

Transient Voltage Suppressors for ESD Protection

SE03N6B01HW

Features

- u Transient protection for high-speed data lines
IEC 61000-4-2 (ESD) $\pm 20\text{kV}$ (Air), $\pm 20\text{kV}$ (Contact)
IEC 61000-4-4 (EFT) 40A (5/50 ns)
- u Cable Discharge Event (CDE)
- u Package optimized for high-speed lines
- u Ultra-small package (1.0mm x 0.6mm x 0.5mm)
- u Protects one data, control line
- u Low capacitance: 0.45pF (Typical)
- u Low leakage current
- u Low clamping voltage

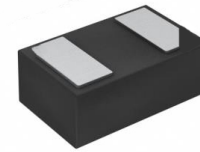
Applications

- u Serial ATA
- u Desktops, Servers and Notebooks
- u Cellular Phones
- u MDDI Ports
- u USB Data Line Protection
- u Display Ports
- u Digital Visual Interfaces (DVI)

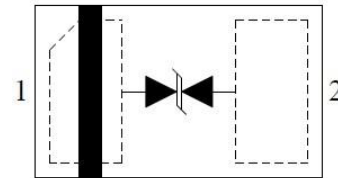
Mechanical Characteristics

- u DFN1006-2L Package
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- u Flammability Rating: UL 94V-0
- u Packaging: 10,000pcs / Tape and Reel
- u High temperature soldering guaranteed: $260^{\circ}\text{C}/10\text{s}$
- u Reel size: 7 inch

DFN1006-2L



Pin Configuration



Circuit Diagram



Absolute Maximum Rating

Symbol	Rating	Value	Units
T_{OPT}	Operating Temperature Range	-55 to +125	$^{\circ}\text{C}$
T_{STG}	Storage Temperature Range	-55 to +150	$^{\circ}\text{C}$
V_{ESD}	ESD per IEC 61000-4-2 (Air)	± 20	KV
	ESD per IEC 61000-4-2 (Contact)	± 20	

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

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Working Voltage	V _{RWM}	--	--	--	3.3	V
Reverse Breakdown Voltage	V _{BR}	I _T = 1mA	4.2	--	--	V
Reverse Leakage Current	I _R	V _{RWM} =3.3V	--	--	100	nA
Clamping Voltage	V _C	I _{PP} =4A, t _p =8/20μs	--	--	27	V
Junction Capacitance	C _J	V _R =0V, f=1MHz	--	0.45	--	pF

Electrical Characteristics Curves

Fig1. Pulse Waveform

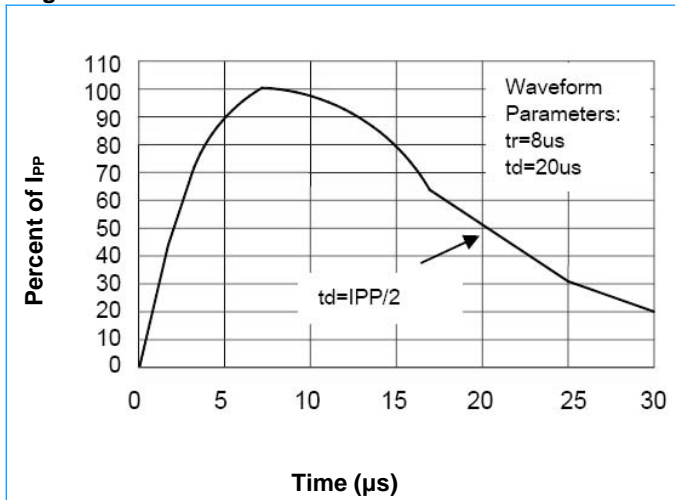
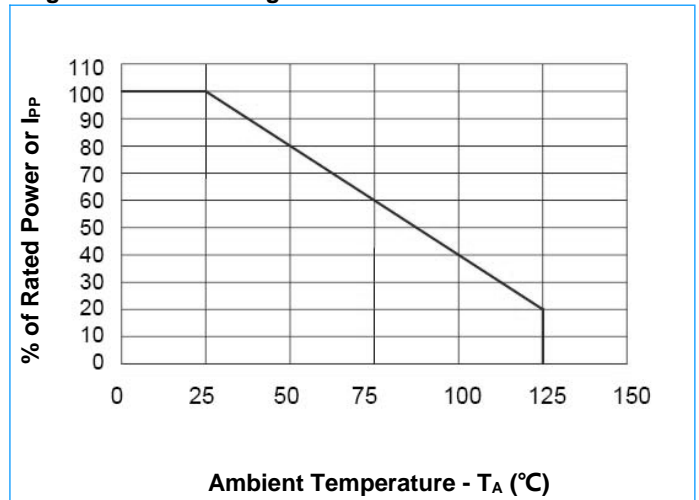


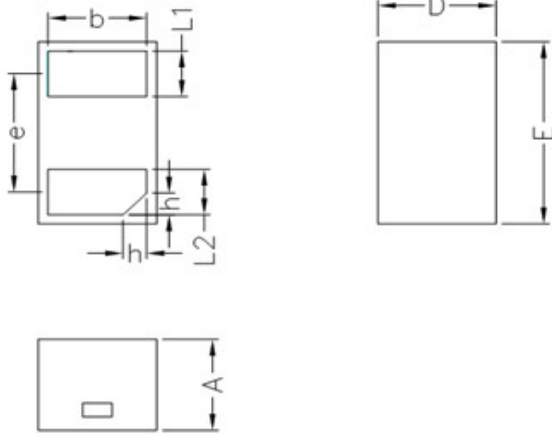
Fig2. Power Derating Curve



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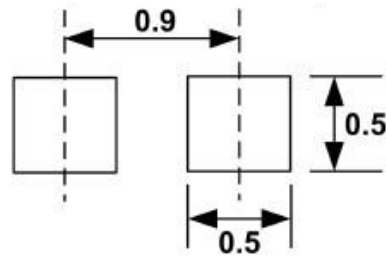
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DFN1006-2L Package Outline & Dimensions



Symbol	Dimensions in Millimeters		
	Min.	Nom.	Max.
D	0.55	0.60	0.65
E	0.95	1.00	1.05
L1	0.20	0.25	0.30
L2	0.20	0.25	0.30
b	0.45	0.50	0.55
e	0.65BSC		
A	0.45	0.50	0.55
h	0.07	0.12	0.17

Dimension: Millimeter
(Stencil thickness: 0.1)



Soldering Footprint