Current	I_{PP} (1)	8	A

(1).Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5.

■Electrical Parameter

PARAMETER	SYMBOL
Clamping Voltage@ I_{PP}	V_C
Breakdown Voltage@ I_T	V_{BR}
Peak Pulse Current	I_{PP}
Test Current	I_T
Reverse Leakage Current@ V_{RWM}	I_R
Reverse Standoff Voltage	V_{RWM}
Peak Power Dissipation	P_{Pk}
Max. Capacitance @ V_R=0 and f=1MHz	C



■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse Standoff Voltage	V_{RWM} (1)	V				3.3
Reverse Leakage Current	I_R	uA	V_{RWM}=3.3V			0.5
Breakdown Voltage	$V_{(BR)}$	V	I_T=1mA	3.6		5.0
Clamping voltage	V_C (2)	V	I_{PP} = 16A, t_p = 100ns		11	
Clamping voltage	V_C (3)	V	V_{ESD} = 8kV		10	
Clamping Voltage	V_C (4)	V	I_{PP}=1A			8
Clamping Voltage	V_C (4)	V	I_{PP}=8A			11
Peak Power Dissipation	P_{Pk}	W	Tp=8/20us			88
Junction Capacitance	C_J	pF	V_R=0V,f=1MHz		15	

(1).Other voltages available upon request.

(2) TLP parameter: Z0 = 50Ω, tp = 100ns, tr = 2ns, averaging window from 60ns to 80ns.

(3) Contact discharge mode, according to IEC61000-4-2.

(4).Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5

■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD3V3D5B	F2	Approximate 0.002	8000	80000	320000	7” reel

■ Characteristics (Typical)

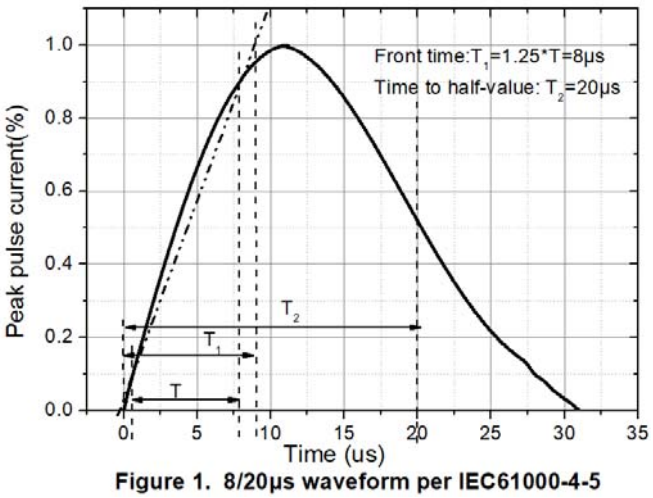


Figure 1. 8/20μs waveform per IEC61000-4-5

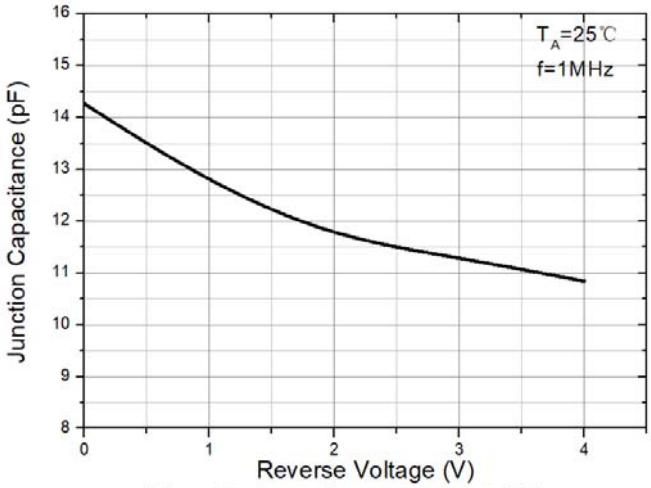


Figure2. Capacitance Characteristics

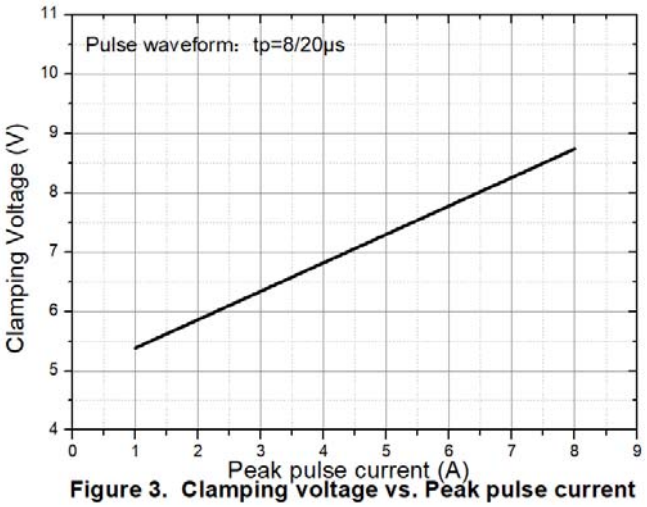


Figure 3. Clamping voltage vs. Peak pulse current

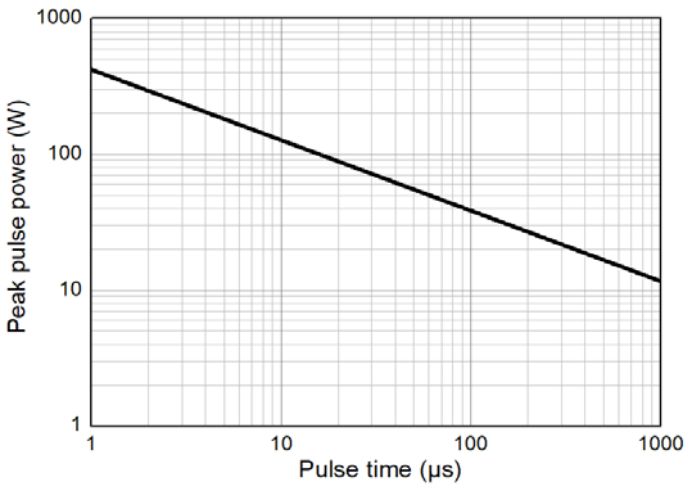


Figure 4 Non-repetitive peak pulse power vs. Pulse time

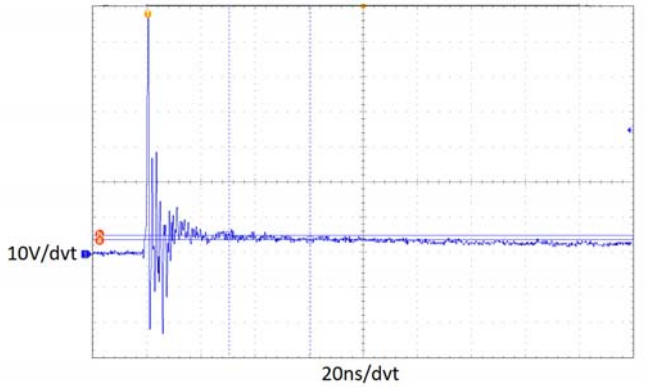


Figure 5. ESD clamping
(+8kV contact discharge per IEC61000-4-2)

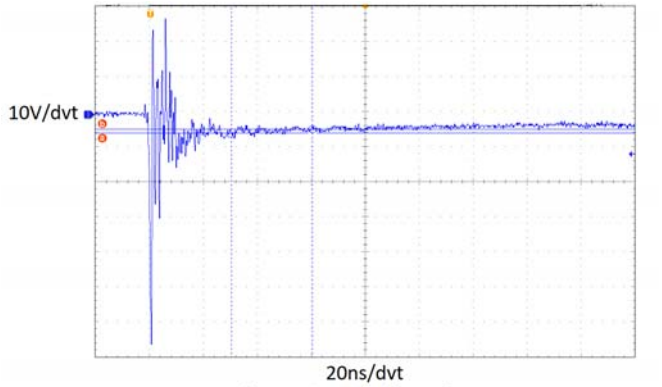


Figure 6. ESD clamping
(-8kV contact discharge per IEC61000-4-2)

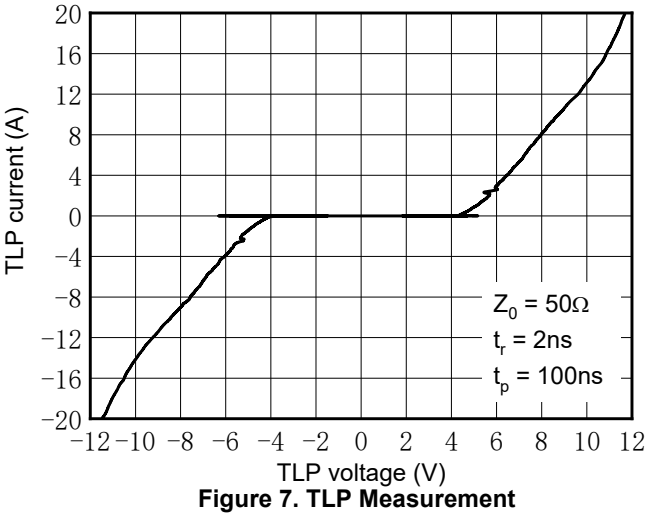
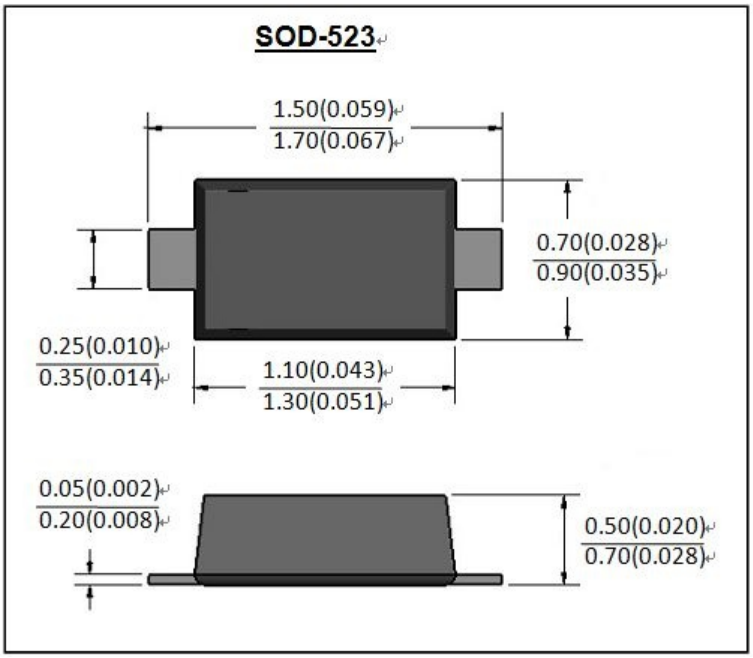
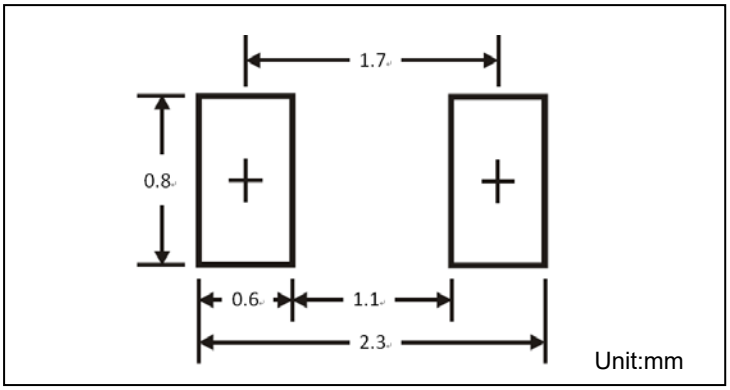


Figure 7. TLP Measurement

■ Outline Dimensions



■ Soldering Footprint



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