

ESD13V5T3B

Features

- Ultra low leakage: nA level
- Operating voltage: 13.5V
- Low clamping voltage
- SOT323 package
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning) 7A (8/20 μs)
- RoHS Compliant

Description

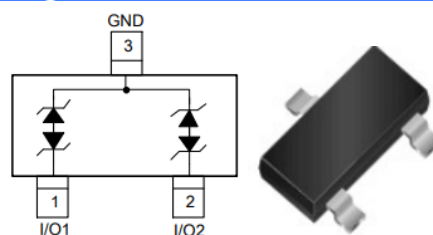
The ESD13V5T3B in a DFN1006-2 package and will protect bidirectional line. These devices are designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computers, and PDA's. They offer superior electrical characteristics such as lower clamping voltage and

no device degradation when compared to MLVs, The ESD13V5T3B are designed to protect sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD), and other voltage induced transient events.

Applications

- Smart Phone and Tablet PC
- TV and Set Top Box
- Wearable Devices
- PDA

Circuit Diagram



Absolute Maximum Ratings

Tamb=25°C unless otherwise specified

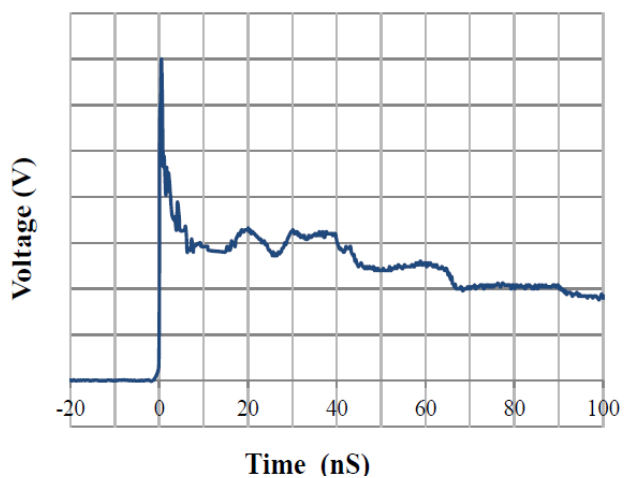
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppp	120	W
Maximum Reverse Peak Pulse Current	I _{PP} *1	7	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 30	KV
ESD per IEC 61000-4-2 (Contact)		± 30	
Storage Temperature Range	T _{STJ}	-55 to +150	°C
Operating Temperature Range	T _J	-55 to +125	°C

Electrical Characteristics

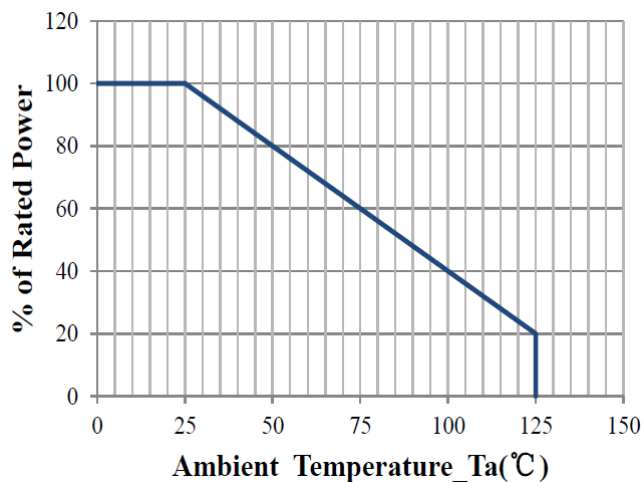
TA=25°C unless otherwise specified

Symbol	Parameter	Conditions	Min	Typ	Max	Units
V _{RWM}	Reverse Working Peak Voltage	-	-13.5		+13.5	V
V _{BR}	Reverse Breakdown Voltage	I _T = 1mA	14			V
I _R	Reverse Current	V _{RWM} = 13V			0.2	μA
V _C	Clamping Voltage	I _{PP} =7A, t _P =8/20 μs			18	V
C _D	Diode Capacitance	V _R = 0V, f = 1MHz			15	pF

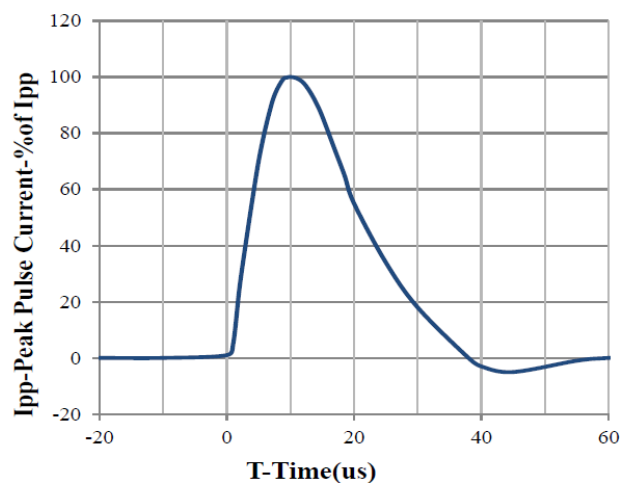
Characteristic Curves



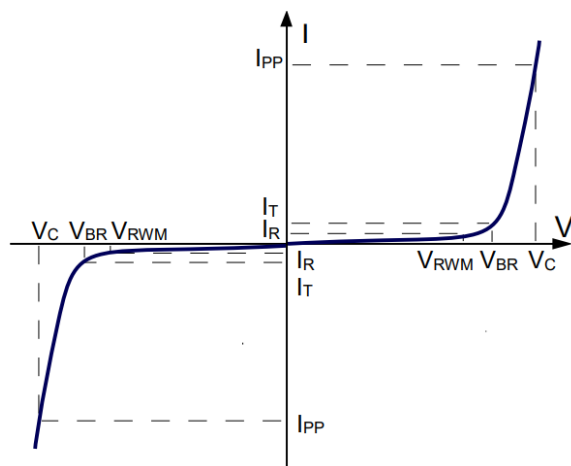
IEC61000-4-2 Pulse Waveform



Power Derating Curve

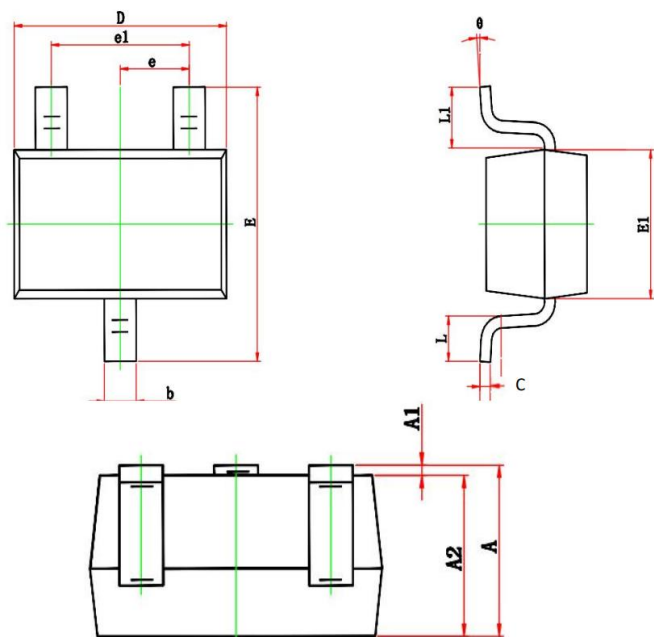


8/20 μ s Pulse Waveform



V-I Characteristics for Bidirectional Diode

SOT323 Package Outline & Dimensions



Symbol	Dim in mm		
	min.	typ.	max.
A	0.90	1.00	1.10
A1	0.00	0.05	0.10
A2	0.90	0.95	0.10
b	0.15	0.25	0.35
c	0.10	0.12	0.15
D	1.80	2.00	2.20
E	2.15	2.25	2.35
E1	1.15	1.25	1.35
e		0.650	
e1	1.2	1.3	1.4
L	0.25	0.3	0.4
L1		0.525	
θ	0°	4°	8°

Disclaimer

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.