

TVU FB02 01 AC0 Engineering Specification

1. Scope

TVU FB02 01 AC0 is dual directional voltage rail clamp ultra-low capacitance transient voltage suppressor, electrical characteristics is positive/negative direction are symmetry, and the maximum capacitance is 0.9pF. It can be used for power supply line protection, control line protection and high-speed data line protection during static discharging, transient pulse and lightning discharge.

2. Features

- ◆ Bi-directional ESD protection;
- ◆ Provides ESD protection to IEC61000-4-2(ESD):
 - ±10kV (air discharge)
 - ±10kV (contact discharge);
- ◆ Ultra capacitance structure: 0.5pF;
- ◆ Low clamping voltage;
- ◆ Low operating voltage 5V;
- ◆ Reliable Silicon avalanche breakdown structure

3. Application

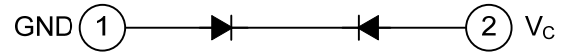
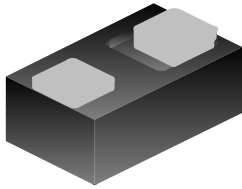
- ◆ USB interface;
- ◆ 10/100/1000M Ethernet;
- ◆ Digital camera;
- ◆ High-speed data line interface.
- ◆ Cell phone accessories;
- ◆ Notebooks(DVI/HDMI);

4. Explanation of Part Number

<u>TV</u>	<u>U</u>	<u>FB02</u>	<u>01</u>	<u>AC0</u>
(1)	(2)	(3)	(4)	(5)

- | | |
|-----|---|
| (1) | Product Type : TV=TVS Diode |
| (2) | Capacitance Code : U= Ultra Low Capacitance |
| (3) | Package Size Code |
| (4) | Channel Code : 01=1 Channels |
| (5) | Specialized Specification Code |

5. Circuit Diagram /Pin Configuration



6. Specifications

6.1. ABSOLUTE MAXIMUM RATINGS

Characteristics	Symbol	Ratings	Unit
Peak pulse Current (tp=8/20us)	I _{pp}	2.5	A
ESD Per IEC61000-4-2 (Air)	V _{pp}	+/-10	KV
ESD Per IEC61000-4-2 (Contact)		+/-10	KV
Storage temperature range	T _{stg}	-55 to +150	°C
Operating temperature range	T _{opr}	-55 to +125	°C

6.2. ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Working Voltage	V _{RWM}	--	--	--	5	V
Reverse Breakdown Voltage	V _{BR}	I _t =1mA	6	--	8	V
Reverse Leakage Current	I _R	V _{RWM} =5V; T=25°C	--	--	1	μA
Positive Clamping Voltage	V _{C1}	I _{PP} =1A, T _P =8/20μS;	--	8.5	12.0	V
Capacitance Between I/O And GND	C _{J2}	V _R =0V, f=1MHz;	--	0.5	0.9	pF

6.3. TYPICAL ELECTRICAL CHARACTERISTICS CURVE

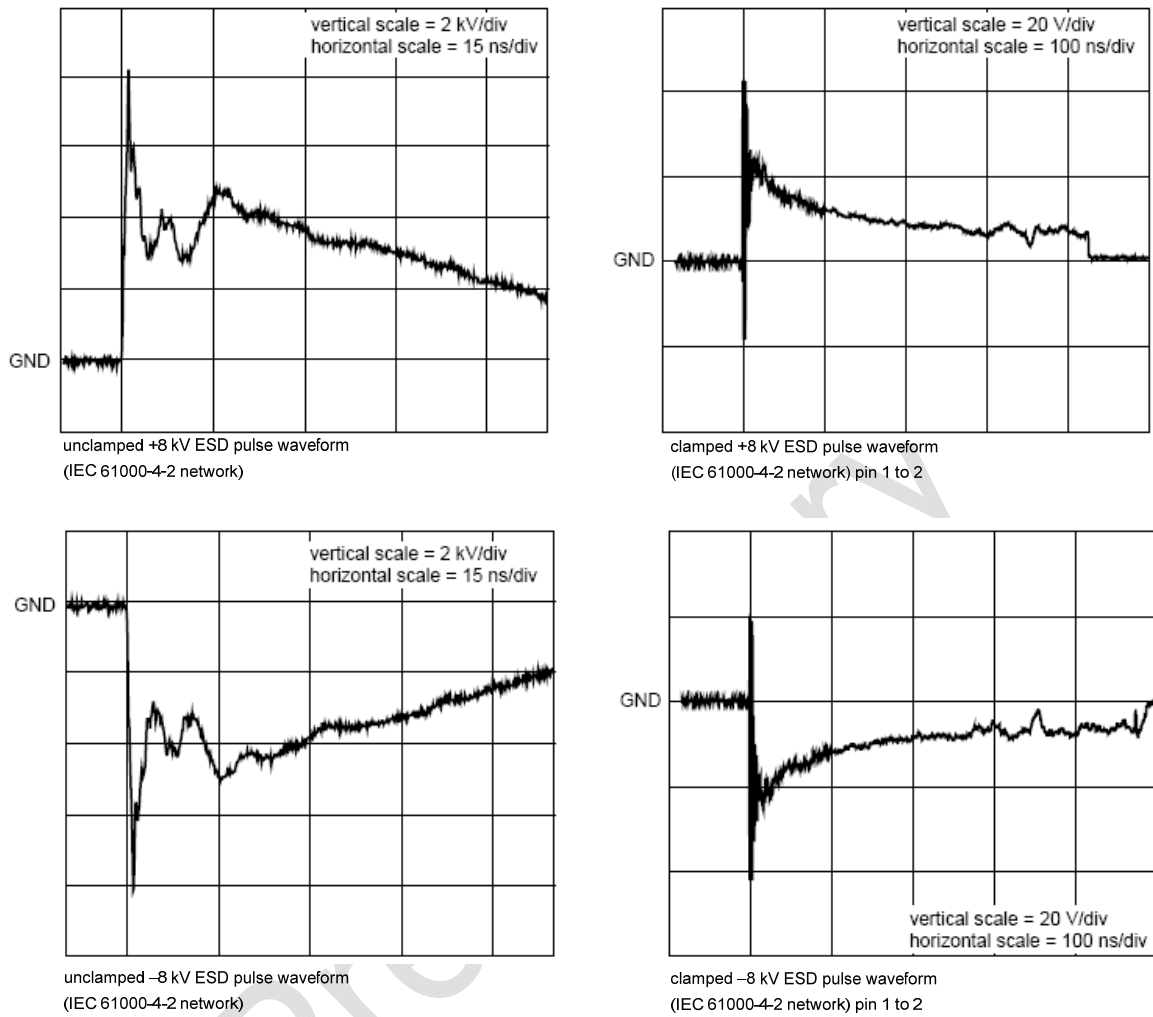


Fig. 1. ESD clamping test setup and waveform

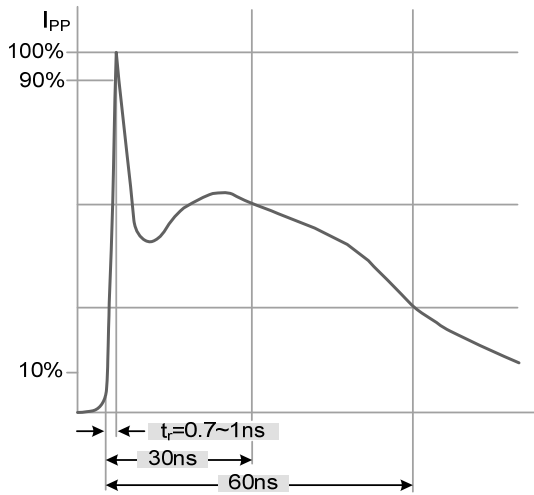


Fig. 2. ESD pulse waveform according to IEC 61000-4-2

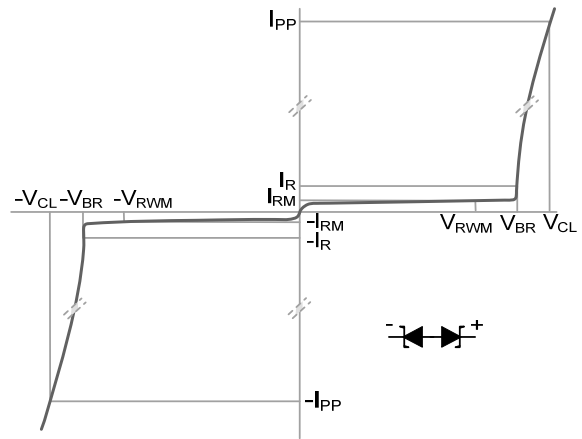
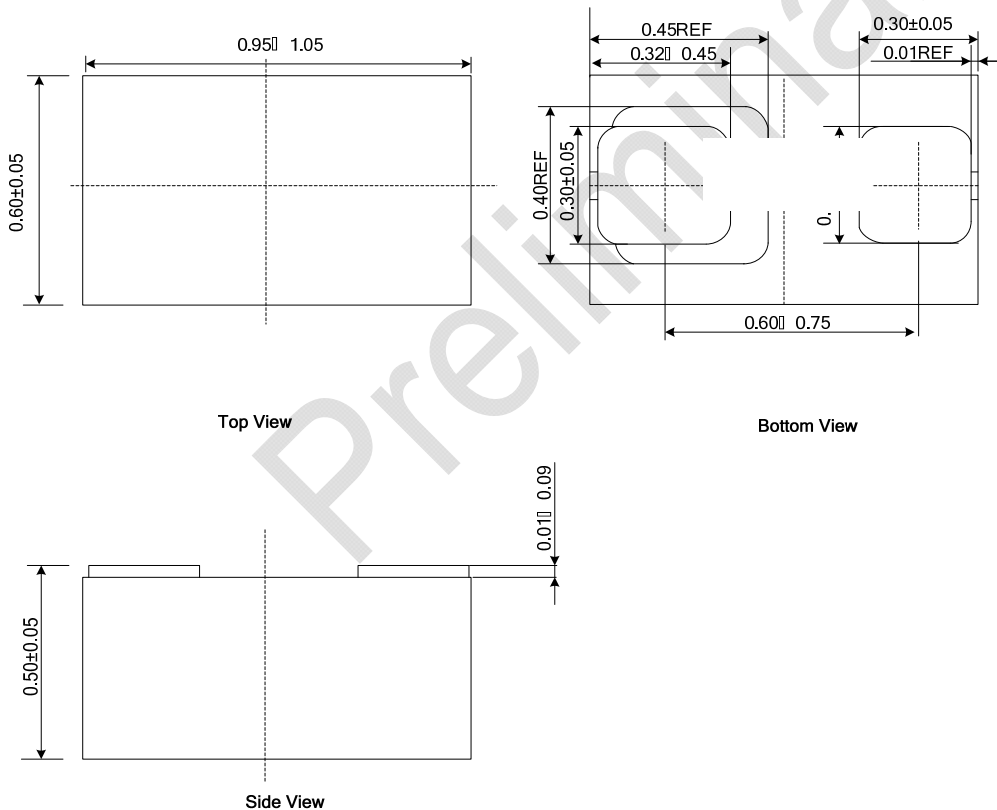


Fig. 3. V-I characteristics for a bidirectional ESD protection diode

7. Mechanical Details

1.0x0.6x0.50-0.62

UNIT: mm



7.1. Taping Quantity: 12,000pcs/ Reel