

Features

- ☐ IEC61000-4-2 (ESD) +/-30kV (air),
+/-30KV(contact)
- IEC61000-4-4 (EFT) 80A (5/50 ns)
- ☐ Peak Pulse Current(tp=8/20us) 25A
- ☐ Protects one I/O line
- ☐ Working voltages : 12.0V
- ☐ Low leakage current

Description

The TS1231LK is designed for applications requiring transient overvoltage protection capability. They are intended for use in voltage and ESD sensitive equipment such as computers, printers, business machines, communication systems, medical equipment and other applications. These devices are ideal for situations where board space is at a premium.

This series has been specifically designed to protect sensitive components which are connected to power data and transmission lines from overvoltage caused by ESD(electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).

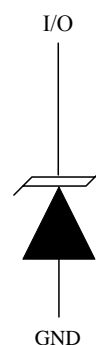
Applications

- ☐ Cell Phone Handsets and Accessories
- ☐ Microprocessor based equipment
- ☐ Personal Digital Assistants (PDA's)
- ☐ Notebooks, Desktops, and Servers
- ☐ Portable Instrumentation
- ☐ Networking and Telecom
- ☐ Serial and Parallel Ports.
- ☐ Peripherals

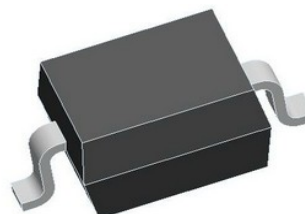
Mechanical Characteristics

- ☐ SOD123 package
- ☐ Flammability Rating: UL 94V-0
- ☐ Packaging: Tape and Reel
- ☐ High temperature soldering guaranteed: 260°C/10s
- ☐ Reel size: 7 inch
- ☐ ROHS compliant
- ☐ MSL-3

Circuit Diagram



Pin Configuration



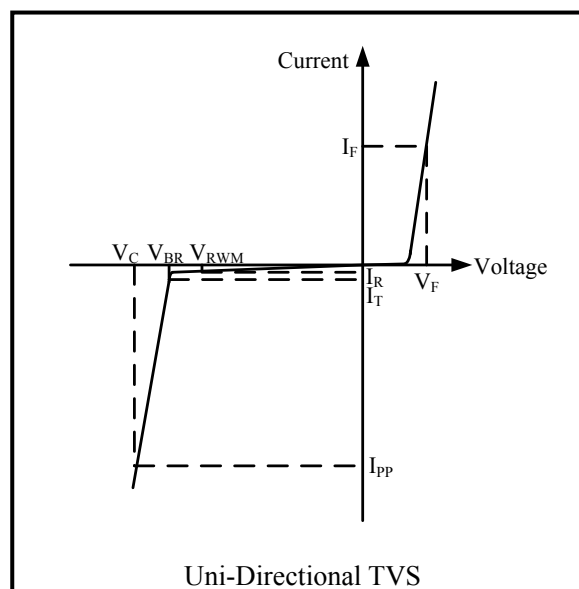
SOD123
(Top View)

Absolute Maximum Rating

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	± 30 ± 30	kV
I_{PP}	Peak Pulse Current(8/20us)	25	A
T_{OPT}	Operating Temperature	-55/+150	°C
T_{STG}	Storage Temperature	-55/+150	°C
T_L	Lead Soldering Temperature	260 (10 sec.)	°C

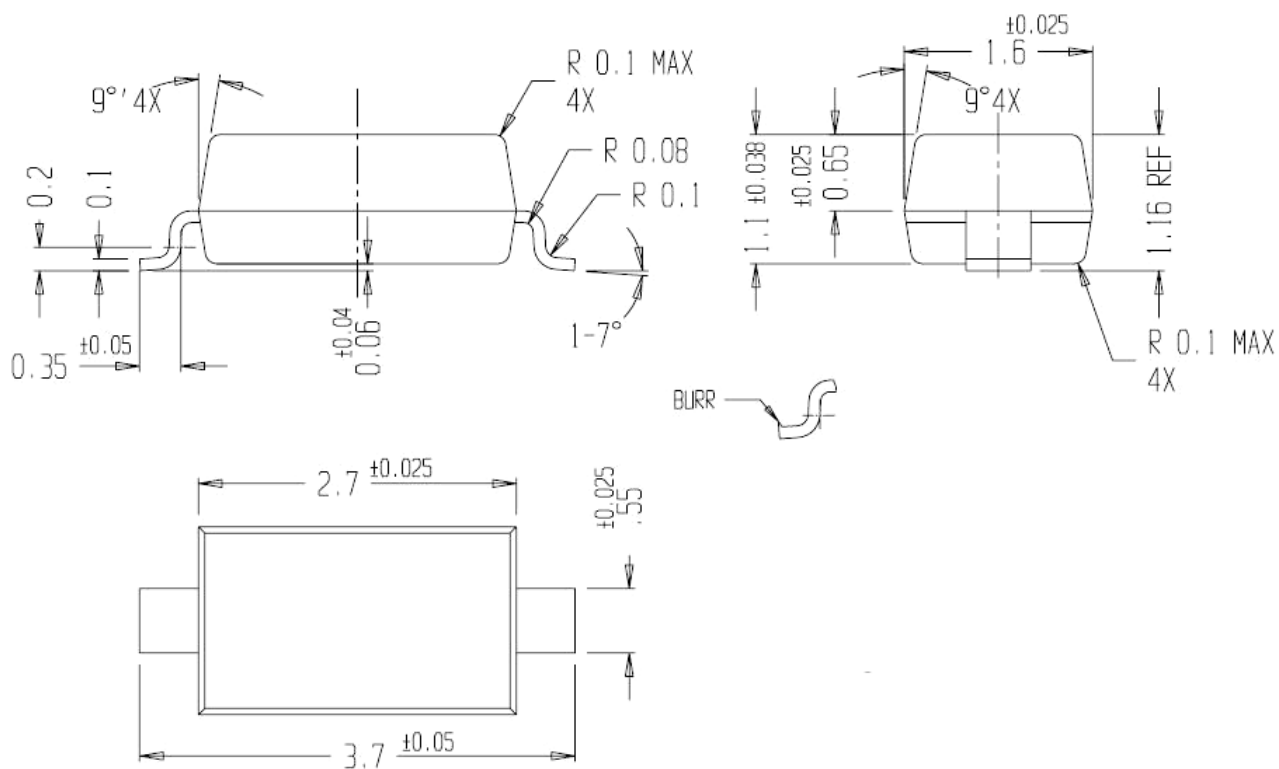
Electrical Characteristics (T = 25°C)

Symbol	Parameter
V_{RWM}	Nominal Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{t1}	Trigger Voltage
I_{t1}	Trigger Current @ V_{t1}
V_h	Holding Voltage
I_h	Holding Current @ V_h
V_C	Clamping Voltage @ I_{PP}
V_{CR}	Reverse Clamping Voltage @ I_{PP}
I_{PP}	Maximum Peak Pulse Current
C_{ESD}	Parasitic Capacitance

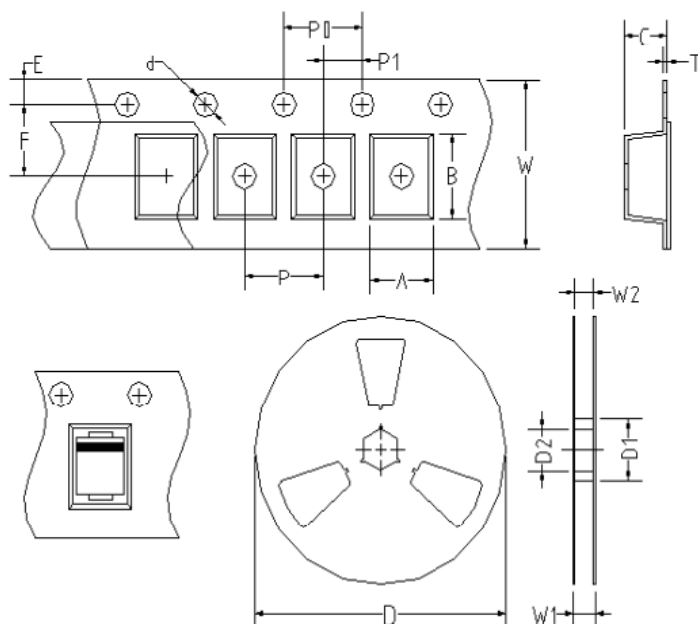


Symbol	Test Condition	Minimum	Typical	Maximum	Units
V_{RWM}				12.0	V
I_R	$V_{RWM} = 12.0V, T = 25^\circ C$		0.01	0.1	μA
V_{BR}	$I_T = 1mA$	13.3			V
V_F	$I_T = 1mA$			0.9	V
V_C	$I_{PP} = 1A, t_p = 8/20\mu s$			15.0	V
V_C	$I_{PP} = 5A, t_p = 8/20\mu s$			19.0	V
V_C	$I_{PP} = 25A, t_p = 8/20\mu s$			30.0	V
C_{ESD}	$V_R = 0V, f = 1MHz$			250	pF

Package Outline Demensions



Tape and Reel Specification



REF	mm	inch
A	2.05±0.10	0.080±0.003
B	3.85±0.10	0.151±0.003
C	1.45±0.10	0.057±0.003
d	1.55±0.10	0.061±0.003
D	177.8±1.0	6.999±0.039
D1	20±1.0	0.787±0.039
D2	13.0±1.0	0.511±0.039
E	1.75±0.10	0.068±0.003
F	3.50±0.05	0.137±0.002
P	4.00±0.10	0.157±0.003
P0	4.00±0.10	0.157±0.003
P1	2.00±0.10	0.078±0.003
T	0.20±0.10	0.007±0.003
W	8.00±0.15	0.314±0.006
W1	16.2±1.5	0.637±0.006
W2	13.2±1.0	0.519±0.039

OUTLINE	REEL (PCS)	PER CARTON (PCS)	REEL DIAMETERS (mm)	CARTON SIZE(mm)		
				L	W	H
TAPING	3,000	252,000	177.8	385	275	385

Marking Codes



Note:

(1) "SB3K" is part number, fixed

Ordering Information

Part Number	Working Voltage	Quantity Per Reel	Reel Size
TS1231LK	12.0V	3,000	7 Inch