



SANYO Semiconductors

DATA SHEET

VS912SL — Low Capacitance TVS Diode Array

Protection Device of High-speed Data Lines

Applications

- HDMI.
- USB 2.0.
- Mobile communication.
- Ethernet.
- LCD, camera.
- Notebooks and desktop computers, peripherals.

Features

- Very low capacitance 0.4pF typ.
- ESD / transient protection of high-speed data lines in applications according to:
IEC61000-4-2 (ESD): $\pm 20\text{kV}$ (air) $\pm 20\text{kV}$ (contact), IEC61000-4-4 (EFT): 50A (5/50ns).
- Halogen free compliance.

Specifications

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
ESD Discharge *1	VESD	contact	20	kV
Peak Pulse Current *2	Ipp	$T_p = 8/20\mu\text{s}$	3	A
Operating Temperature Range	Top		-40 to +125	$^\circ\text{C}$
Storage Temperature	Tstg		-55 to +150	$^\circ\text{C}$

Note : *1 VESD according to IEC61000-4-2

*2 Ipp according to IEC61000-4-5

Marking : Z1

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VS912SL

Electrical Characteristics at $T_a=25^\circ\text{C}$

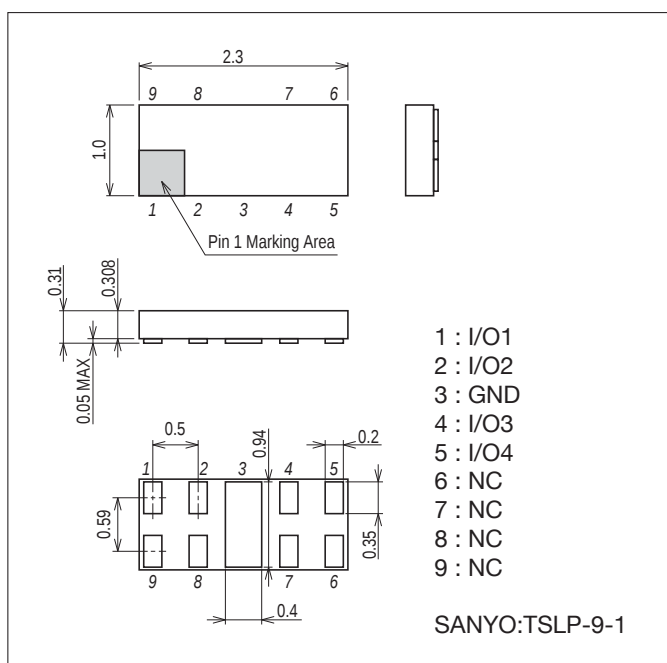
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Reverse Working Voltage	V_{RWM}				5.3	V
Breakdown Voltage	$V_{(BR)}$	$I_{(BR)}=1mA$, (I/O to GND)	6			V
Reverse Current	I_R	$V_R=5.3V$, (I/O to GND)			50	nA
Clamping Voltage	V_{CL}	$I_{pp}=1A$, $T_p=8/20\mu s$, (I/O to GND) *3		10	13	V
		$I_{pp}=3A$, $T_p=8/20\mu s$, (I/O to GND) *3		12	15	V
Forward Clamping Voltage	V_{FC}	$I_{pp}=1A$, $T_p=8/20\mu s$, (GND to I/O) *3		2	4	V
		$I_{pp}=3A$, $T_p=8/20\mu s$, (GND to I/O) *3		4	6	V
Line Capacitance	C_T	$V_R=0V$, $f=1MHz$, (I/O to GND)		0.4	0.6	pF
		$V_R=0V$, $f=1MHz$, (I/O to I/O)		0.2	0.3	pF

Note : *3 Ipp according to IEC61000-4-5

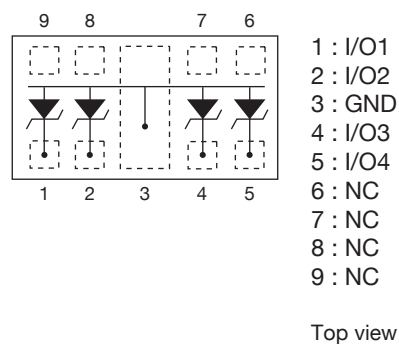
Package Dimensions

unit : mm (typ)

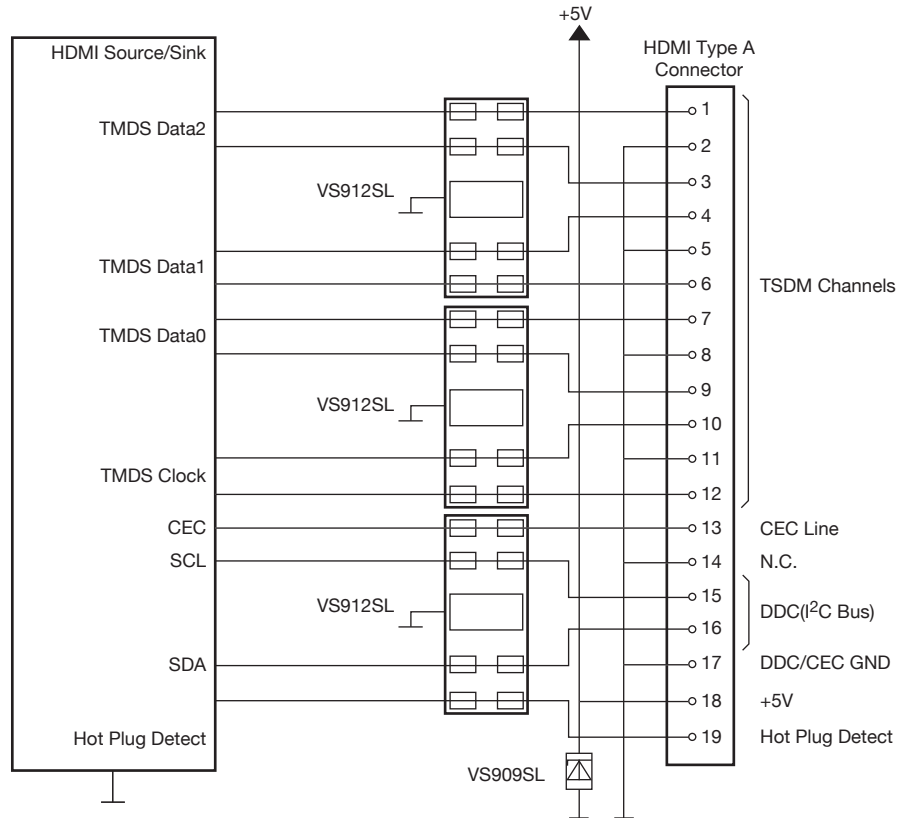
7065-001



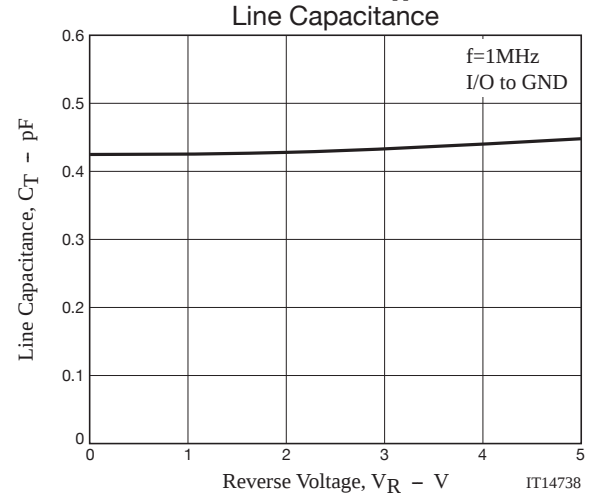
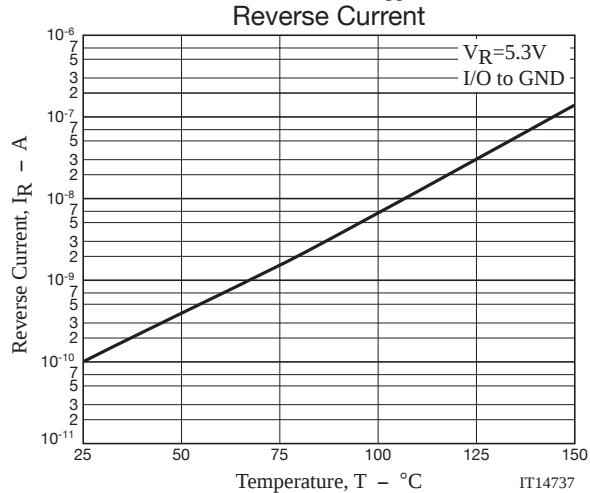
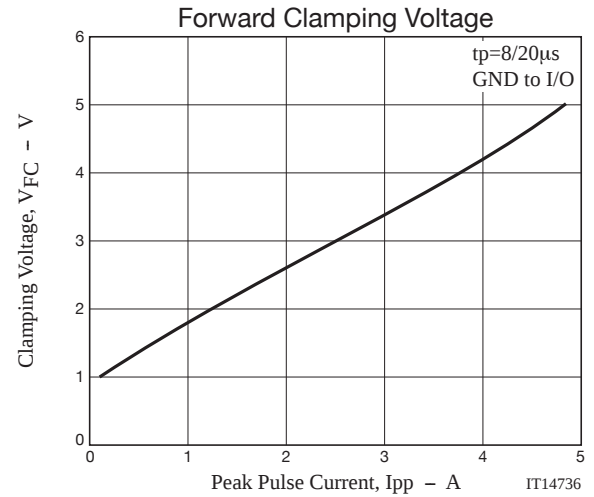
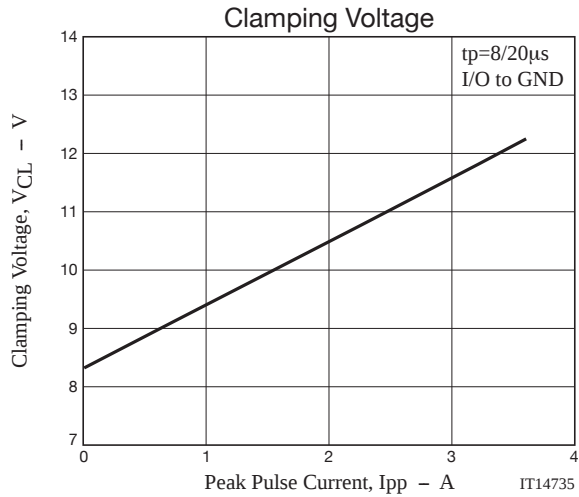
Electrical Connection

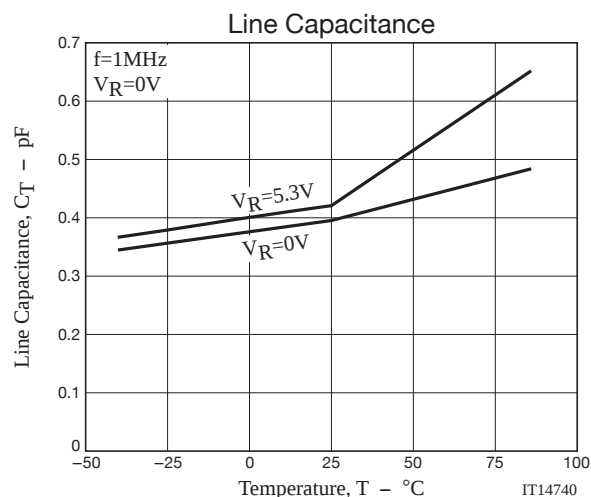
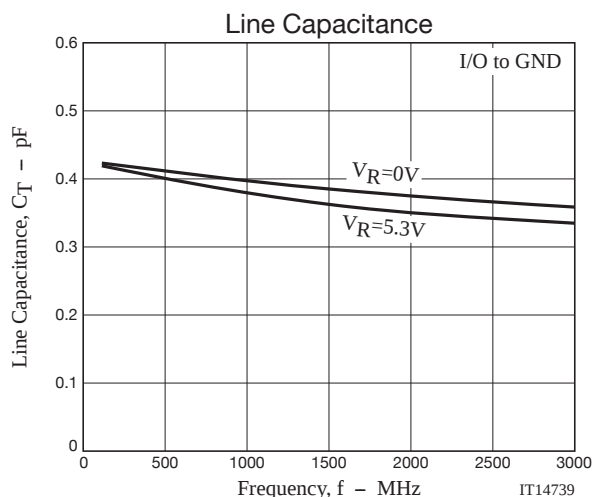


Application Example



IT14836





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