WILLAS

RoHS COMPLIANT

Ultra Low Capacitance TVS Arrays

SEDFN05V4

Features

- Package design optimized for high speed lines
- Flow-Through design
- Protects four I/O lines
- Low capacitance: 0.3pF typical (I/O to I/O)
- Low clamping voltage
- Low operating voltage: 5V
- Solid-state silicon-avalanche technology
- **Pb-Free package is available**
  RoHS product for packing code suffix ”G”
  Halogen free product for packing code suffix “H”
- **Moisture Sensitivity Level 1**

Applications

- High Definition Multi-Media Interface (HDMI).
- Digital Visual Interface (DVI)
- DisplayPortTM Interface
- MDDI Ports
- LVDS
- Serial ATA
- PCI Express

Complies with the following standards

IEC61000-4-2

Level 4 15 kV (air discharge)

8 kV(contact discharge)

MIL STD 883E - Method 3015-7 Class 3

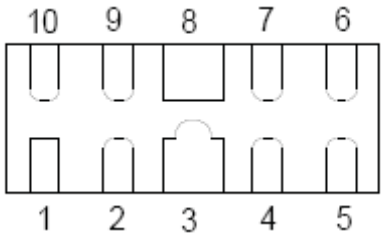
25 kV HBM (Human Body Model)

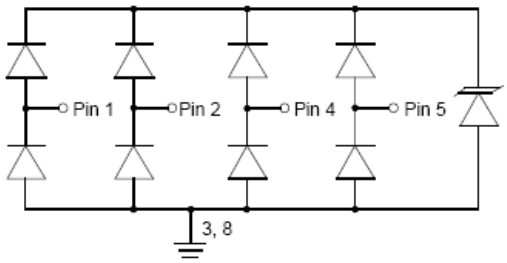
General Description

SEDFN05V4 are ultra low capacitance TVS arrays designed to protect high speed data interfaces.This series has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines form overvoltage caused by ESD(electrostatic discharge),CDE(Cable Discharge Events),and EFT(electrical fast transients)

Pin	Identification
1、2、4、5	Input Lines
6、7、9、10	Output Lines (No Internal Connection)
3、8	Ground

Functional diagram





Absolute Maximum Ratings

Symbol	Parameter	Value	Units
P pk	Peak Pulse Power (tp = 8/20μs)	150	Watts
I PP	Peak Pulse Current (tp = 8/20μs)	5	A
V ESD	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	+/- 17 +/- 12	kV
TJ	Operating Temperature	-55 to +125	°C
T STG	Storage Temperature	-55 to +150	°C

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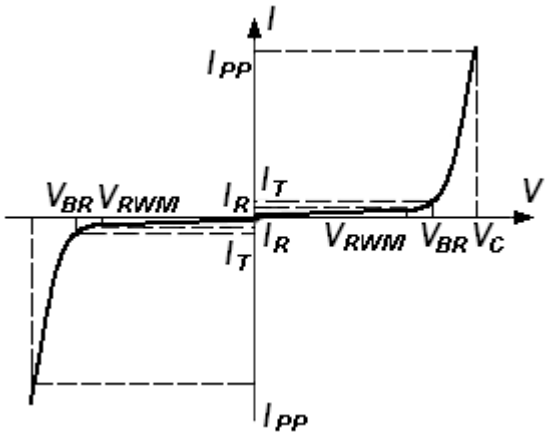
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SEDFN05V4

Electrical Parameter

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
I_T	Test Current
V_{BR}	Breakdown Voltage @ I_T

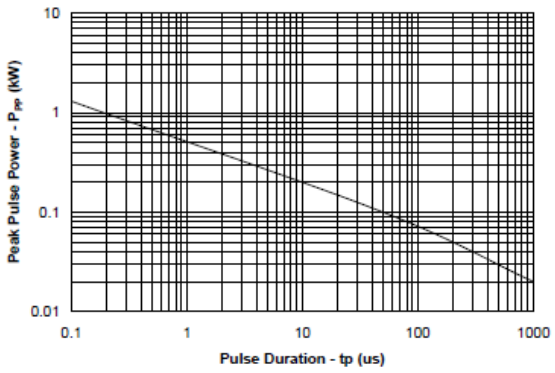


Electrical Characteristics (Tamb=25℃)

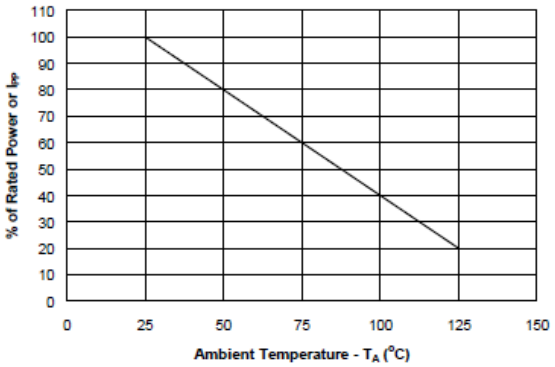
	V_{BR}	Vc	V_{RWM}	$I_{RWM.}$	C
	Min.				**Typ 0v bias**
	V	V	V	μA	pF
SEDFN05V4	6	15	5	1	0.30

Typical Characteristics

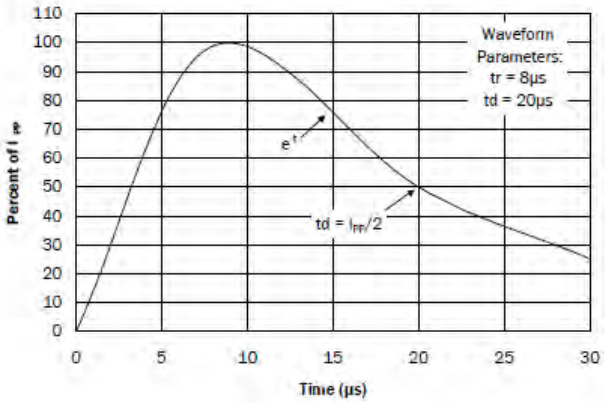
Non-Repetitive Peak Pulse Power vs. Pulse Time



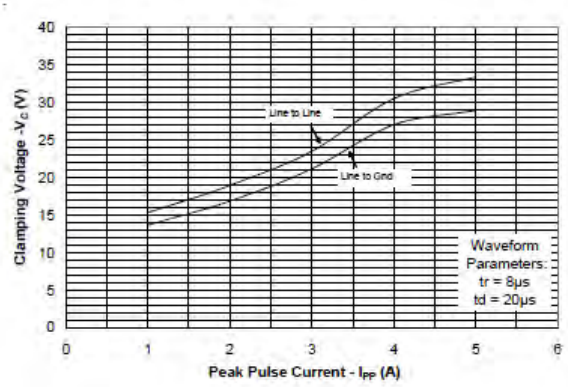
Power Derating Curve



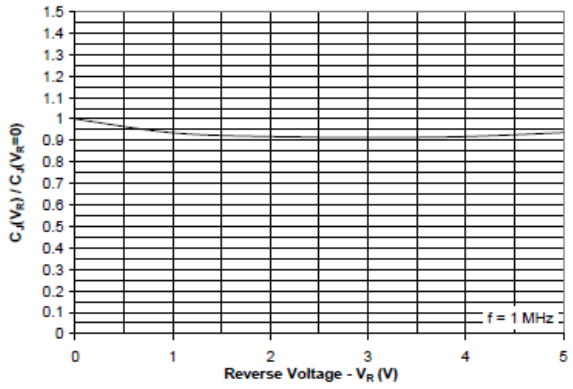
Pulse Waveform



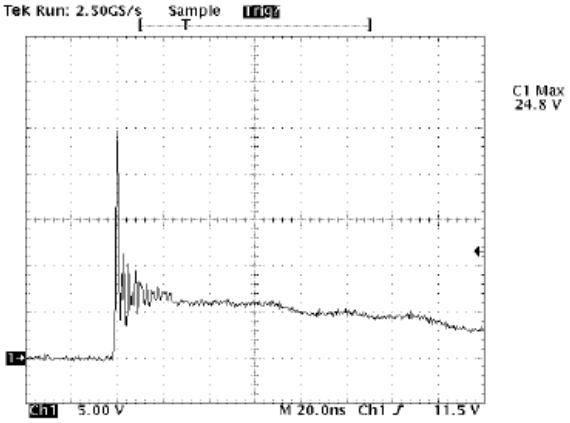
Clamping Voltage vs. Peak Pulse Current



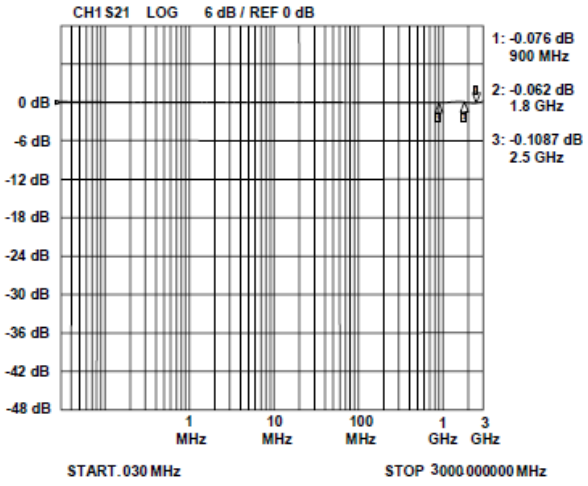
Normalized Capacitance vs. Reverse Voltage



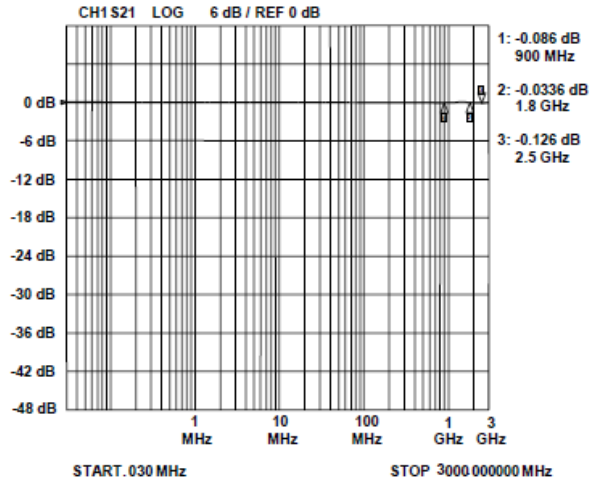
ESD Clamping for +8kV pulse per IEC 61000-4-2



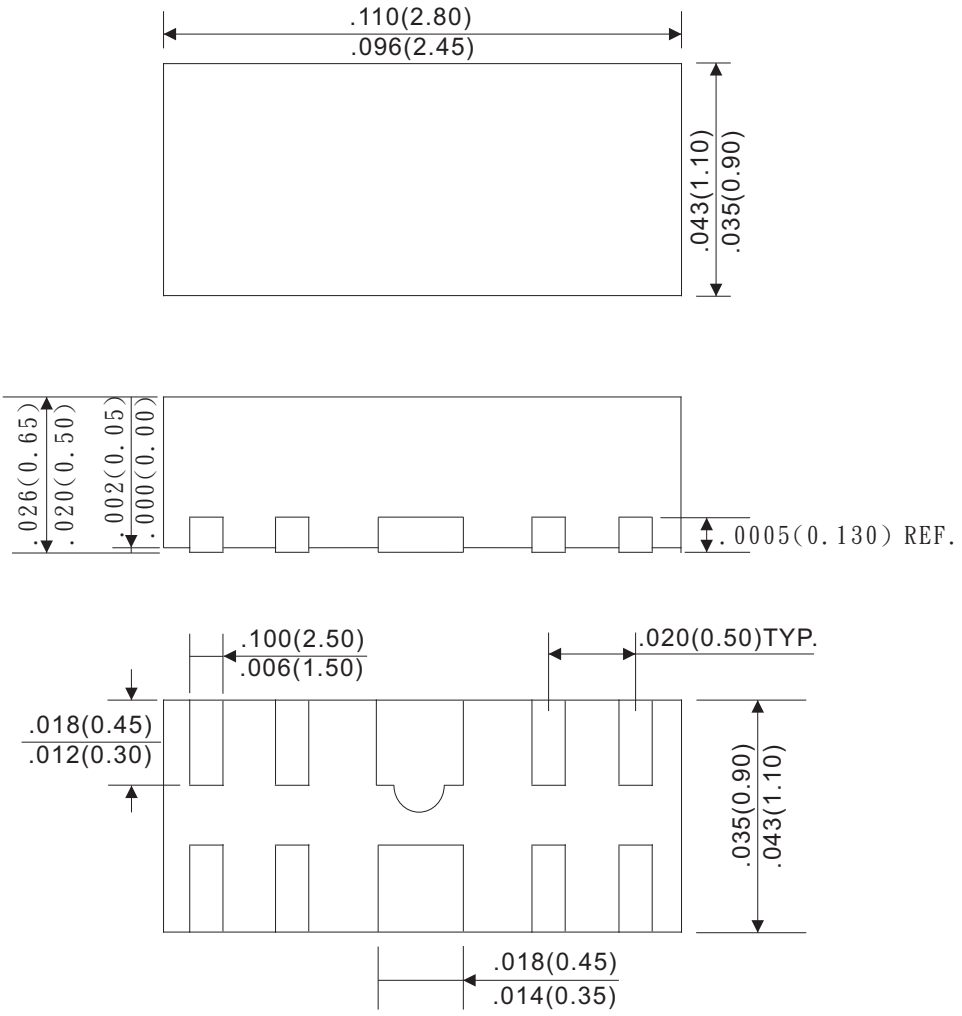
Insertion Loss S21 - I/O to I/O



Insertion Loss S21 - I/O to GND



DFN-10 Mechanical Data



Dimensions in inches and (millimeters)

Marking

Type number	Marking code
SEDFN05V4	05V4

Ordering Information:

Device PN	Packing
SEDFN05V4 -T(1)G(2)-WS	Tape&Reel: 3 Kpcs/Reel

Note: (1) Packing code, Tape & Reel

(2) RoHS product for packing code suffix "G"；Halogen free product for packing code suffix "H"

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