TPTVS0371WS

1-Line Uni-directional ESD DIODE

Features

- Low operating voltage: 3.3V
- 3300W peak pulse power (8/20μs)
- Ultra low leakage: nA level
- Low clamping voltage
- –IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±30kV
  Contact discharge: ±30kV
  –IEC61000-4-4 (EFT) 40A (5/50ns)
  –IEC61000-4-5 (Lightning) 180A (8/20μs)
- 2-pin leadless package
- These are Pb−Free Devices
- Response Time is Typically < 1 ns

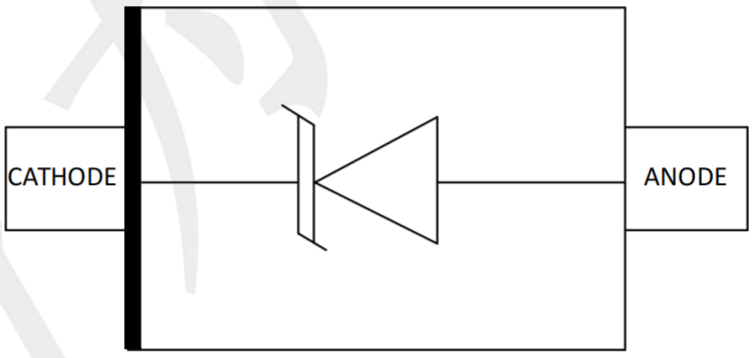
Mechanical Characteristics

- Package: SOD323(0805)
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound
- Terminal Connections: See Diagram Below
- -IEC 61000-4-2 (ESD) immunity test

Applications

- Power Management
- Industrial Application
- Power Supply Protection
- Portable Instrumentation
- Peripherals

Dimensions and Pin Configuration



SOD323

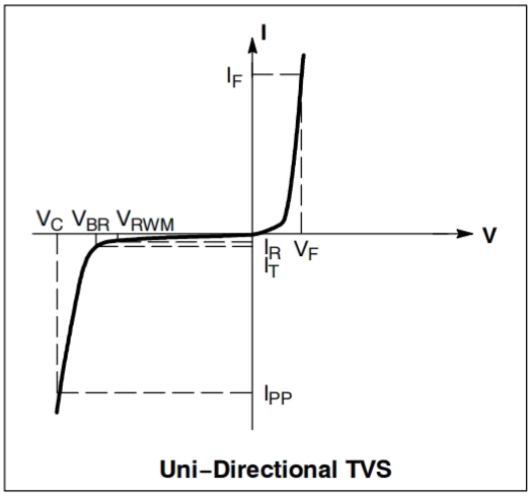
Absolute Maximum Ratings(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	3300	W
Peak Pulse Current (8/20μs)	Ipp	180	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±30 ±30	KV
Operating Temperature Range	TJ	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM	--	--	3.3	V	
Breakdown Voltage	VBR	4.0	--	7.0	V	IT= 1mA
Reverse Leakage Current	IR	--	--	1.0	uA	VRWM=3.3V
Forward Voltage	VF	--	0.7	1.25	V	IF = 10mA
Clamping Voltage	VC	--	--	7.0	V	Ipp=1A(8x 20us pulse)
Clamping Voltage	VC	--	--	18	V	Ipp=180A(8x 20us pulse)
Junction Capacitance	CJ	--	--	650	pF	VR = 0V, f = 1MHz

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F
P_{pk}	Peak Power Dissipation
C	Capacitance @ V_R = 0 and f = 1.0 MHz



Uni−Directional TVS

Characteristic Curves

FIG1：Power rating derating curve

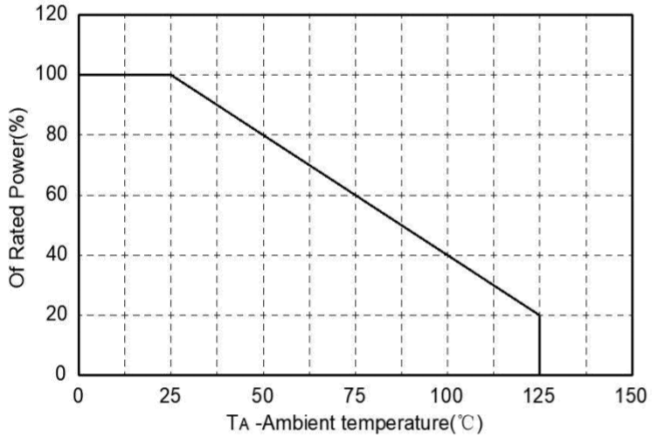


FIG2： pulse Waveform

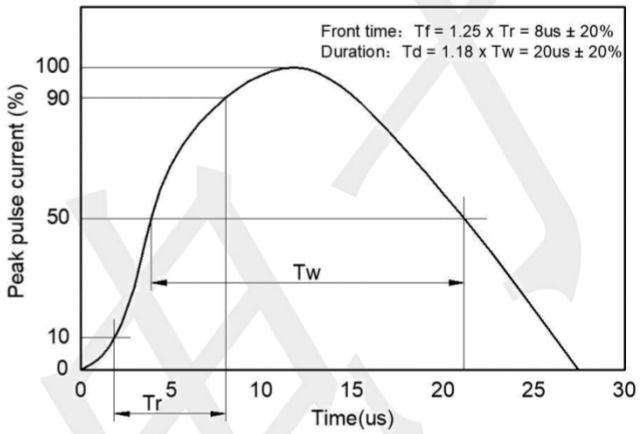


FIG3：Capacitance between teminals charateristics

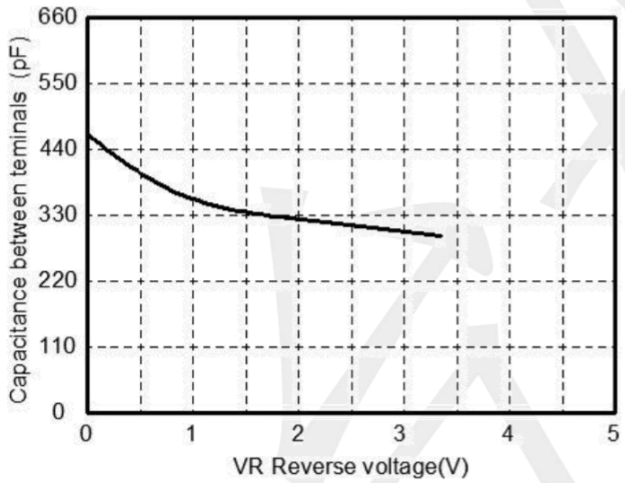
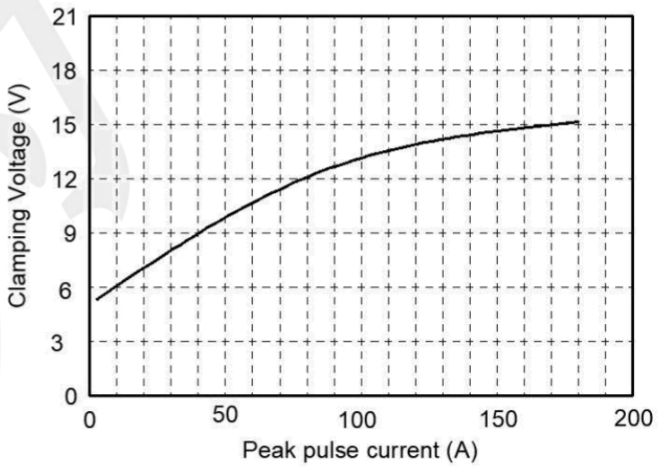
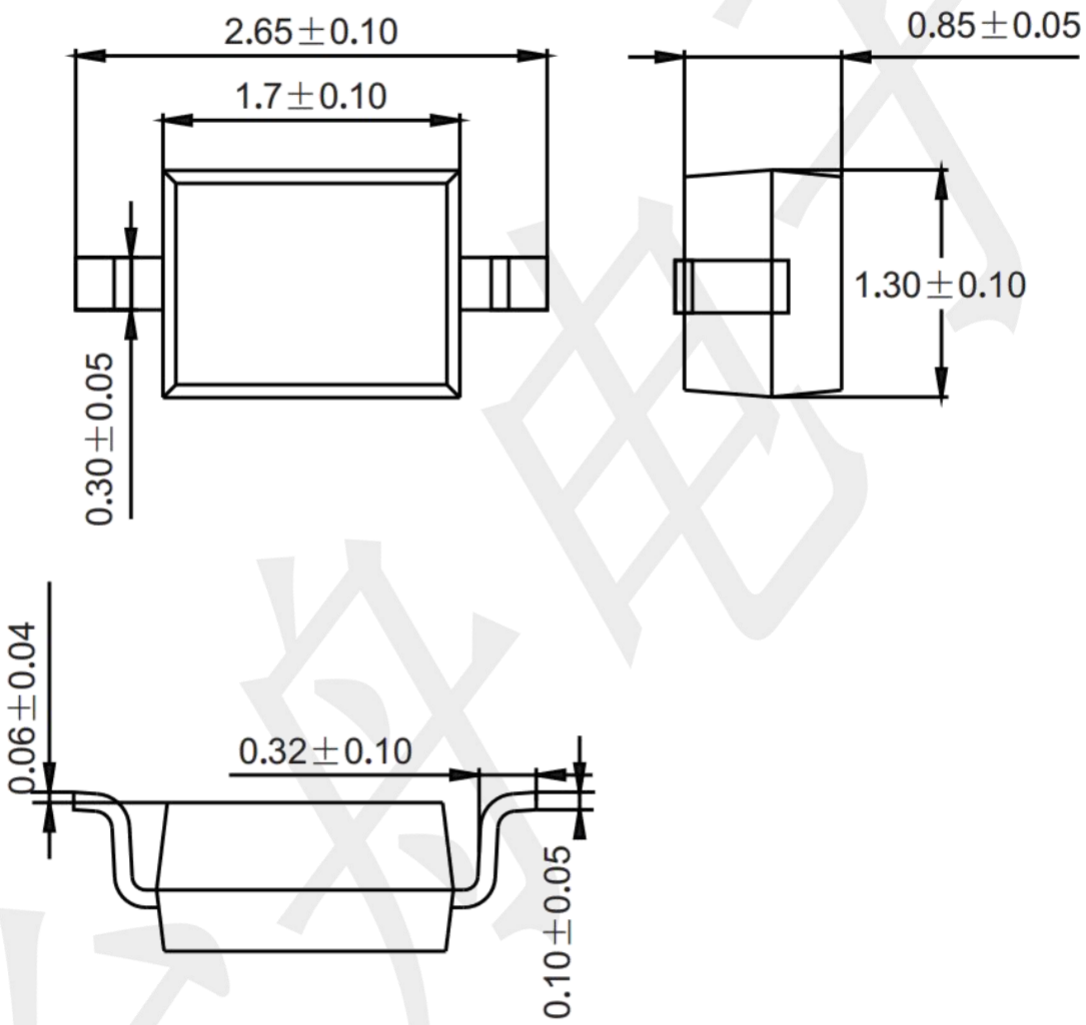


FIG4: Clamping Voltage vs. Peak Pulse Current



Package Outline Dimensions (unit: mm)

SOD323 (0805)



Mounting Pad Layout (unit: mm)

