



Features

- ❑ IEC61000-4-2 (ESD) +/-30kV (air),
+/-30KV(contact)
IEC61000-4-4 (EFT) 40A (5/50ns)
- ❑ Peak Pulse Current(tp=8/20us) 40A
- ❑ Protects one I/O line
- ❑ Working voltages : 18V
- ❑ Low leakage current
- ❑ Green part and RoHS compliant

Description

The TS1851LE 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).

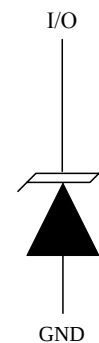
Applications

- ❑ 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

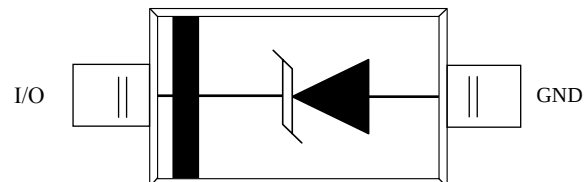
Mechanical Characteristics

- ❑ SOD323 package
- ❑ Flammability Rating: UL 94V-0
- ❑ Packaging: Tape and Reel
- ❑ High temperature soldering guaranteed:260°C/10s
- ❑ Reel size: 7 inch

Circuit Diagram



Pin Configuration



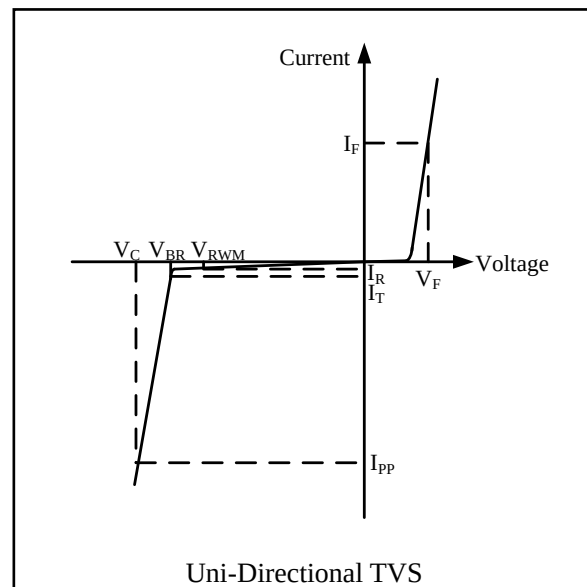
SOD323 (Top View)

**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)	40	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_{BR}	Reverse Breakdown Voltage @ I_T
I_T	Test Current for Reverse Breakdown
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Maximum Peak Pulse Current
C_{ESD}	Parasitic Capacitance
V_R	Reverse Voltage
f	Small Signal Frequency
I_F	Forward Current
V_F	Forward Voltage @ I_F



Symbol	Test Condition	Minimum	Typical	Maximum	Units
V_{RWM}				18	V
I_R	$V_{RWM} = 18V, T = 25^\circ C$		0.01	0.1	μA
V_{BR}	$I_T = 1mA$	20		23.5	V
V_C	$I_{PP} = 40A, t_p = 8/20\mu s$		34	40	V
C_{ESD}	$V_R = 0V, f = 1MHz$		265		pF

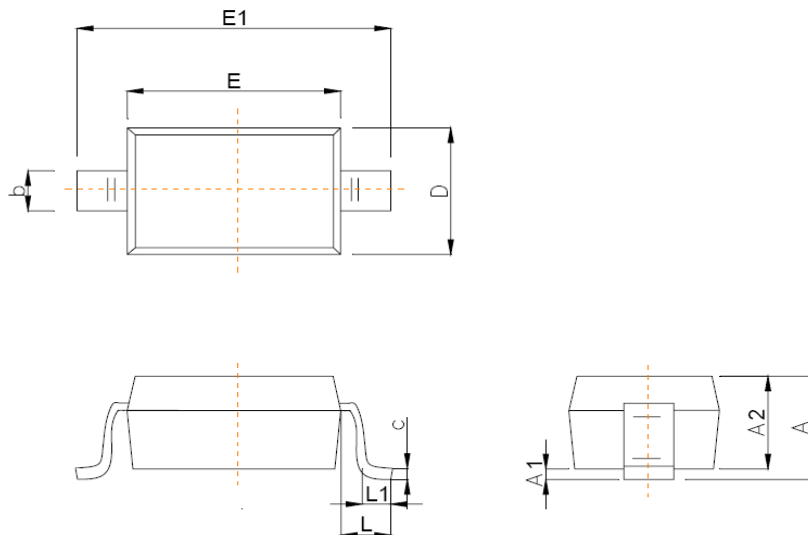


Package Outline

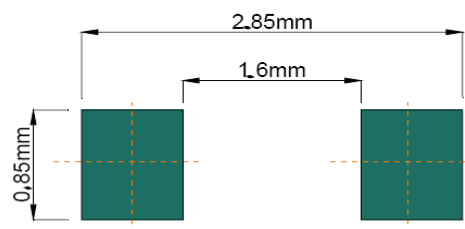
- SOD323 package
- MSL-3



Package Outline Dimensions



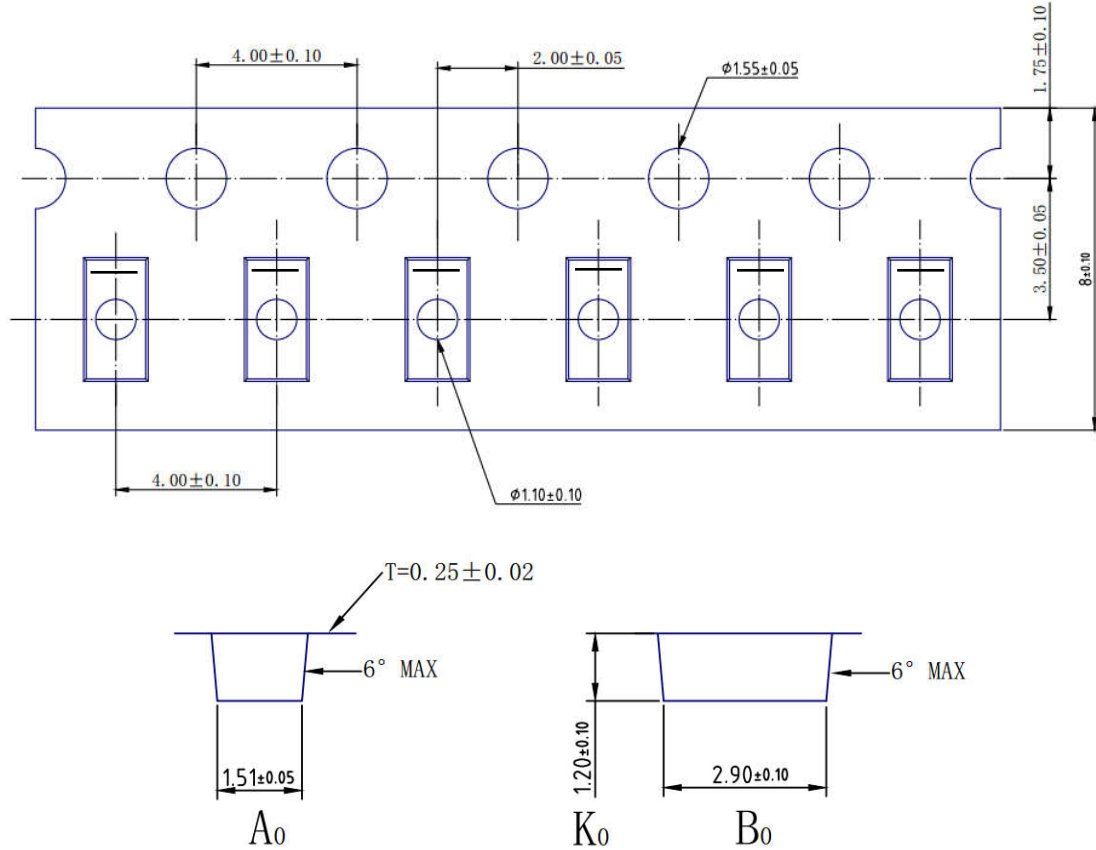
Symbol	Dimensions In Millimeters	
	Min	Max
A		1.00
A1	0.000	0.100
A2	0.800	0.900
b	0.250	0.350
c	0.080	0.150
D	1.200	1.400
E	1.600	1.800
E1	2.500	2.700
e	1.800	2.040
L	0.475 REF	
L1	0.250	0.400
θ	0°	8°



Recommended Pad outline



Tape and Reel Specification



Marking Codes



Note:

- (1) "D5L" is part number, fixed

Ordering Information

Part Number	Working Voltage	Quantity Per Reel	Reel Size
TS1851LE	18V	3,000	7 Inch