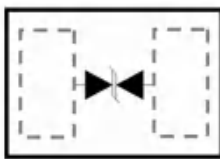


Ultra Low Capacitance ESD Protection Diode

DFN1006
WESD5V01CUY



Description

WESD5V01CUY is a low-capacitance Transient Voltage Suppressor (TVS) designed to provide electrostatic discharge (ESD) protection for high-speed data interfaces. With typical capacitance of 0.25pF, WESD5V01CUY is designed to protect parasitic-sensitive systems against over-voltage and over-current transient events. It complies with IEC 61000-4-2 (ESD), Level 4 ($\pm 8\text{kV}$ contact, $\pm 15\text{kV}$ air discharge), IEC 61000-4-4 (electrical fast transient - EFT) (40A, 5/50 ns), very fast charged device model (CDM) ESD and cable discharge event (CDE), etc. WESD5V01CUY uses ultra-small DFN1006 package. Each WESD5V01CUY device can protect one high-speed data line. It offers system designers flexibility to protect single data line where space is a premium concern. The combined features of low capacitance, ultra-small size and high ESD robustness make WESD5V01CUY ideal for high-speed data port and high-frequency line applications, such as cellular phones and HD visual devices.

Features

- Transient protection for high-speed data lines
IEC 61000-4-2 (ESD) $\pm 20\text{kV}$ (Contact)
 $\pm 20\text{kV}$ (Air)
IEC 61000-4-4 (EFT) 40A (5/50 ns)
Cable Discharge Event (CDE)
- Package optimized for high-speed lines
- Ultra-small package (1.0mm*0.6mm*0.5mm)
- Protects one data, control line
- Low capacitance: 0.25pF (Typical)
- Low leakage current
- Low clamping voltage

Applications

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

Mechanical Data

- DFN1006 package
- Flammability Rating: UL 94V-0
- Packaging: Tape and Reel
- High temperature soldering guaranteed:
260°C / 10s

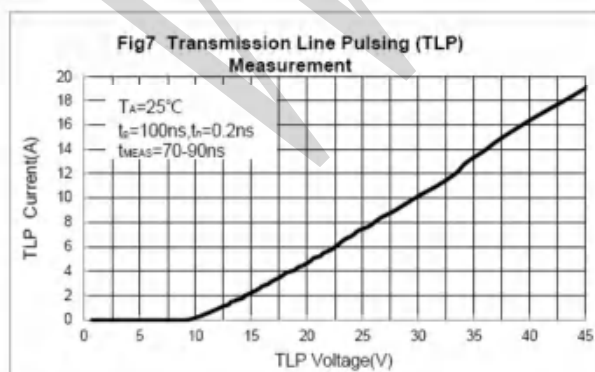
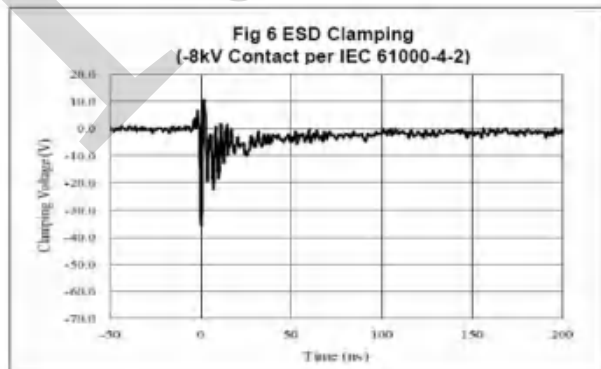
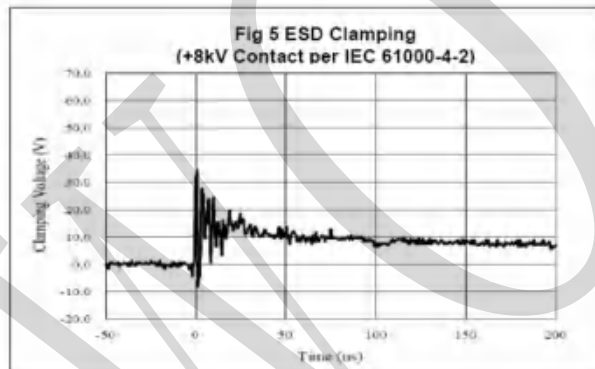
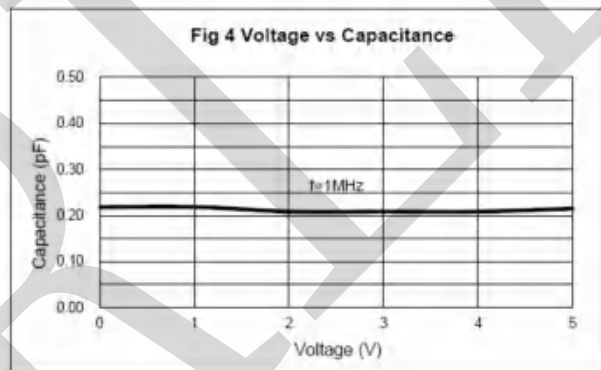
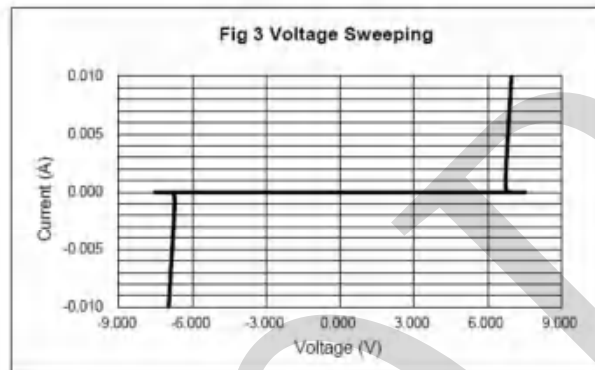
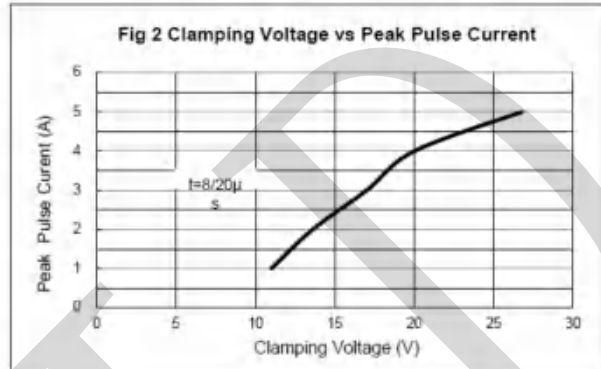
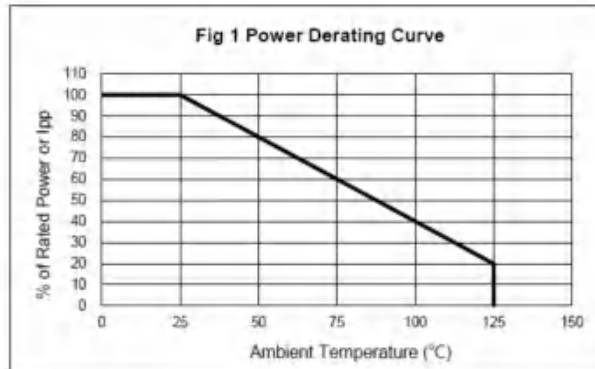
ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Contact)	± 20	kV
	ESD per IEC 61000-4-2 (Air)	± 20	
P_{PP}	Peak Pulse Power (8/20 μ s)	100	W
T_{OPT}	Operating Temperature	-55~125	$^{\circ}$ C
T_{STG}	Storage Temperature	-55~150	$^{\circ}$ C

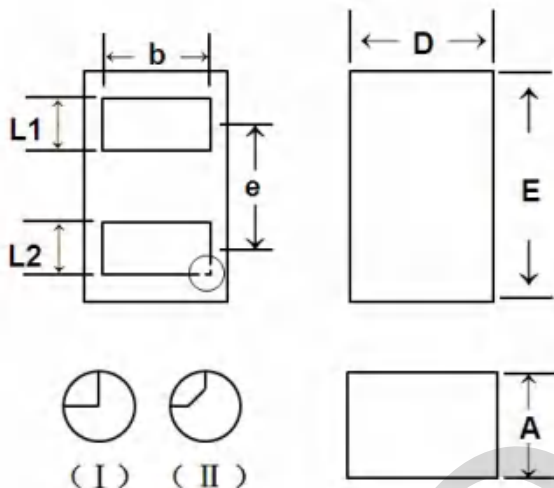
ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}$ C)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				5.0	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1mA$	6.0			V
I_R	Reverse Leakage Current	$V_{RWM} = 5V$			100	nA
V_C	Clamping Voltage	$I_{PP} = 1A, t_p = 8/20\mu s$			13	V
		$I_{PP} = 4A, t_p = 8/20\mu s$		18	25	V
$V_{CTL P}$	TLP Clamping Voltage	$I_{PP} = 8A$ IEC61000-4-2 Level 2 equivalent ($\pm 4kV$ Contact, $\pm 8kV$ Air)		26		V
		$I_{PP} = 16A$ IEC61000-4-2 Level 4 equivalent ($\pm 8kV$ Contact, $\pm 16kV$ Air)		38		V
C_J	Junction Capacitance	$V_R = 0V, f = 1MHz$		0.25	0.40	pF

ELECTRICAL CHARACTERISTICS CURVE

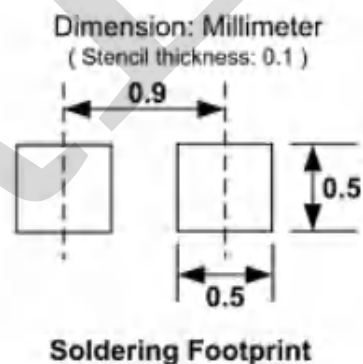


DFN1006 PACKAGE OUTLINE DIMENSIONS



NOTE: ALL DIMENSIONS IN MM

	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
A	0.45	0.50	0.55
b	0.45	0.50	0.55
e		0.64BSC	



Description of model and identification

W	ESD	5V0	1	C	U	Y
Company code	Voltage	Bothway	Package			
Product class	Route	pF				