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台舟电子

ESD24VB3-1006
24V bi-directional TVS Diode

www.sot23.com.tw

Features

- Ultra low leakage: nA level
- Operating voltage: 24V
- Low Capacitance:3pF
- Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±25kV
    Contact discharge: ±17kV
  – IEC61000-4-4 (EFT) 40A (5/50ns)
- RoHS Compliant

Mechanical Characteristics

- DFN1006-2L package
- Lead Finish:Matte Tin
- UL Flammability Classification Rating 94V-0

Ordering Information

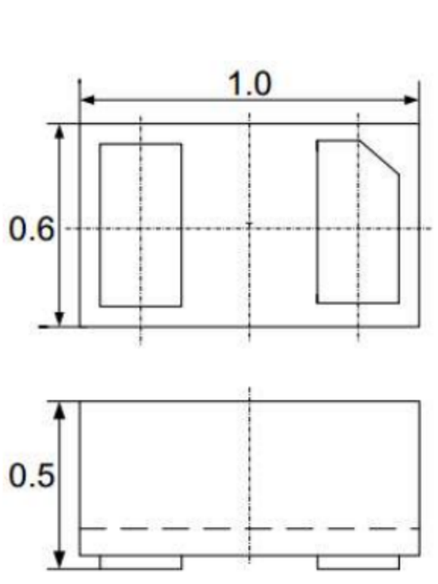
Part Number	Qty per Reel	Reel Size
ESD24VB3-1006	10000	7″

Applications

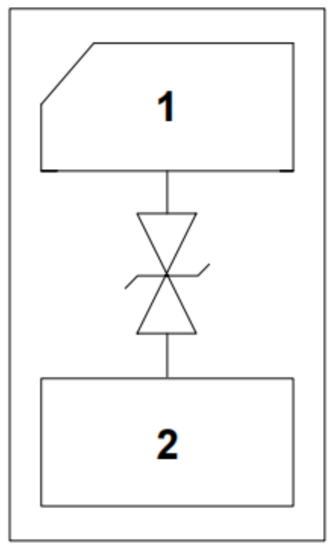
- USB 2.0 power and data line
- Set-top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100 Ethernet

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Dimensions



Pin Configuration



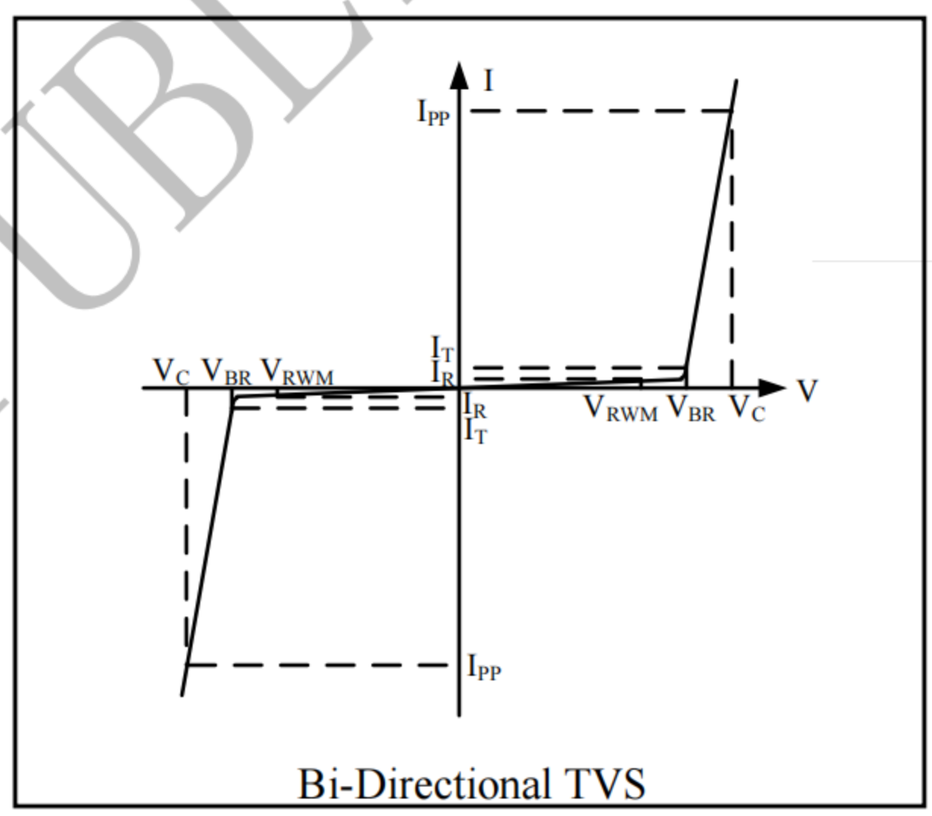
Marking: EB

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}	±25 ±17	kV
Operating Temperature Range	T_J	−55 to +155	°C
Storage Temperature Range	Tstg	−40 to +125	°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

Symbol	Test Condition	Minimum	Typical	Maximum	Units
V_{RWM}				24.0	V
I_R	V_{RWM} = 24V, T = 25°C Between I/O and I/O		0.01	0.1	μA
V_{BR}	I_T = 1mA Between I/O and I/O	26			V
V_C	I_{PP} = 1A, t_p = 8/20μs Between I/O and I/O		40		V
C_{ESD}	V_R = 0V, f = 1MHz Between I/O and I/O		3	5	pF

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Characteristic Curves

Fig1. 8/20μs Pulse Waveform

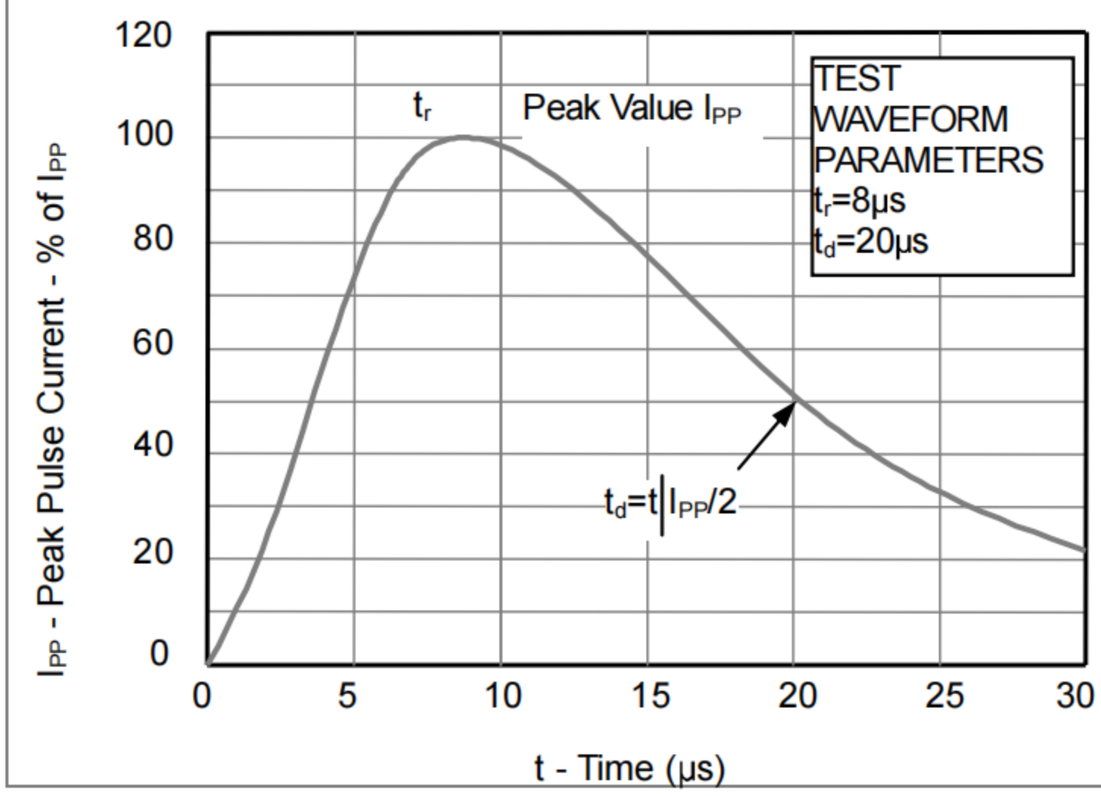


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

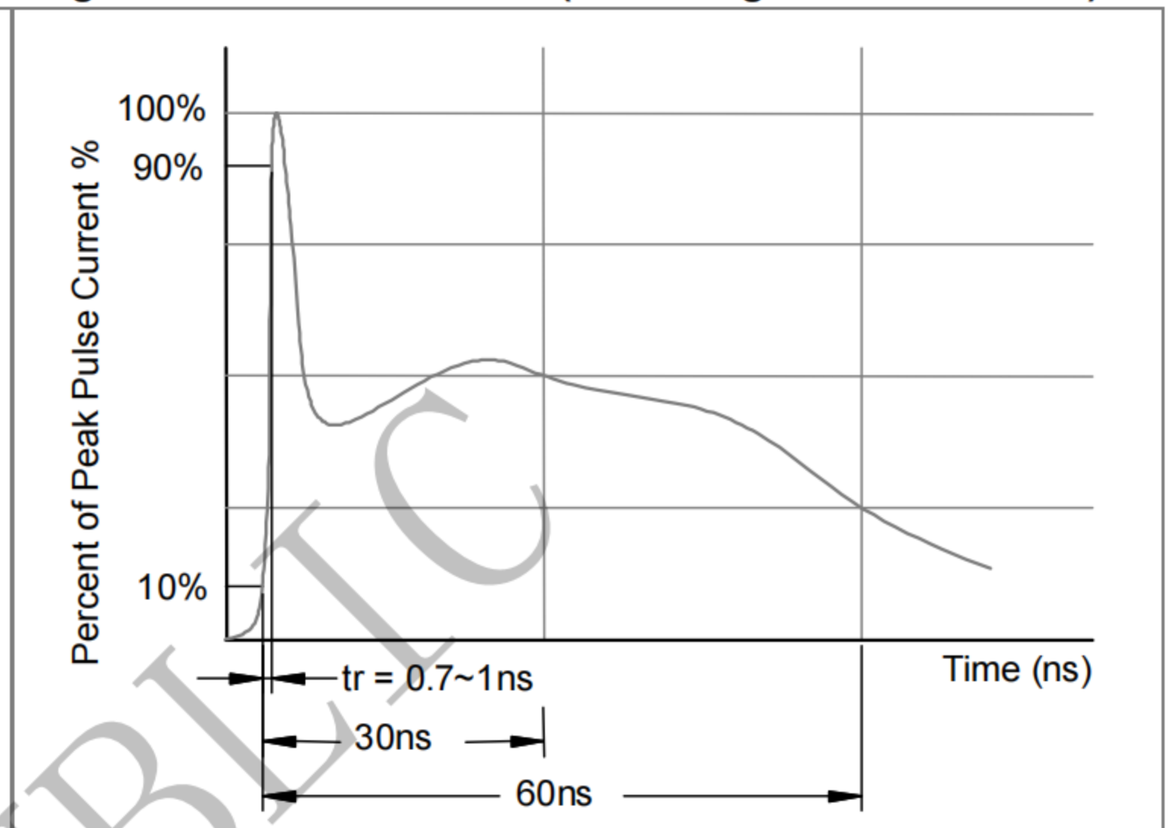
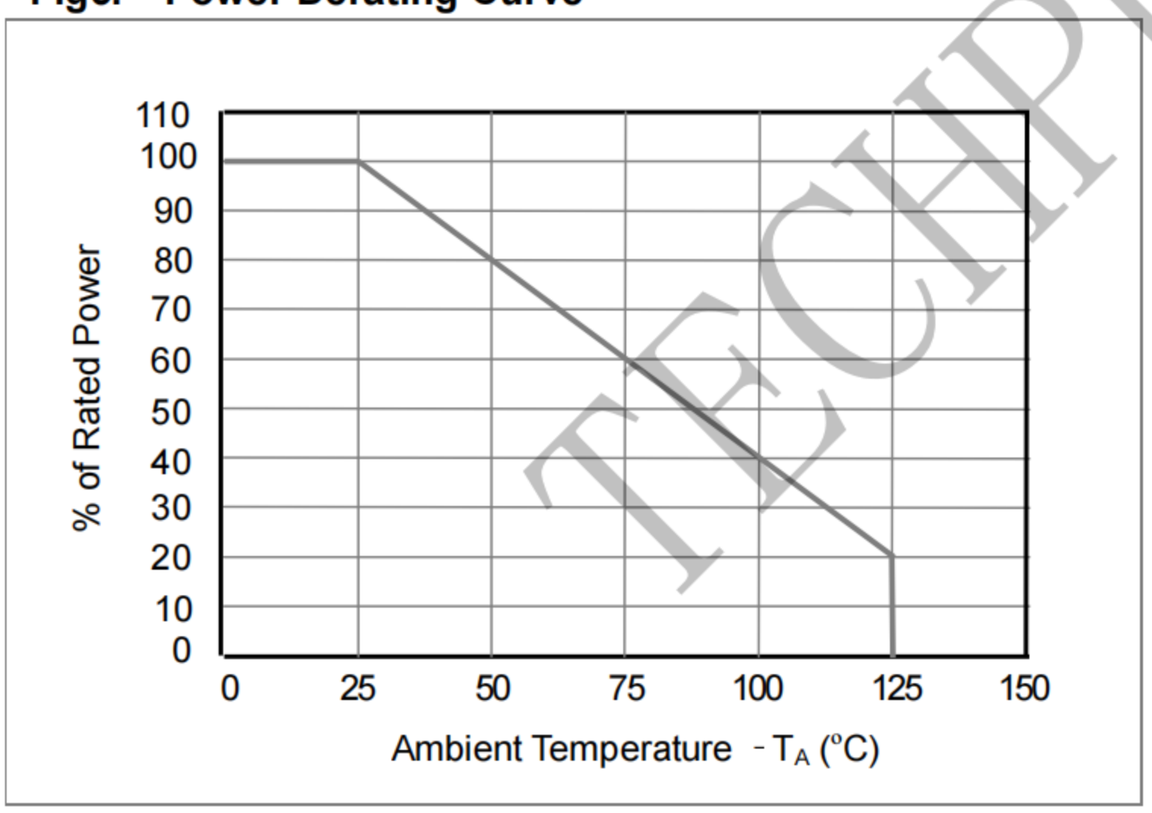
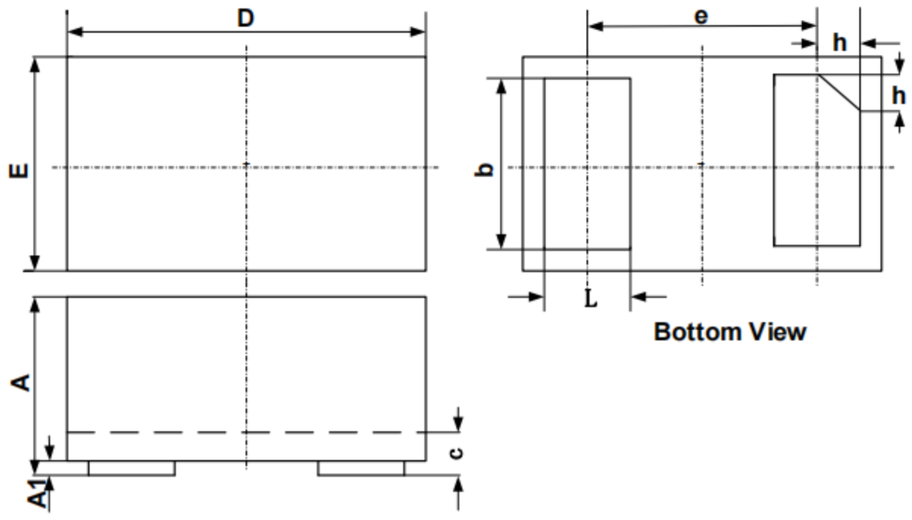


Fig3. Power Derating Curve



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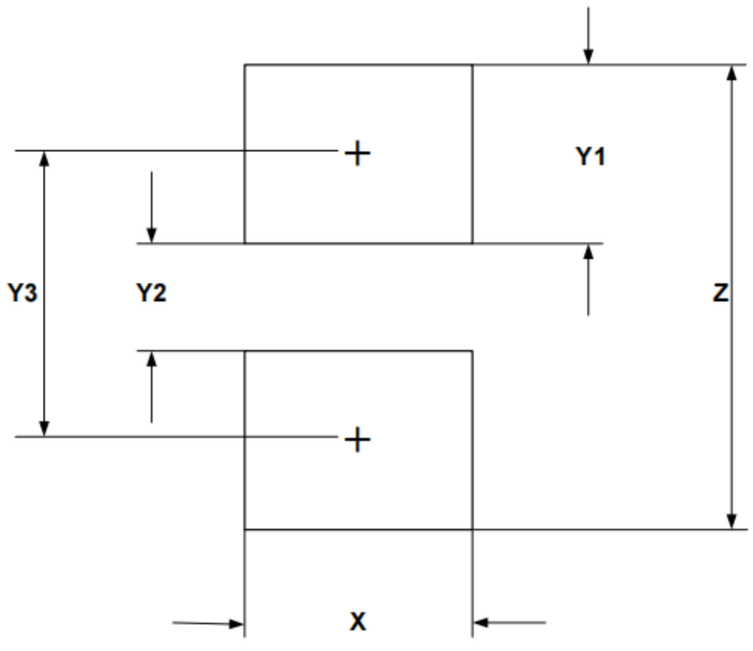
Outline Drawing - DFN1006-2



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.45	0.50	0.55	0.018	0.020	0.022
c	0.12	0.15	0.18	0.005	0.006	0.007
D	0.95	1.00	1.05	0.037	0.039	0.041
e	0.65 BSC			0.026 BSC		
E	0.55	0.60	0.65	0.022	0.024	0.026
L	0.20	0.25	0.30	0.008	0.010	0.012
h	0.07	0.12	0.17	0.003	0.005	0.007

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Land Pattern - DFN1006-2



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.60	0.024
Y1	0.50	0.020
Y2	0.30	0.012
Y3	0.80	0.032
Z	1.30	0.052