

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 TS1851LEX s 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).

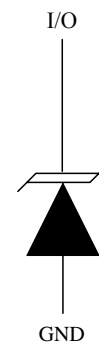
Applications

- ❑ 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

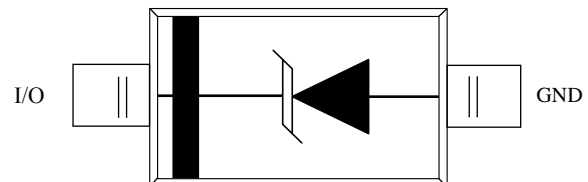
Mechanical Characteristics

- ❑ 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)

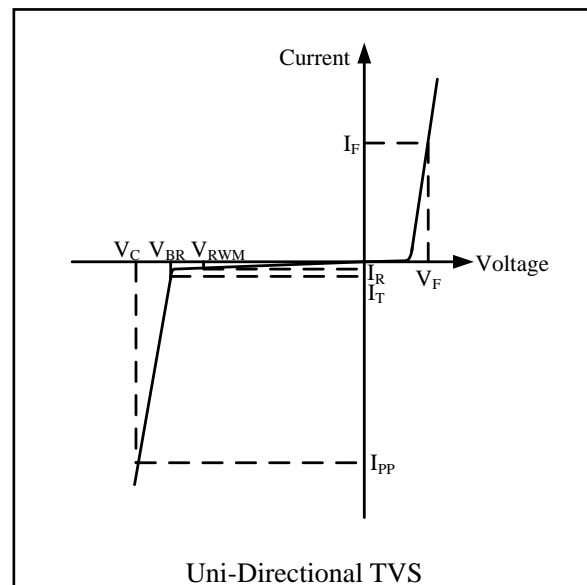


Absolute Maximum Rating

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



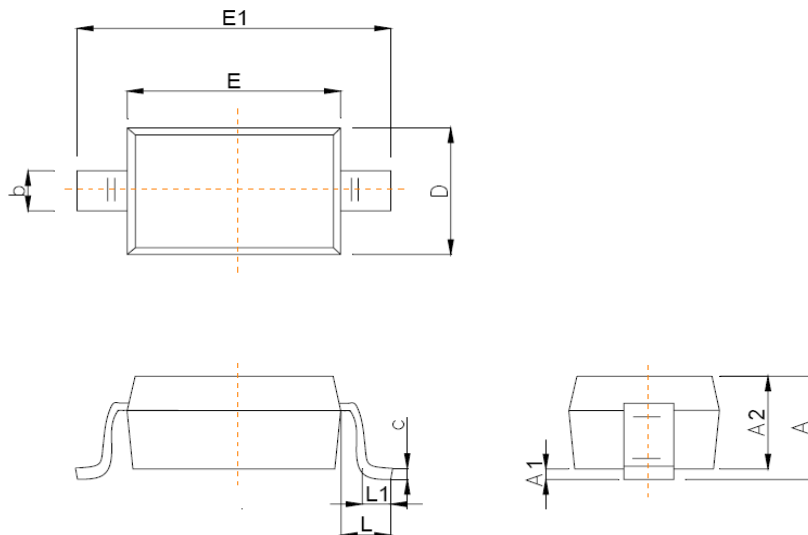
Symbol	Test Condition	Minimum	Typical	Maximum	Units
V_{RWM}				18	V
I_R	$V_{RWM} = 18V, T = 25^\circ C$		0.01	0.1	μA
V_{BR}	$I_T = 1mA$	20		23.5	V
V_C	$I_{PP} = 40A, t_p = 8/20\mu s$		34	40	V
C_{ESD}	$V_R = 0V, f = 1MHz$		265		pF

Package Outline

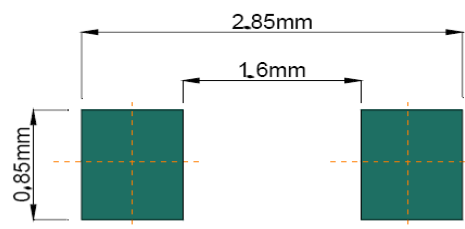
- ☐ SOD323 package
- ☐ MSL-3



Package Outline Dimensions

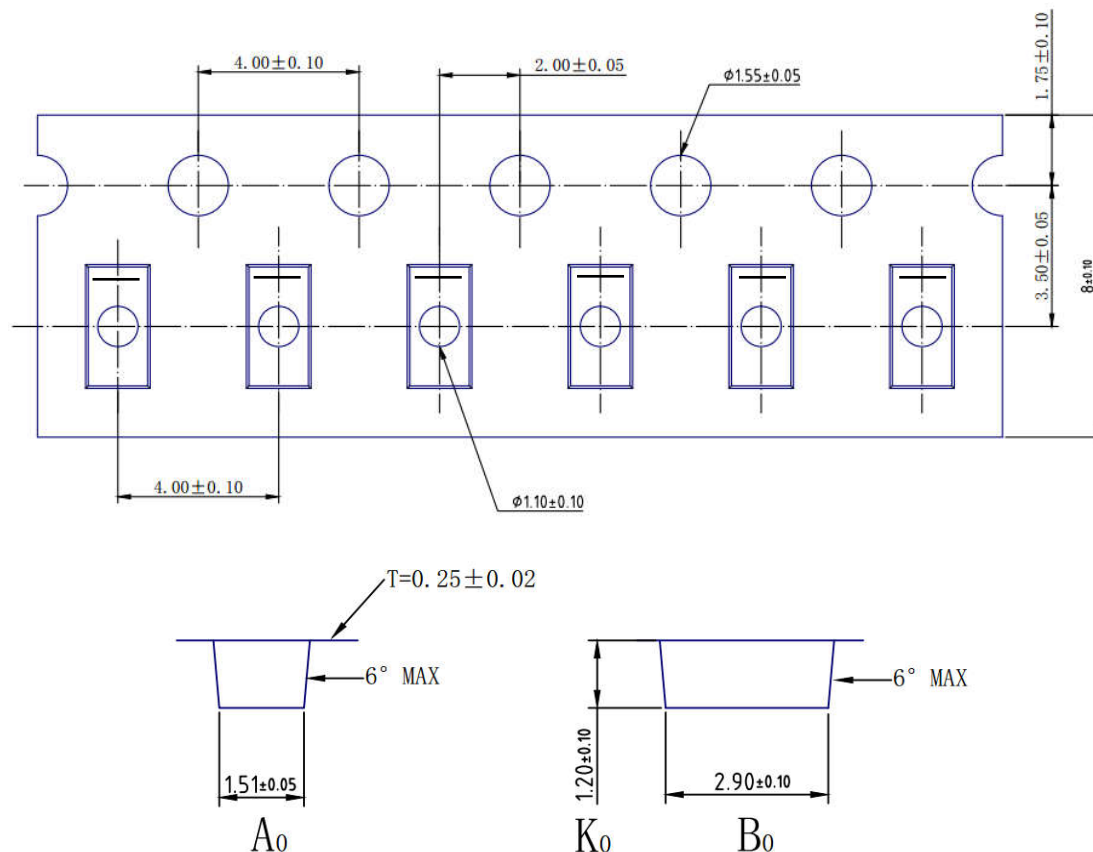


Symbol	Dimensions In Millimeters	
	Min	Max
A		1.00
A1	0.000	0.100
A2	0.800	0.900
b	0.250	0.350
c	0.080	0.150
D	1.200	1.400
E	1.600	1.800
E1	2.500	2.700
e	1.800	2.040
L	0.475 REF	
L1	0.250	0.400
θ	0°	8°



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
TS1851LEX	18V	3,000	7 Inch