

TVN ST523 02 AB0

Specification

Product Name	Transient Voltage Suppressor
Series	TVS Series
Part No	TVN ST523 02 AB0
Package Size	SOD523



TVN ST523 02 AB0 Series Engineering Specification

1. Scope

TVN ST523 02 AB0's are TVS diodes designed to protect two low speed signal lines from overvoltage hazard of Electrostatic Discharge (**ESD**), Electrical Fast Transients (**EFT**) and **Lightning**.

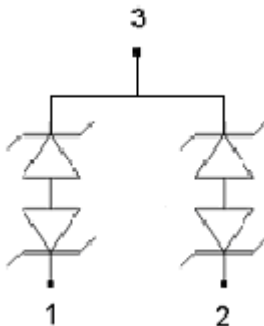
These interfaces can be used in computer interfaces protection, microprocessors protection, serial and parallel ports protection, control signal lines protection, power lines on PCB protection, latchup protection, etc. The ESD protection of TVS arrays meets the immunity standard of IEC 61000-4-2, level 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>AB0</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

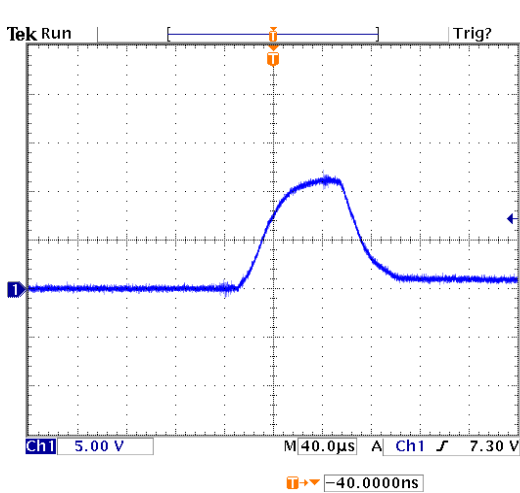
4.1. ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Typical	Unit
Peak Pulse Power ($t_p = 8/20 \mu s$)	Ppk	250	W
Maximum Peak Pulse Current ($t_p = 8/20 \mu s$)	Ipp	7	A
ESD per IEC 61000 – 4 – 2 (Air)	Vpp	± 15	KV
ESD per IEC 61000 – 4 – 2 (Contact)	Vpp	± 8	KV
Operating Junction Temperature	T _J	-55 ~ 125	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°C
Lead Soldering Temperature	T _L	260 (10sec)	°C

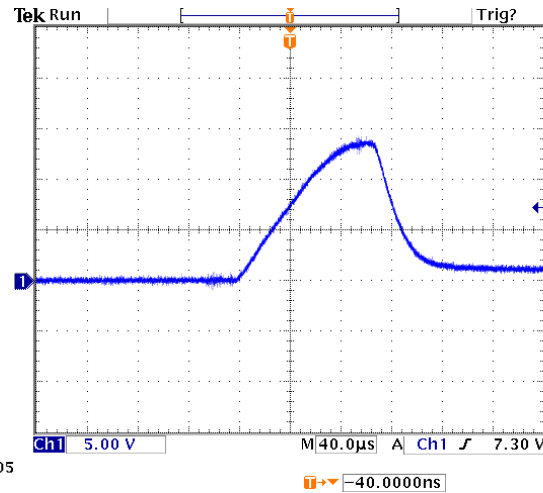
4.2. ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Reverse Stand – Off Voltage	V _{RWM}				5	V
Reverse Breakdown Voltage	V _{BR}	I _t = 1mA	6			V
Reverse Leakage Current	I _R	V _{RWM} = 5V , T=25°C		0.01	1	μA
Reverse Leakage Current	I _R	V _{RWM} = 3V , T=25°C		0.01	0.5	μA
Clamping Voltage	V _C	I _{pp} = 1A , t _p = 8/20 μs			13	V
Clamping Voltage	V _C	I _{pp} = 7A , t _p = 8/20 μs			17	V
Junction Capacitance	C _j	Between I/O Pin and GND V _R = 0V , f = 1MHz		5	10	pF

4.3. TYPICAL CHARACTERISTICS



26 Oct 2005
12:15:46



26 Oct 2005
12:08:20

Clamping Voltage ($I_{pp} = 1A$, $t_p = 8/20 \mu s$)

Clamping Voltage ($I_{pp} = 7A$, $t_p = 8/20 \mu s$)

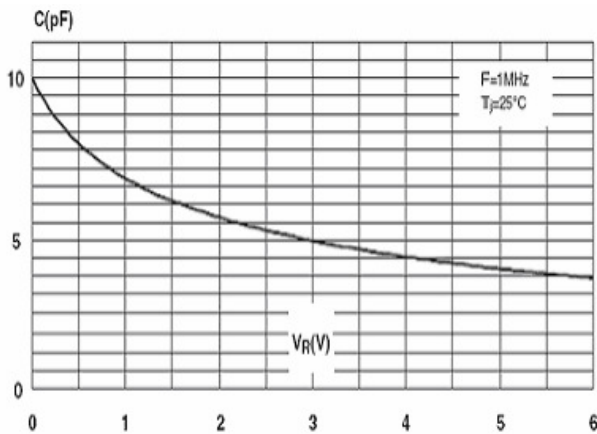


Fig 1 : Junction Capacitance V.S Reverse Voltage Applied

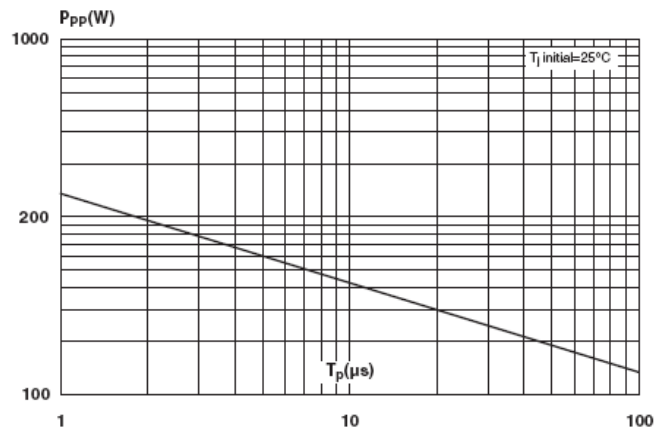


Fig 2 : Peak Plus Power V.S Exponential Plus Duration

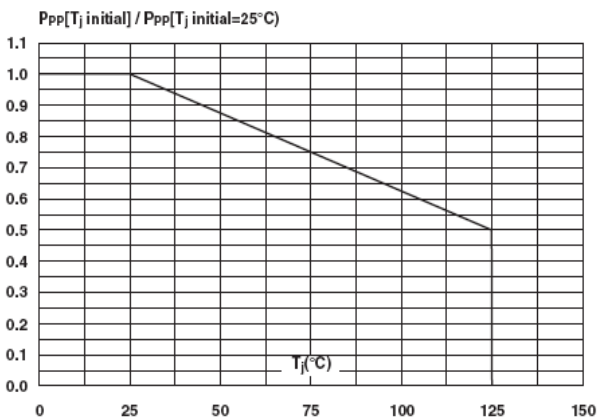


Fig 3 : Relative Variation of Peak Plus Power V.S Current

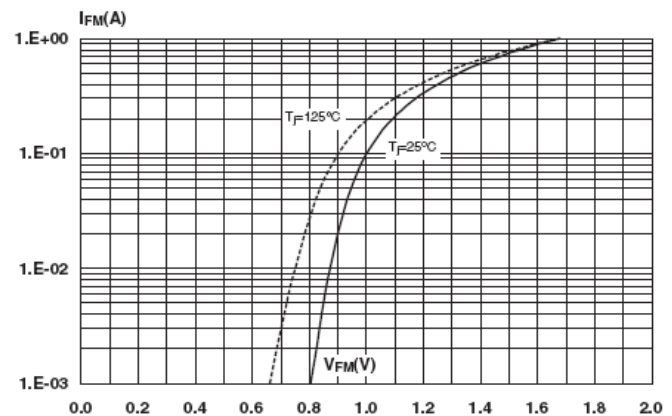
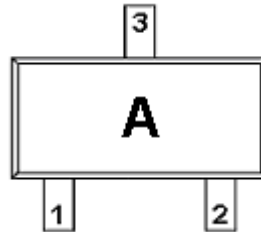


Fig 4 : Forward Voltage Drop V.S Peak Forward Initial Junction Temperature

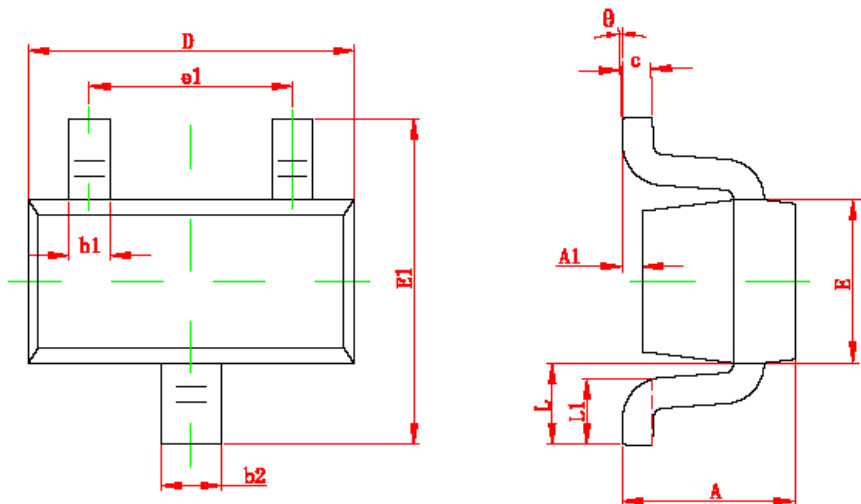
5.. MARKING CODE:

Marking Code: A



6.. Mechanical Details

SOT-523 PACKAGE DIAGRAMS



PACKAGE DIMENSIONS

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°