

**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**

**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 from overvoltage caused by ESD(electrostatic discharge),CDE(Cable Discharge Events),and EFT(electrical fast transients)

**Applications**

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

**Complies with the following standards IEC61000-4-2**

**Level 4 15 kV (air discharge)**

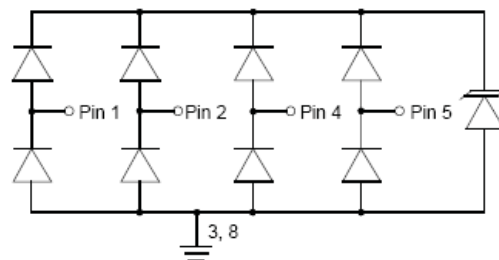
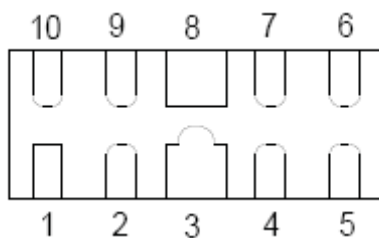
**8 kV(contact discharge)**

**MIL STD 883E - Method 3015-7 Class 3**

**25 kV HBM (Human Body Model)**

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

**Functional diagram**

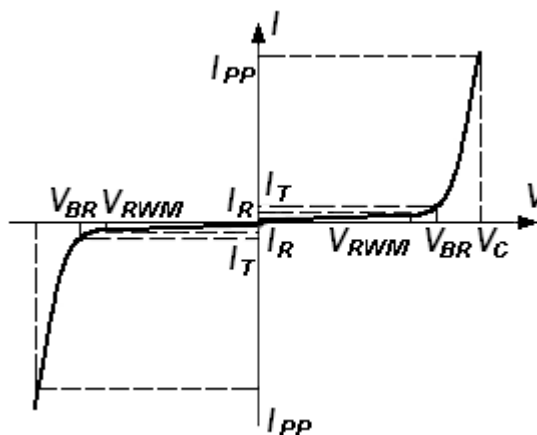


**Absolute Maximum Ratings**

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

**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 @ $I_T$

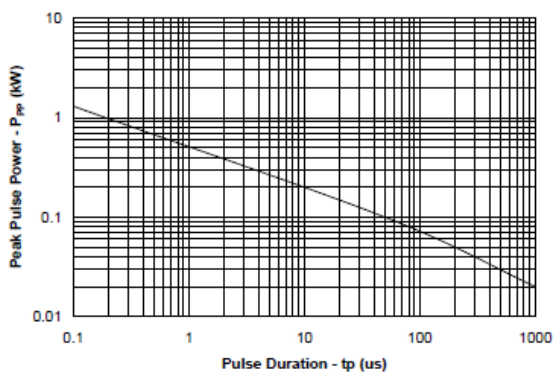


**Electrical Characteristics (Tamb=25°C)**

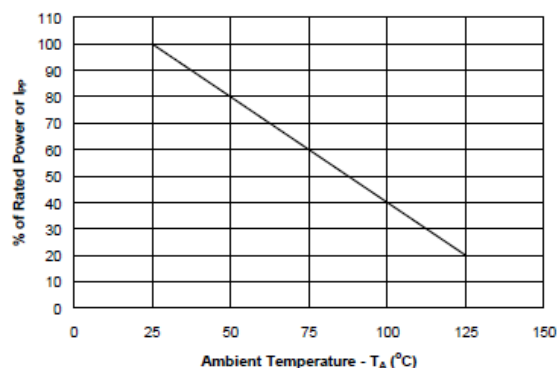
	$V_{BR}$	$V_C$	$V_{RWM}$	$I_{RWM}$	C Typ 0v bias
	Min.				
	V				
SEDFN05V4	6	15	5	1	0.30

**Typical Characteristics**

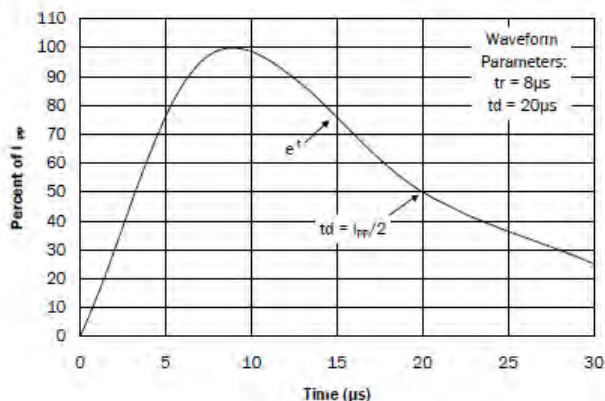
**Non-Repetitive Peak Pulse Power vs. Pulse Time**



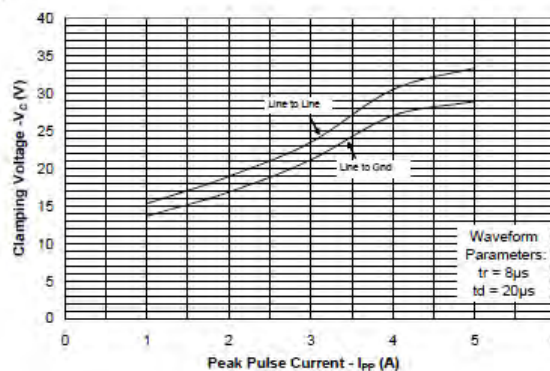
**Power Derating Curve**



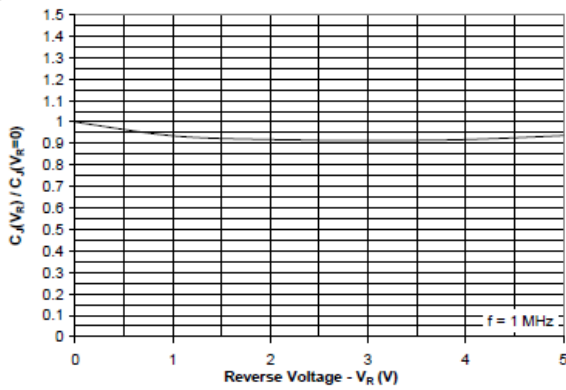
**Pulse Waveform**



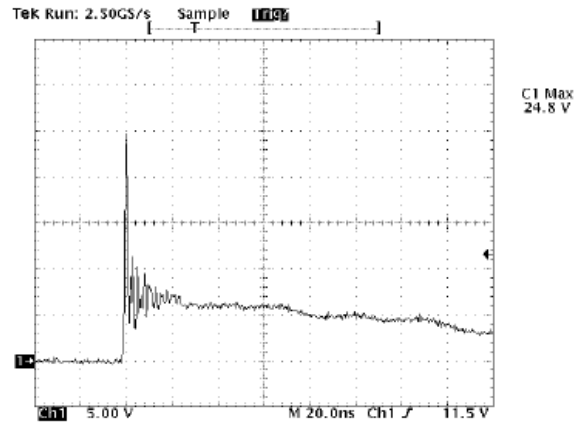
**Clamping Voltage vs. Peak Pulse Current**



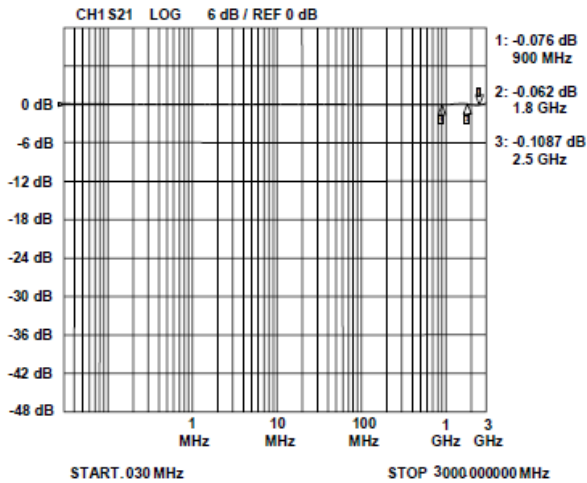
**Normalized Capacitance vs. Reverse Voltage**



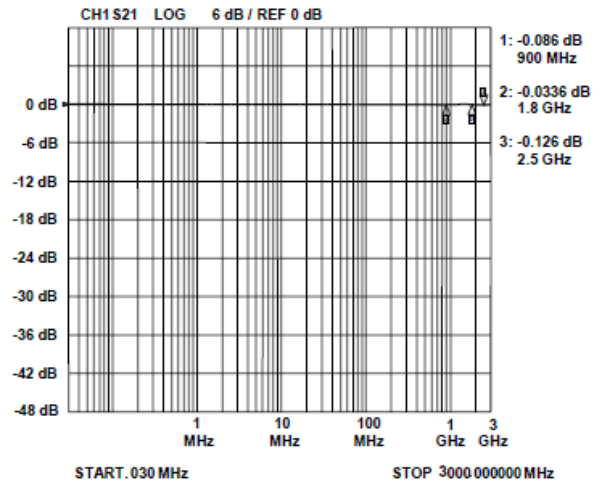
**ESD Clamping for +8kV pulse per IEC 61000-4-2**



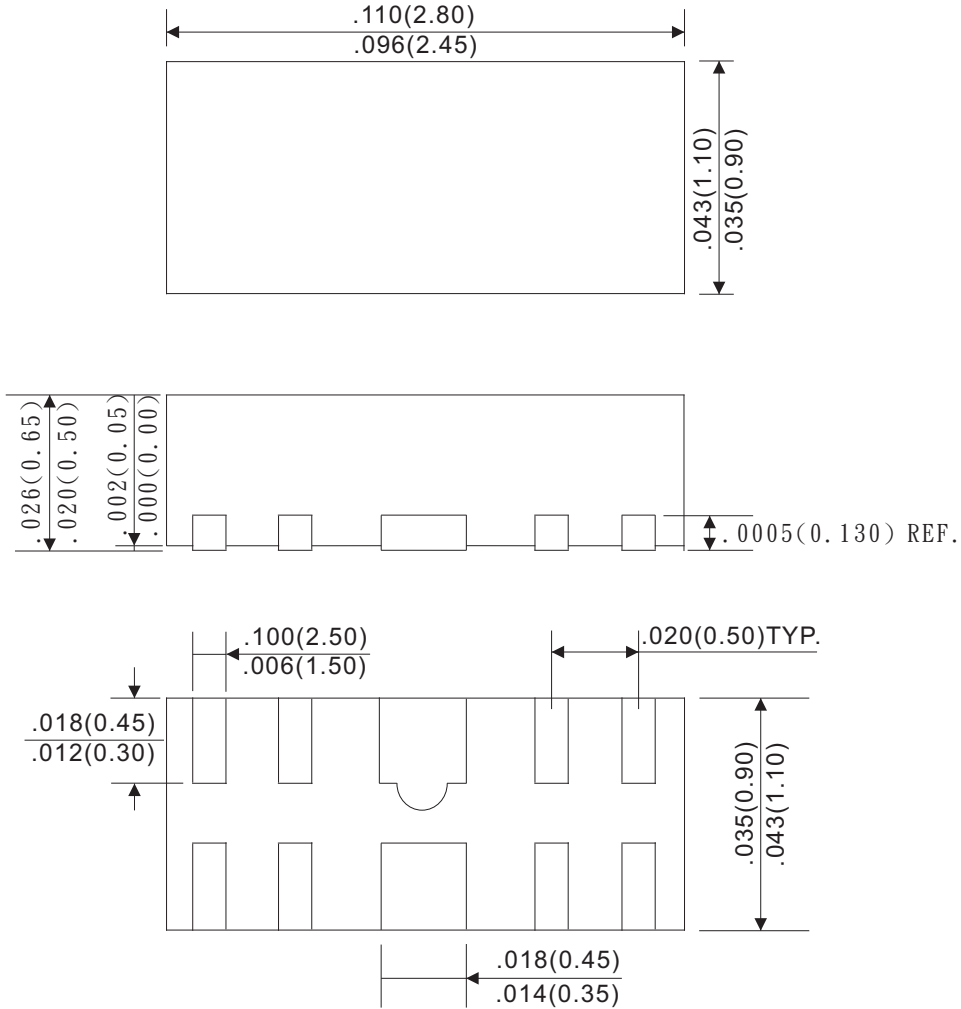
**Insertion Loss S21 - I/O to I/O**



**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 <sup>(1)</sup> G <sup>(2)</sup> -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"

**\*\*\*Disclaimer\*\*\***

WILLAS reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. WILLAS or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on WILLAS data sheets and/ or specifications can and do vary in different applications and actual performance may vary over time. WILLAS does not assume any liability arising out of the application or use of any product or circuit.

WILLAS products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of WILLAS. Customers using or selling WILLAS components for use in such applications do so at their own risk and shall agree to fully indemnify WILLAS Inc and its subsidiaries harmless against all claims, damages and expenditures.