TECH PUBLIC
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TPESD12U30AS3

2 -L ine bi -directional TVS Diode

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Features

- Low operating voltage: 12V
- Peak Pulse Power (8/20μs):800W
- 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)
- 3-pin leadless package
- These are Pb−Free Devices
- Response Time is Typically < 1 ns

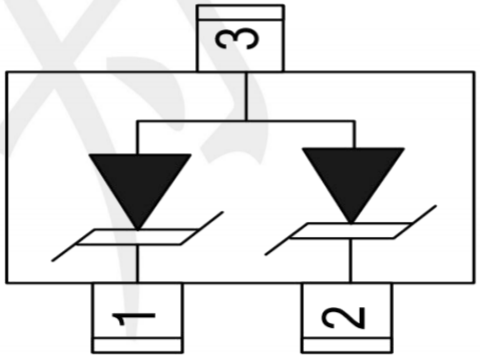
Mechanical Characteristics

- Package: SOT-23
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound
- Terminal Connections: See Diagram Below
- -IEC 61000-4-2 (ESD) immunity test

Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Peripherals

Dimensions and Pin Configuration



SOT-23

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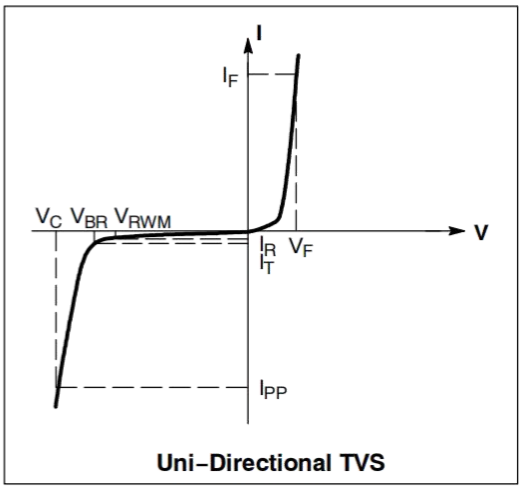
Absolute Maximum Ratings(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	800	W
Peak Pulse Current (8/20μs)	Ipp	30	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	--	--	12	V	
Breakdown Voltage	VBR	13	14	--	V	IT= 1mA
Reverse Leakage Current	IR	--	--	0.8	uA	VRWM=12V
Forward Voltage	VF	--	0.7	1.2	V	IF = 1mA
Clamping Voltage	VC	--	15	17	V	Ipp=1A(8x 20us pulse)
Clamping Voltage	VC	--	25	27	V	Ipp=30A(8x 20us pulse)
Junction Capacitance	CJ	--	70	--	pF	VR =0V, f =1MHz,Pin1 to Pin2
Junction Capacitance	CJ	--	140	--	pF	VR =0V, f =1MHz, Pin1,2 to Pin3

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. 8/20μs Pulse Waveform

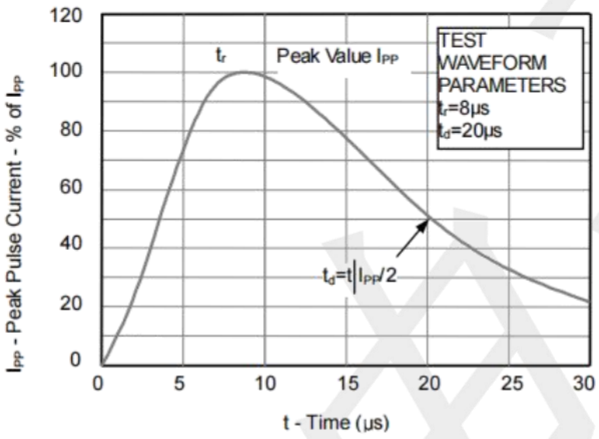


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

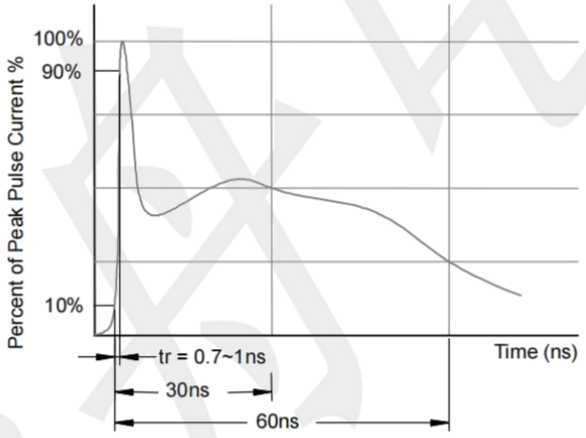
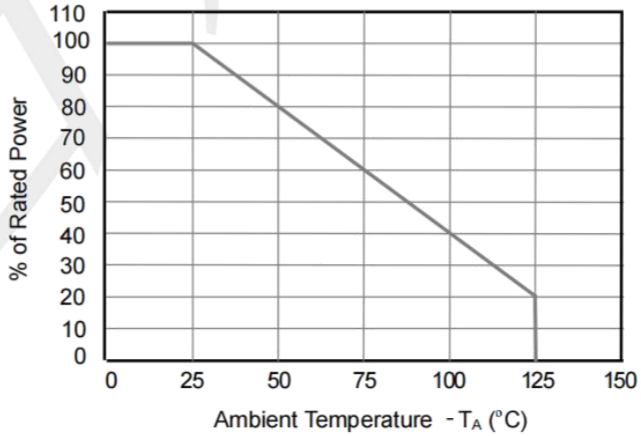
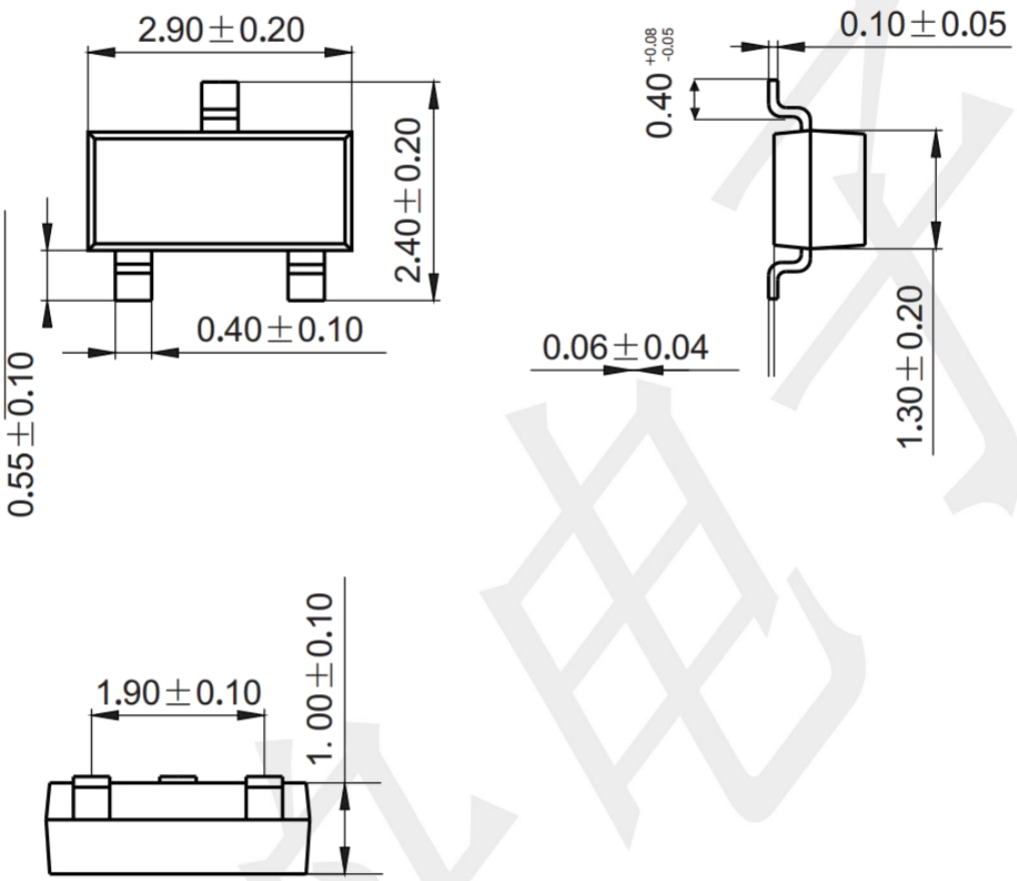


Fig3. Power Derating Curve

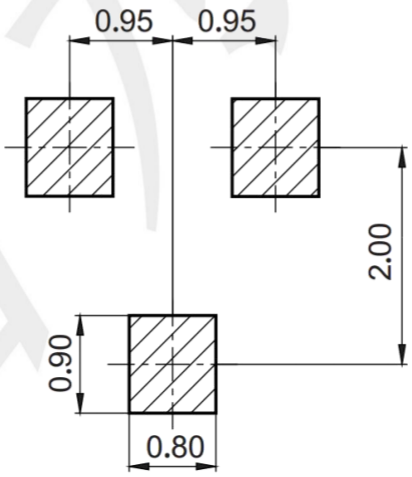


Package Outline Dimensions (unit: mm)

SOT-23



Mounting Pad Layout (unit: mm)



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Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

TECH PUBLIC:

FDC6301N-TP TPFMMT493 DDTA143ZCA TPD1213A-02SM TPWSB5557Z TPZXMP3A13FTA FDMS7670AS-TP LTH7 TPAPX809S-31SA TPB05A40-323 DMP6350S SN7002W TPADM809SAKSZ TPB1A30-123 TPESD5311N TPZVN3320FTA SI3932DV TPADM809LAKSZ TPGC12C-1 ESD5B5.0ST1G-P TPDMG6602SVT TPS3809L30DBVR-TP TPSPX3819M5-L-3-3 TPS7B6950DBVR-TP IRFR2405TRPBF-TP QM3003J-TP TPESD0402G08V TPESD0504S6-A BSN20W BV15C