

TVN ST523 02 AA0 Engineering Specification

1. Scope

TVN ST523 02 AA0's are TVS diodes designed to protect one power/control line or one low speed signal line from overvoltage hazard of Electrostatic Discharge (**ESD**), Electrical Fast Transients (**EFT**) and **Lightning**.

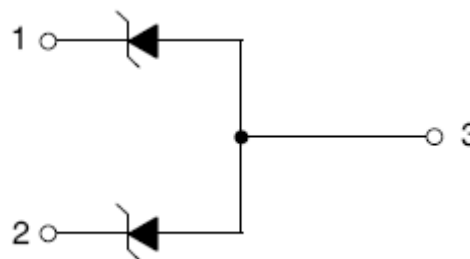
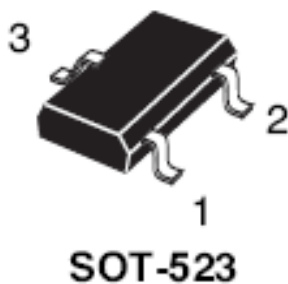
These interfaces can be used in computer interfaces protection, microprocessors protection, serial and parallel ports protection, control signal lines protection, power lines on PCB protection, latchup protection, etc. The ESD protection of TVS arrays meets the immunity standard of IEC 61000-4-2, level 4 ($\pm 15\text{kV}$ air, $\pm 8\text{kV}$ contact discharge).

2. Explanation of Part Number

<u>TV</u>	<u>N</u>	<u>ST523</u>	<u>02</u>	<u>AA0</u>
(1)	(2)	(3)	(4)	(5)

- (1) Product Type : TV=TVS Diode
 (2) Capacitance Code : N=Normal Capacitance
 (3) Package Size Code
 (4) Channel Code : 02=2 Channels
 (5) Specialized Specification Code

3.. Circuit Diagram /Pin Configuration



Pin configurations

4.. Specifications

4.1. ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Units
Peak Pulse Power(tp=8/20us)	Ppp	150	W
Maximum Peak Pulse Current(tp=8/20us)	Ipp	10	A
ESD per IEC 61000-4-2 (Air)	Vpp	20	KV
ESD per IEC 61000-4-2 (Contact)		-20	KV
Maximum lead temperature for soldering during 10s	T _L	260	°C
Operating Temperature Range	Top	-55~125	°C
Storage Temperature range	Tstg	-55~155	°C

4.2. ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reveres maximum working voltage	V _{RWM}	I _R =1uA		5.0		V
Reveres leakage current	I _R	V _{RWM} =5V			1	uA
Reveres breakdown voltage	V _{BR}	I _T =1mA	6.2	6.8	7.2	V
Forward voltage	V _F	I _F =10mA	0.4	0.7	1.2	V
Clamping voltage	V _C	Ipp=5A tp=8/20us			12	V
		Ipp=10A tp=8/20us			15	V
Junction capacitance	C	I/O to GND		30		pF

4.3. TYPICAL CHARACTERISTICS

Figure 1. Pulse Waveform

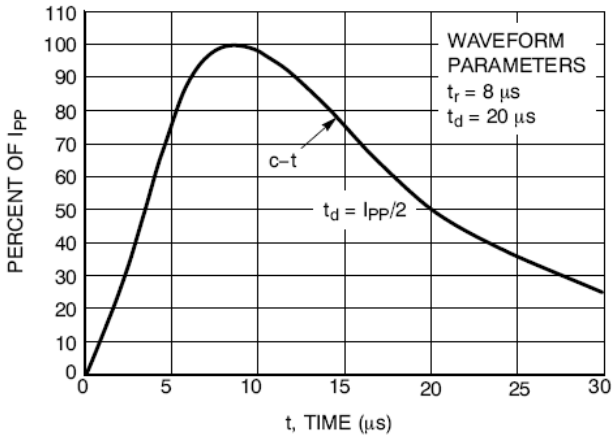


Figure 2. Power Derating Curve

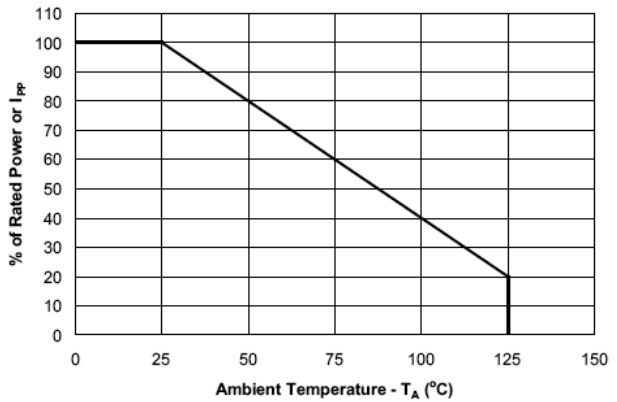


Figure 3. Non-Repetitive Peak Pulse Power vs. Pulse Time

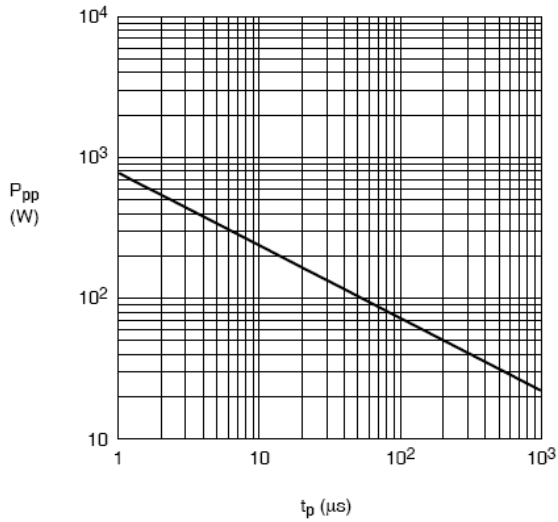
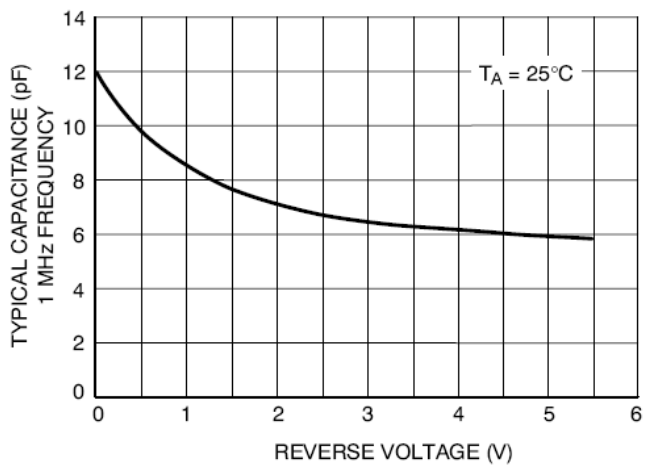
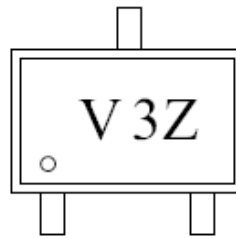


Figure 4. Junction Capacitance vs. Reverse Voltage



5.. MARKING CODE:

Marking Code: V3Z

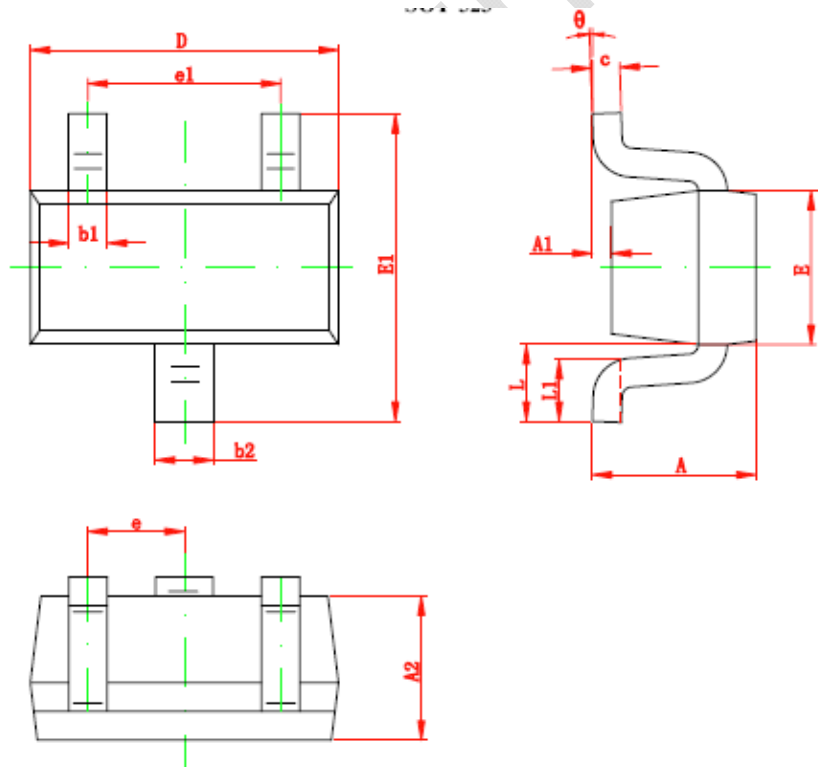


Z =Date Code

V3 = Specific Device Code

6.. Mechanical Details

SOT-523 PACKAGE DIAGRAMS



Symbol	Dimension in Millimeters	
	Min.	Max.
A	0.700	0.900
A1	0.000	0.100
A2	0.700	0.800
b1	0.150	0.250
b2	0.250	0.350
c	0.100	0.200
D	1.500	1.700
E	0.700	0.900
E1	1.450	1.750
e	0.500 Typ.	
e1	0.900	1.100
L	0.400 Ref.	
L1	0.260	0.460
θ	0°	8°

6.1.

Taping Quantity:
3,000pcs/ Reel