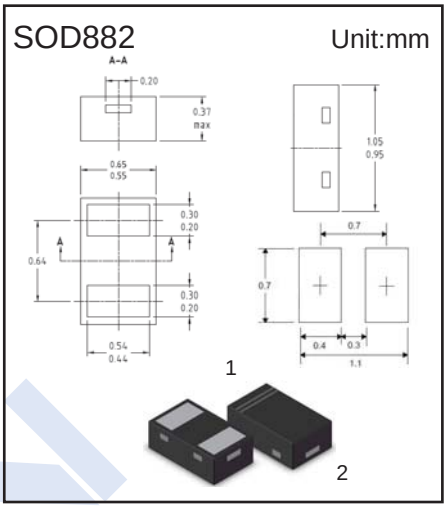
TVS Diodes

ESD8L5.0C



■ Features

- Transient protection for high-speed data lines
  IEC 61000-4-2 (ESD) ±15kV (Air)
  ±8kV (Contact)
  IEC 61000-4-4 (EFT) 40A (5/50 ns)
- Protects one data, control or power line
- Low capacitance: 0.35pF
- Low leakage current: 10nA @ V_{RWM}
- Low clamping voltage

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Nominal Reverse Working Voltage	V_{RWM}	5	V
ESD per IEC 61000-4-2 (Air)	V_{ESD}	±17	KV
ESD per IEC 61000-4-2 (Contact)		±12	
Junction Temperature	T_J	150	℃
Operating Temperature	T_{OPT}	-55 to 125	
Storage Temperature range	T_{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	V_{BR}	I_T= 1 mA, Between I/O and I/O	6		11	V
Clamping Voltage	V_C	I_{PP}= 1A,tp=8/20us Between I/O and I/O			12	
		I_{PP}= 2A,tp=8/20us Between I/O and I/O			14	
Reverse voltage leakage current	I_R	V_{RWM}= 5 V, Between I/O and I/O			1	uA
Parasitic Capacitance	C_{ESD}	V_R= 0 V, f= 1 MHz, Between I/O and I/O			0.5	pF

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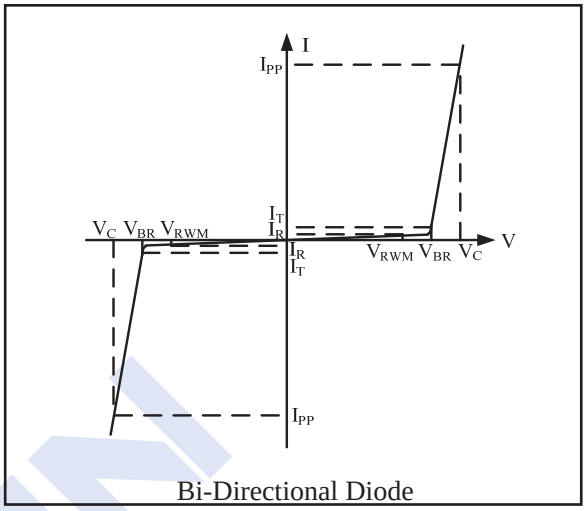
■ Electrical Characteristics (T = 25 ° C)

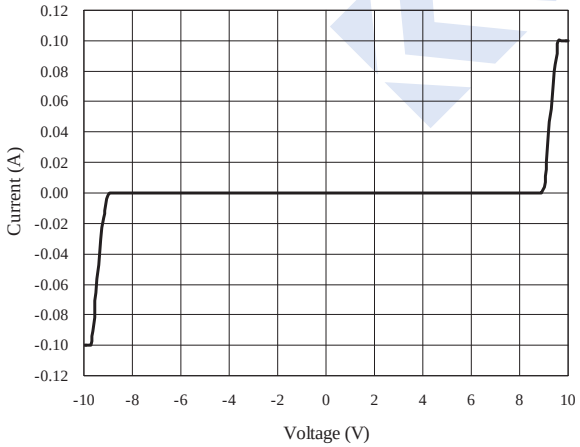
Symbol	Parameter
V_{RWM}	Nominal Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Reverse Breakdown Voltage @ I_T
I_T	Test Current for Reverse Breakdown
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
C_{ESD}	Parasitic Capacitance
V_R	Reverse Voltage
f	Small Signal Frequency



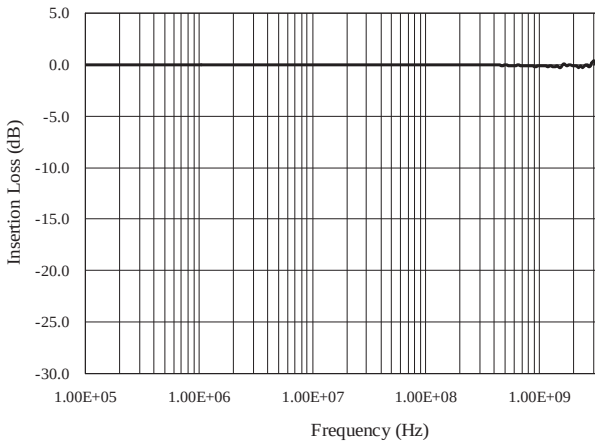
Bi-Directional Diode

■ Typical Characterisitics

Voltage Sweeping of I/O to I/O



Insertion Loss S21 of I/O to I/O



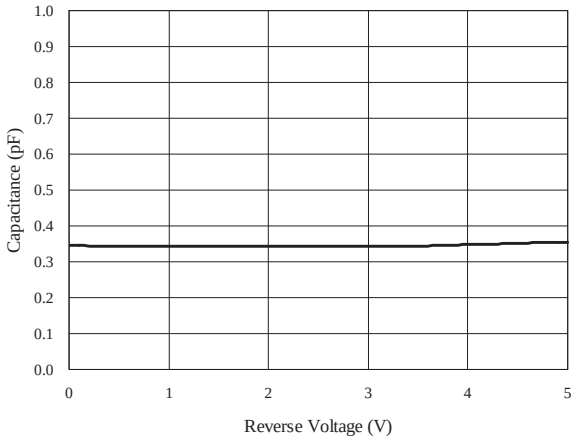
Capacitance *vs.* Voltage of I/O to I/O (f = 1MHz)

TVS Diodes

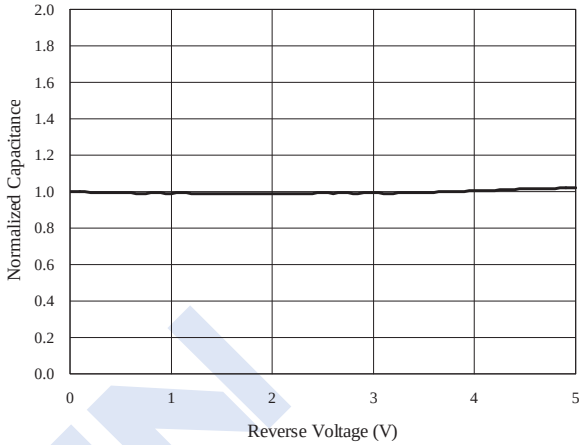
ESD8L5.0C

■ Typical Characterisitics

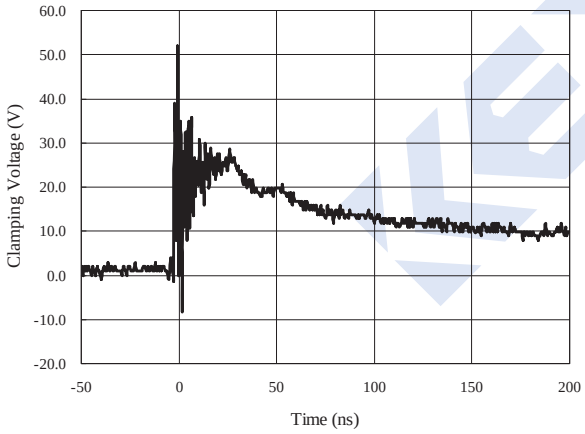
Capacitance *vs.* Reverse Voltage



Normalized Capacitance *vs.* Reverse Voltage



ESD Clamping of I/O to I/O (+8kV Contact per IEC 61000-4-2)



ESD Clamping of I/O to I/O (-8kV Contact per IEC 61000-4-2)