

Ultra-Low Capacitance TVS/ESD Protection

SE15N6C01GA

Features

- ◆ Protects one data, control or power line
- ◆ Low capacitance: 0.35pF (Typical)
- ◆ Low leakage current: 10nA @ V_{RWM} (Typical)
- ◆ Low clamping voltage

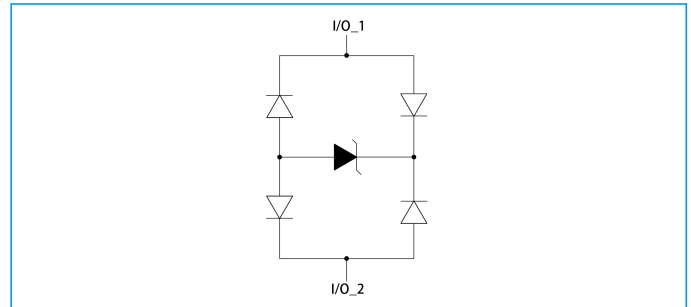
Applications

- ◆ USB2.0/3.0 Power and Data Line Protection
- ◆ Display Ports
- ◆ Digital Visual Interfaces (DVI)
- ◆ HDMI 1.4/2.0

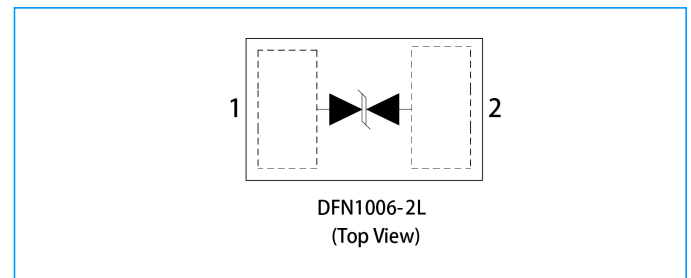
Mechanical Characteristics

- ◆ DFN1006-2L package
- ◆ Flammability Rating: UL 94V-0
- ◆ Marking: Part number
- ◆ Quantity Per Reel: 10,000pcs
- ◆ Reel size: 7 inch

Circuit Diagram



Pin Configuration

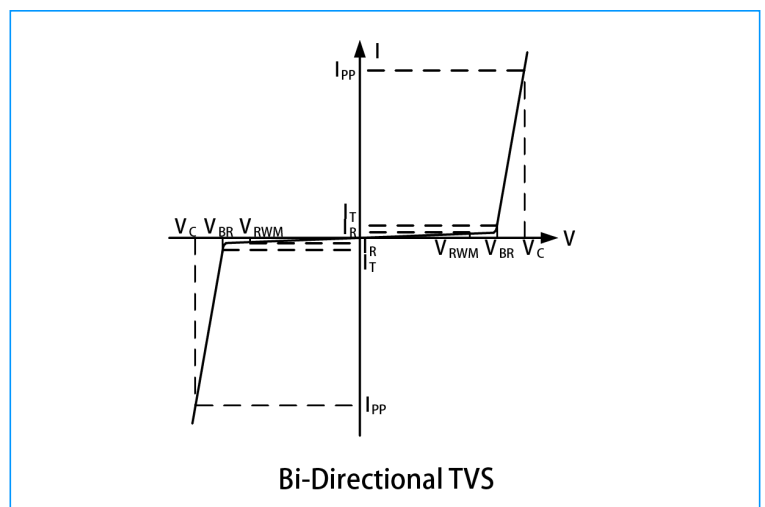


Absolute Maximum Rating

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2(Air)	±25	kV
	ESD per IEC 61000-4-2 (Contact)	±17	
T_{OPT}	Operating Temperature	-55/+125	°C
T_{STG}	Storage Temperature	-55/+150	°C

Electrical Parameters (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_J	Parasitic Capacitance
V_R	Reverse Voltage
f	Small Signal Frequency



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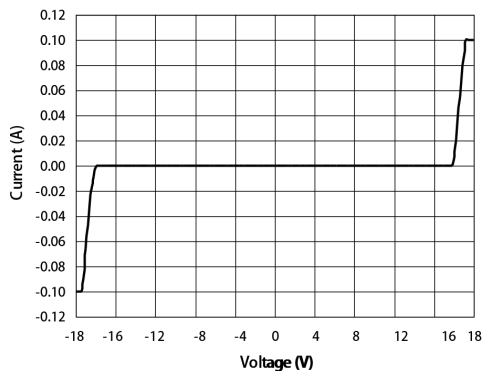
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Electrical Characteristics

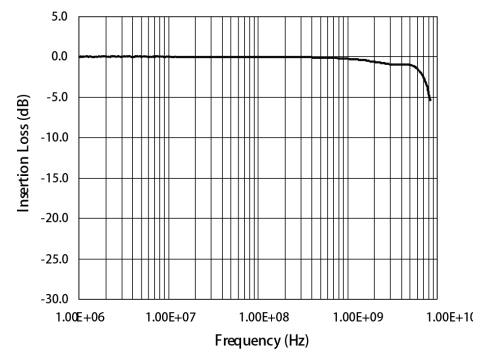
Symbol	Test Condition	Minimum	Typical	Maximum	Units
V_{RWM}	—	—	—	15.0	V
I_R	$V_{RWM} = 15\text{ V}$, $T=25^\circ\text{C}$ Between I/O and I/O	—	0.01	1.0	μA
V_{BR}	$I_T = 1\text{ mA}$ Between I/O and I/O	16.7	19	21	V
V_C	$I_{PP} = 2\text{ A}$, $t_p = 8/20\mu\text{s}$ Between I/O and I/O	—	28	30	V
C_J	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$ Between I/O and I/O	—	0.35	0.50	pF

Typical Characteristics

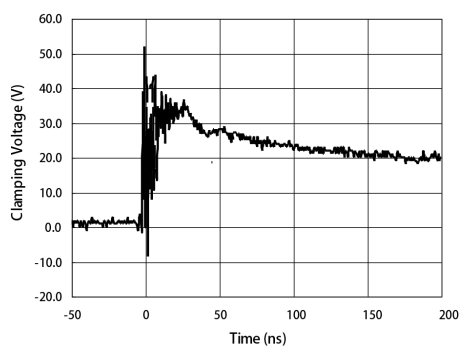
Voltage Sweeping of I/O to I/O



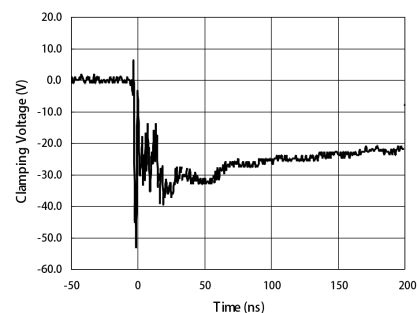
Insertion Loss S21 of I/O to I/O



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)

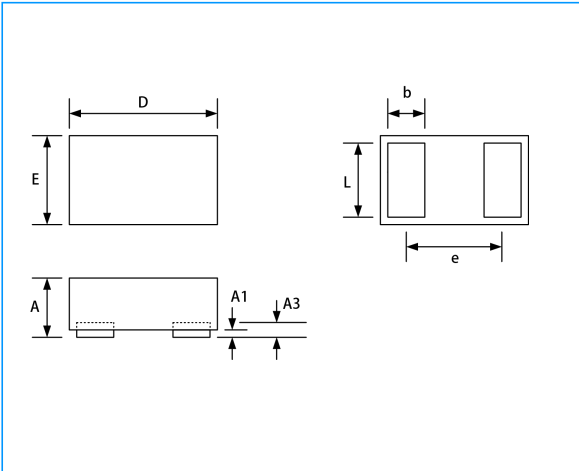


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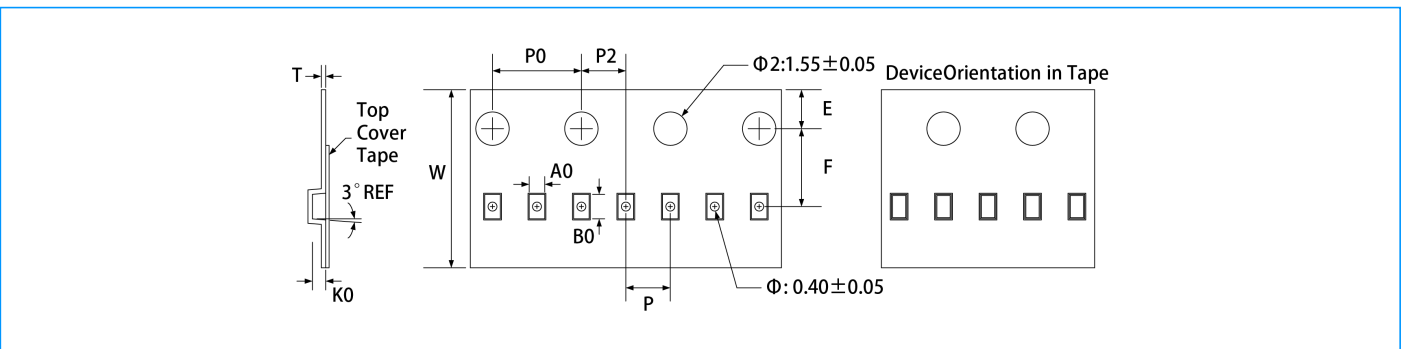
Package Outline

- ◆ DFN1006-2L package
- ◆ 2 leads, very small package
- ◆ MSL-1



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.400	0.550	0.016	0.022
A1	0.000	0.050	0.000	0.002
A3	0.125 REF.		0.005 REF.	
D	0.950	1.050	0.037	0.041
E	0.550	0.650	0.022	0.026
b	0.200	0.300	0.008	0.012
e	0.650 BSC.		0.026 BSC.	
L	0.450	0.550	0.018	0.022

Tape and Reel Specification



Symbol	W	A0	B0	K0	E	F	P	P0	P2	T
Dimensions (mm)	8.00±0.1	0.7±0.05	1.15±0.05	0.55±0.05	1.75±0.1	3.5±0.05	2.0±0.1	4.0±0.1	2.0±0.05	0.2±0.05