

ESD1501BU

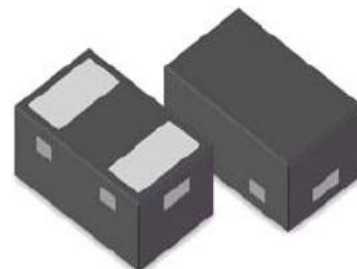
Transient Voltage Suppressors ESD Protection Diode

GENERAL DESCRIPTION

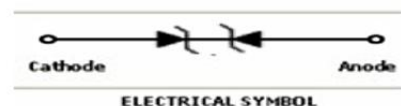
Silicon Protection Diode in a DFN1006 Package.

FEATURES

- Transient protection for high-speed data lines
IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ (Contact)
 $\pm 20\text{kV}$ (Air)
Cable Discharge Event (CDE)
- Package optimized for high-speed lines
- Protects one data, control line
- Low capacitance: 0.25pF (Typical)
- Low leakage current
- Low clamping voltage



DFN1006 Package



Device Marking:

Device Type	Marking	Shipping
ESD1501BU	15BU	10,000/Reel

Absolute Maximum Ratings (T_A = 25°C unless otherwise noted)

Symbol	Parameter	Value	Units
P _{pp}	Peak pulse power	70	W
T _{stg}	Storage Temperature Range	-55 to +150	°C
T _{OPT}	Operating Temperature	-55 to +125	°C
V _{ESD}	ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	± 15 ± 20	KV

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

Symbol	Parameter	Test Condition	Min	Typ	Max	Unit
V _{BR}	Reverse Breakdown Voltage	I _T =1mA			16	V
V _{RWM}	Reverse Working Voltage		15.0			V
I _R	Reverse Leakage Current	V _{RWM} =15V			500	uA
V _C	Clamping Voltage(IEC 61000-4-5)	I _{PP} = 1A, t _p = 8/20μs			25	V
		I _{PP} = 2A, t _p = 8/20μs			35	V
C _J	Junction Capacitance	V _R =0V, f= 1MHz		0.25	0.40	pF

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ELECTRICAL CHARACTERISTICS CURVE

Fig 1 Power Derating Curve

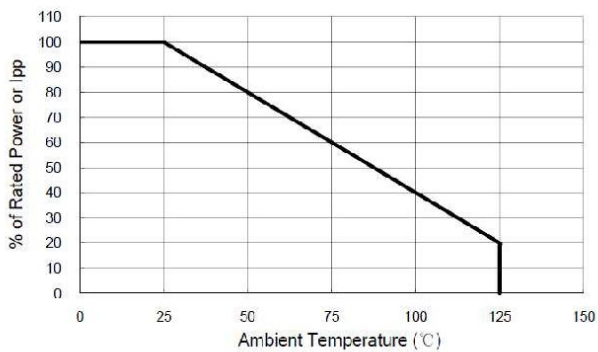


Fig 2 8/20μs Waveform per IEC61000-4-5

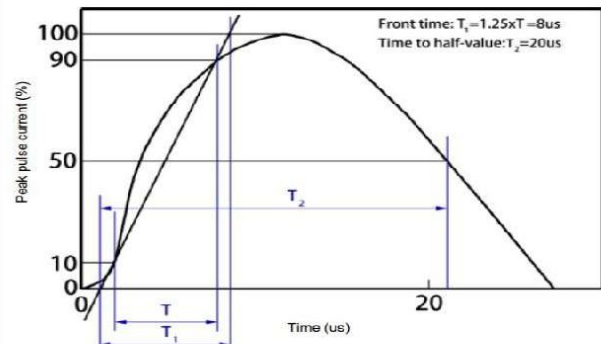


Fig 3 Clamping Voltage vs Peak Pulse Current

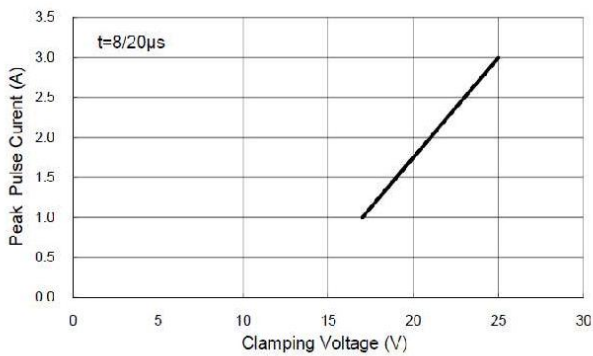


Fig 4 Voltage vs Capacitance

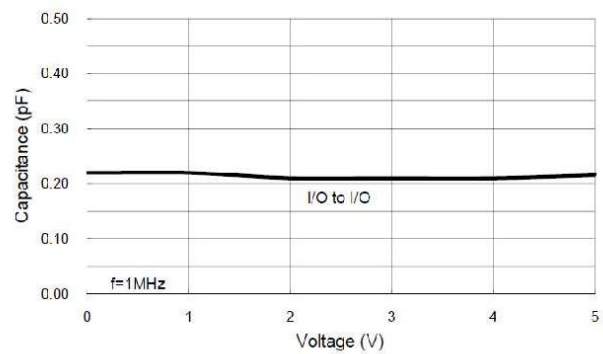


Fig 5 ESD Clamping of I/O to GND
(+8kV Contact per IEC 61000-4-2)

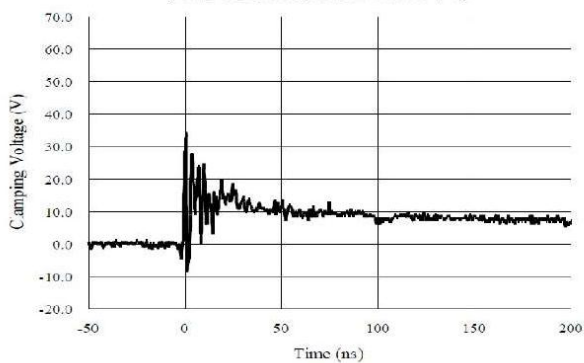
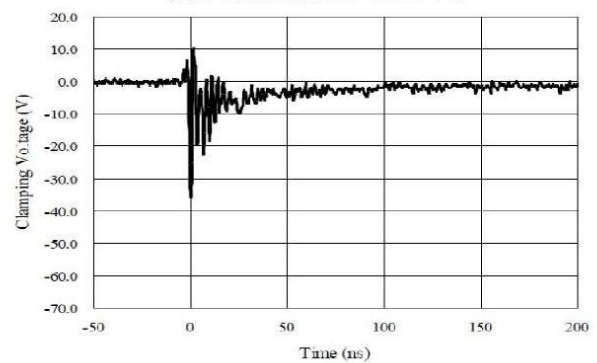
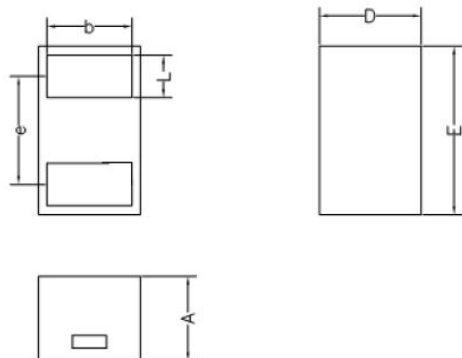


Fig 6 ESD Clamping of I/O to GND
(-8kV Contact per IEC 61000-4-2)

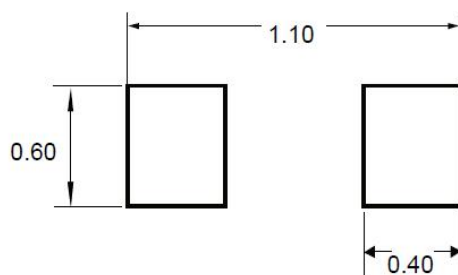


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DFN1006 Package Outline



Symbol	Dimensions in millimeters		
	Min	Nom	Max
D	0.55	0.60	0.65
E	0.95	1.00	1.05
b	0.45	0.50	0.55
L	0.20	0.25	0.30
e	0.64 BSC		
A	0.45	0.50	0.55



Unit:mm

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