TECH PUBLIC
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ESD851DYFR-TP

1-Line Low Capacitance Bi-directional TVS Diode

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Features

* 250W peak pulse power (8/20μs)
* Low operating : 36V
* Ultra low capacitance: 1.0 pF typical
* Ultra low leakage: nA leel
* Low clamping voltage
* Protects one power line or data line
* Complies with following standards:
* – IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±20kV
  Contact discharge: ±20kV
* – IEC61000-4-4 (EFT) 40A (5/50ns)
* RoHS Compliant

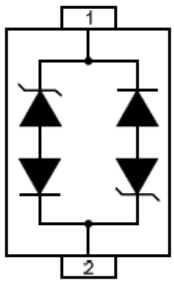
Mechanical Characteristics

* Package：SOD-323
* Ultra low leakage: nA level
* Case Material: “Green” Molding Compound.
* UL Flammability Classification Rating 94V-0
* Moisture Sensitivity: Level 3 per J-STD-020
* Shipping Qty :3000pcs/7Inch Tape & Reel

Applications

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

Dimensions and Pin Configuration

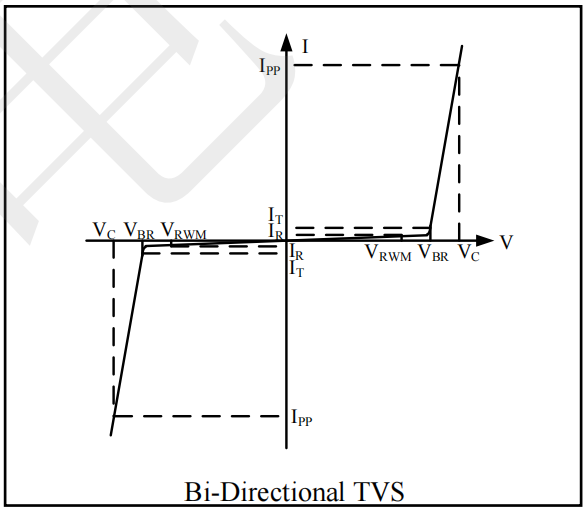


Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±20 ±20	kV
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

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

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



Bi-Directional TVS

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				36	V
Breakdown Voltage	V_{BR}	I_T = 1mA	40			V
Reverse Leakage Current	I_R	V_{RWM} = 36 V			0.2	μA
Clamping Voltage	V_C	I_{PP} = 1A (8 x 20μs pulse)			60	V
Clamping Voltage	V_C	I_{PP} = 4A (8 x 20□s pulse)			75	V
Junction Capacitance	C_J	VR = 0V, f = 1MHz		1		pF

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

Fig1. 8/20μs Pulse Waveform

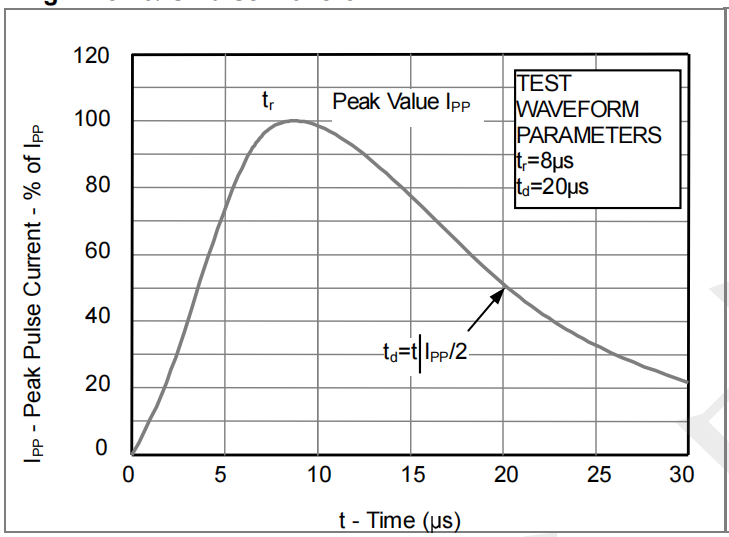


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

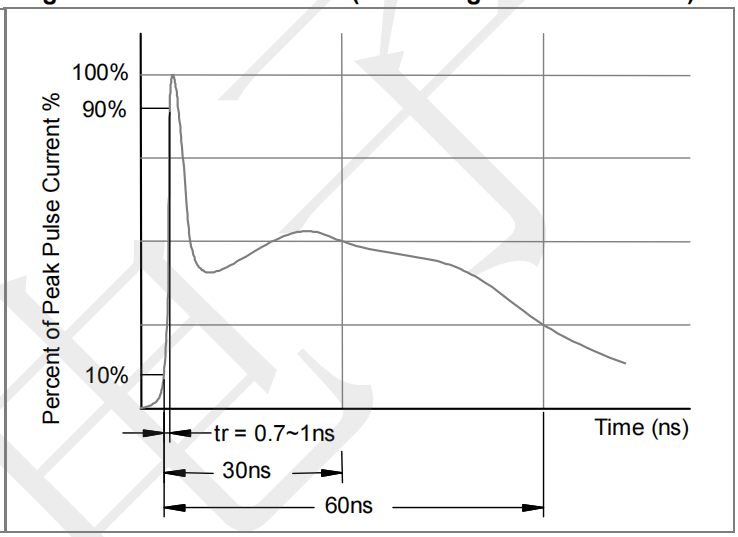
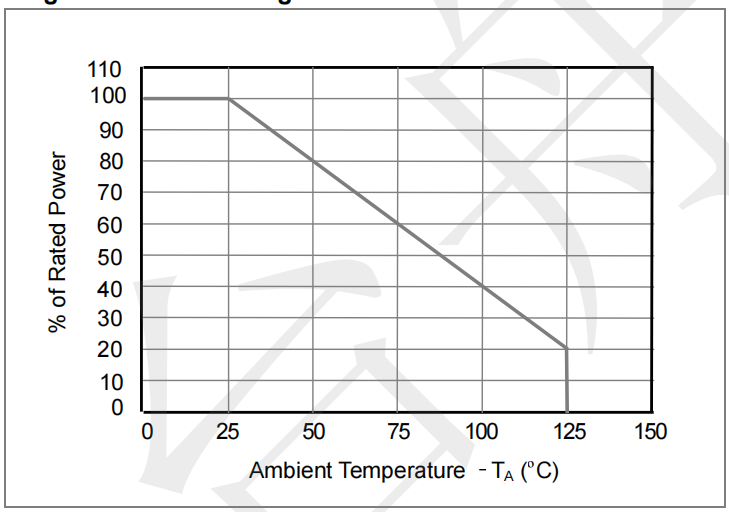
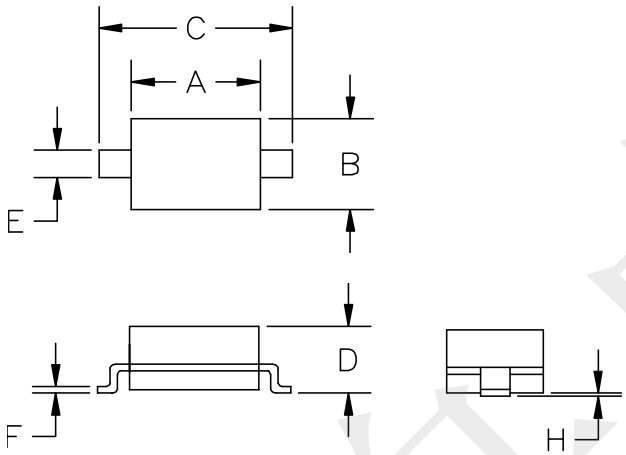


Fig3. Power Derating Curve

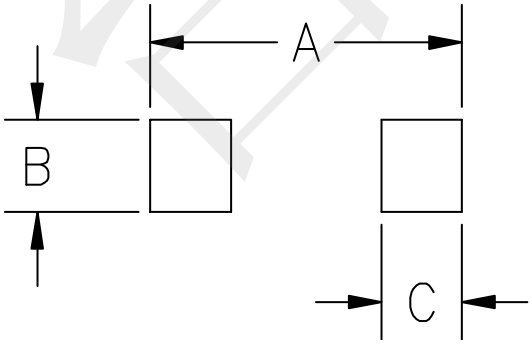


Outline Drawing - SOD-323



SYM	DIMENSIONS			
	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.50	1.80	0.060	0.071
B	1.20	1.40	0.045	0.054
C	2.30	2.70	0.090	0.107
D	-	1.10	-	0.043
E	0.30	0.40	0.012	0.016
F	0.10	0.25	0.004	0.010
H	-	0.10	-	0.004

Land Pattern - SOD-323



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
A	3.15	0.120
B	0.80	0.031
C	0.80	0.031

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