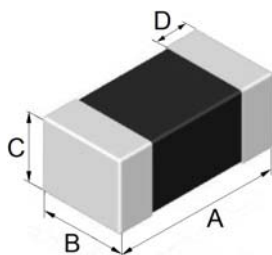


1. Dimension



Series	A(mm)	B(mm)	C(mm)	D(mm)
0201	0.60±0.05	0.30±0.05	0.30±0.05	0.15±0.05

2. Part Numbering

TVS	0201	S	050	-	0R3	A
A	B	C	D		E	F

A: Series

B: Dimension

C: Semiconductor TVS Device

D: Reverse Working Voltage 050=5V

E: Parasitic Capacitance 0R3=0.3pF

F: Inner Code

3. Features

- Transient protection for high-speed data lines.
 - IEC61000-4-2 (ESD) ±20KV (air)
 - ±20KV (contact)
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - Cable discharge event (CDE).
- Package optimized for high-speed lines.
- Ultra-small package
- Protects one data, controller or power line.
- Low leakage current : 1nA @V_{RWM} (typical)
- Low clamping voltage.
- Each I/O pin can withstand over 1000 ESD strikes for ±8KV contact discharge.

4. Applications

- Cellular handsets
- Tablets
- Laptops
- Other portable devices
- Network communication devices

5. Absolute Maximum Ratings(Ta=25°C)

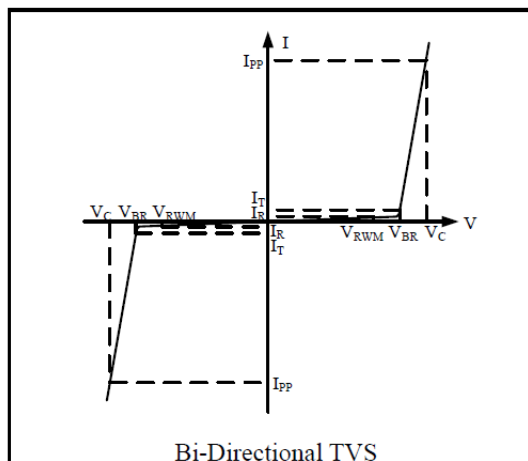
TAI-TECH Part Number	Peak pulse power (tp=8/20µs) P _{PK} (w)	Peak pulse current (tp=8/20µs) I _{PP} (A)	ESD per IEC61000-4-2 (air) V _{ESD} (KV)	ESD per IEC61000-4-2 (contact) V _{ESD} (KV)
TVS0201S050-0R3A	60	3	±20	±20
TVS0201S050-100W	72	6	±20	±20

Note:

1. Operating temperature range: -55~125°C
2. Storage temperature range: -55~150°C

6. Electrical Characteristics(Ta=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}	Maximum Peak Pulse Current
C _{ESD}	Parasitic Capacitance
V _R	Reverse Voltage
f	Small Signal Frequency



TAI-TECH Part Number	Working peak reverse voltage V _{RWM} (V)	Maximum reverse leakage (@V _{RWM} , 25°C) (between I/O_1 and I/O_2) I _R (µA)	Breakdown voltage (@I _T =1mA) (between I/O_1 and I/O_2) V _{BR} (V)	Clamping voltage (@I _{PP} =16A, t _p =100ns, TLP) V _{CL} (V)	Clamping voltage (@V _{ESD} =8KV) V _{CL} (V)	Maximum clamping voltage (tp=8/20µs) (between I/O_1 and I/O_2) V _C (V)	Parasitic capacitance (@V _R =0V, f=1MHz) (between I/O_1 and I/O_2) C _{ESD} (pF)
TVS0201S050-0R3A	5	Typ. 0.001 (Max. 0.1)	Typ. 8.0 (Min. 6.0 Max.10.0)	30	30	15 (@I _{PP} =1A) 20 (@I _{PP} =3A)	Typ. 0.3
TVS0201S050-100W	5	Typ. 0.001 (Max. 0.1)	Typ. 7.5 (Min. 5.5)	12	12	8 (@I _{PP} =1A) 12 (@I _{PP} =6A)	Typ. 10

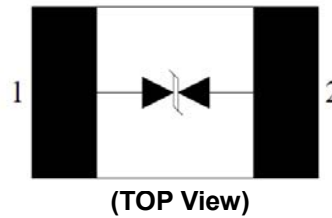
7. Mechanical Characteristics

1. Case : 0201
2. Flammability rating : UL 94V-0
3. Packaging : tape and reel
4. Polarity : bidirectional

Circuit Diagram



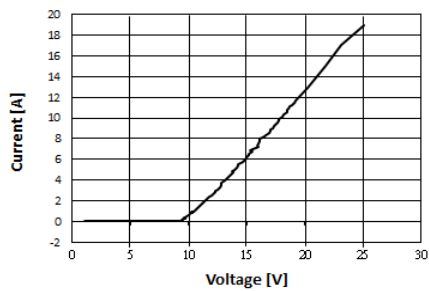
Pin Configuration



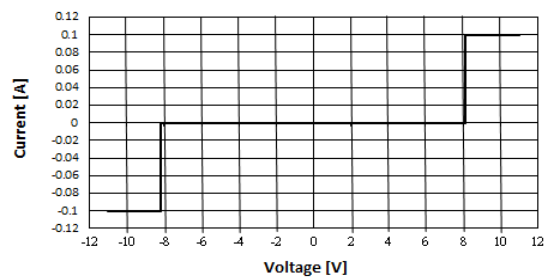
8. Rating and Characteristic Curves

TVS0201S050-0R3A

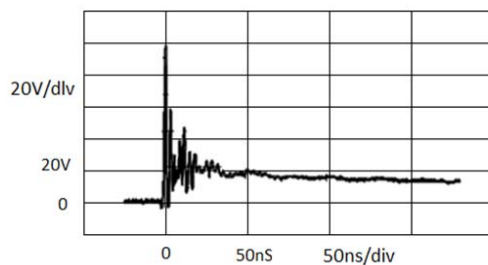
TLP Measurement



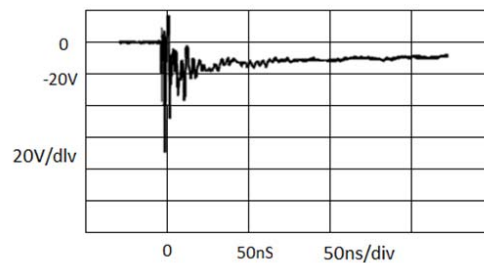
Voltage Sweeping of I/O_1 to I/O_2



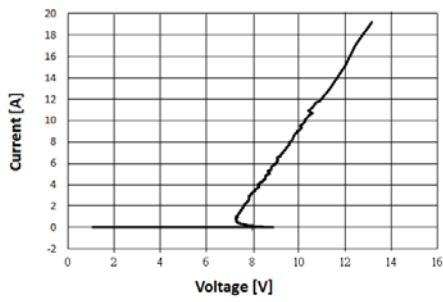
ESD Clamping of I/O_1 to I/O_2 (+8kV Contact per IEC 61000-4-2)



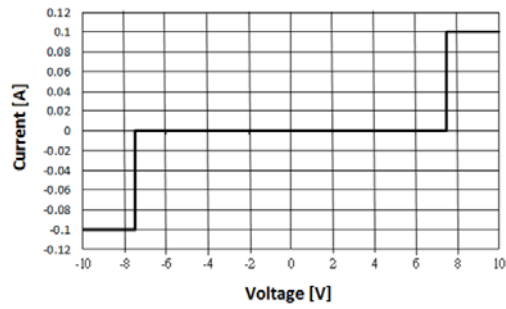
ESD Clamping of I/O_1 to I/O_2 (-8kV Contact per IEC 61000-4-2)



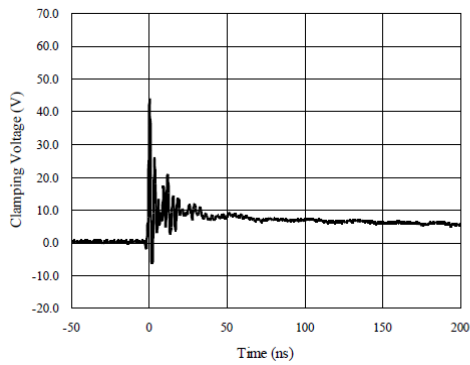
TLP Measurement



Voltage Sweeping of I/O_1 to I/O_2



ESD Clamping of I/O_1 to I/O_2
(+8kV Contact per IEC 61000-4-2)



ESD Clamping of I/O_1 to I/O_2
(-8kV Contact per IEC 61000-4-2)

