TECH PUBLIC
台舟电子

TPESD0502B
Low Capacitance TVS Diode Array

www.sot23.com.tw

Features

- Protects two I/O line
- Ultra-Low capacitance (< 1.5pF)
- Low Clamping Voltage
- Working Voltage: 5V
- Low Leakage Current
- **IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact)**
- **IEC 61000-4-4 (EFT) 40A (5/50ns)**

Mechanical Characteristics

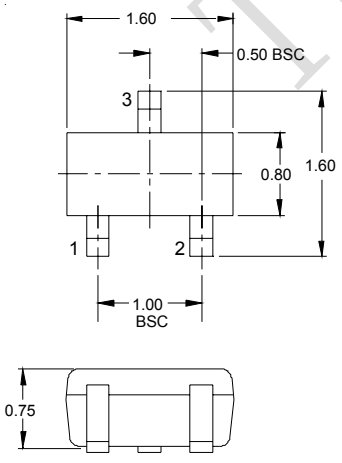
- SOT-523 package
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS Compliant

Applications

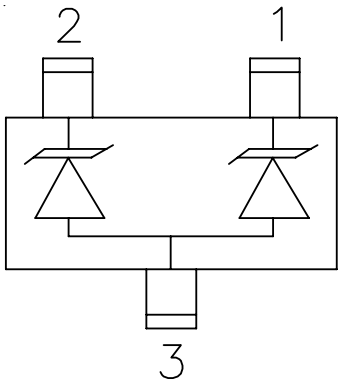
- Laptop Computers
- Cellular Phones
- Digital Cameras
- Personal Digital Assistants (PDAs)

Ordering Information

Part Number	Qty per Reel	Reel Size
TPESD0502B	3000	7″



Pin Configuration



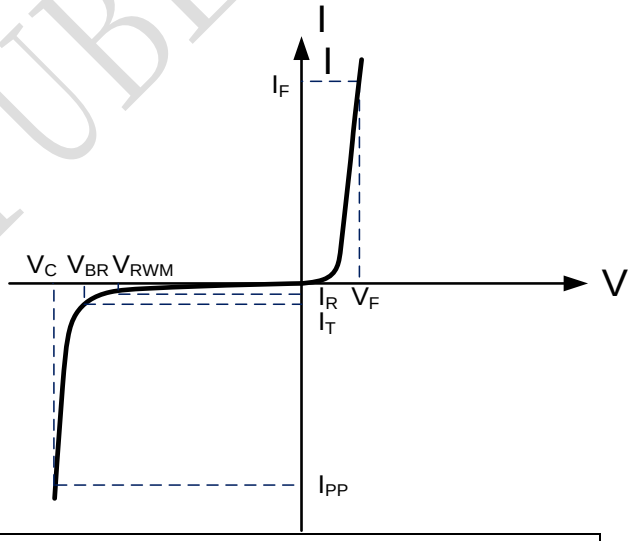
MARKING: P5

PROTECTION PRODUCTS (T = 25°C)

Absolute Maximum Rating			
Rating	**Symbol**	**Value**	**Units**
Peak Pulse Power (t_p =8/20μs)	P_{PP}	100	Watts
Electrostatic discharge Voltage (See Note1 ,2)	V_{ESD}	8KV (contact)	Volts
		15KV (air)	
Operating Temperature	T_J	-55 to + 150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Parameters (T=25℃)

Symbol	Parameter
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	6.0			V
Reverse Leakage Current	I_R	V_{RWM}=5V, T=25℃			1	μA
Junction Capacitance	C_j	V_R = 0V, f = 1MHz Pin 1 to Pin 2		0.6	1.0	pF
		V_R = 0V, f = 1MHz Pin 1 or 2 to Pin 3		1.0	2.0	pF
Clamping Voltage (See Note3)	Vc	8KV (contact)	See Figure3			V

Table 1: IEC 61000-4-2 Discharge Parameters

Level	First Peak Current (A)	Peak Current at 30 ns (A)	Peak Current at 60 ns (A)	Test Voltage (Contact Discharge) (kV)	Test Voltage (Air Discharge) (kV)
1	7.5	4	2	2	2
2	15	8	4	4	4
3	22.5	12	6	6	8
4	30	16	8	8	15

Figure 1: IEC 61000-4-2 Waveform

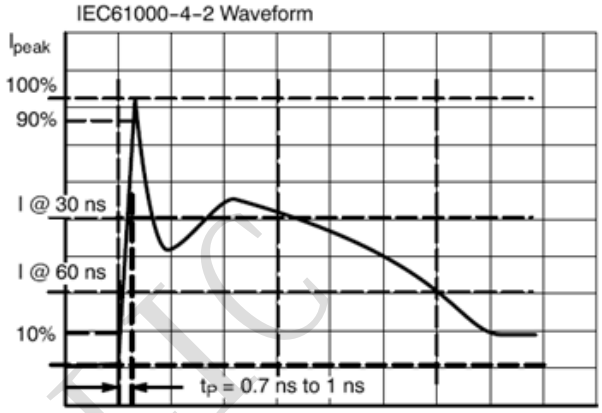


Figure 2 ESD Clamping Voltage Screenshot Positive 8 kV contact per IEC 61000-4-2

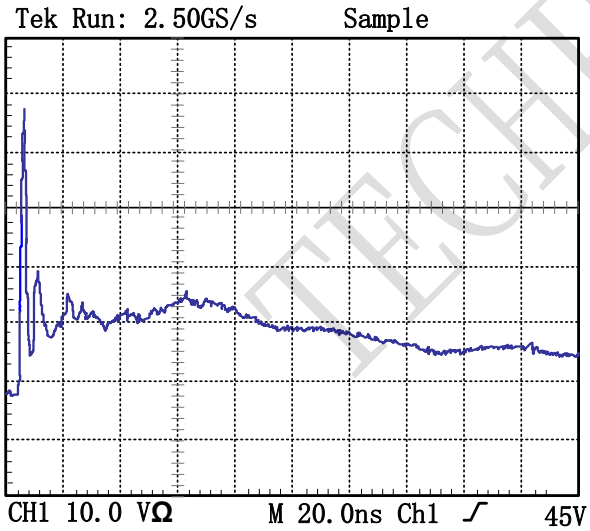
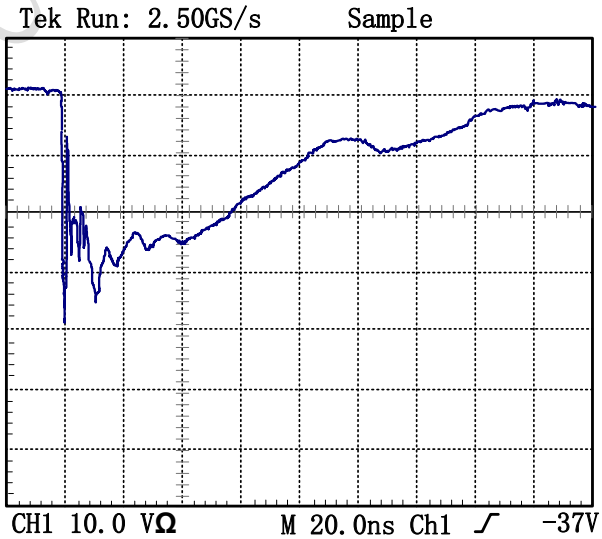
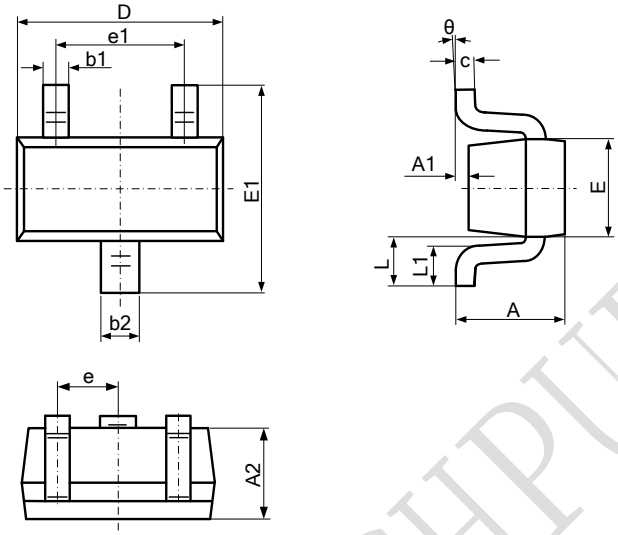


Figure 3 ESD Clamping Voltage Screenshot Negative 8 kV contact per IEC 61000-4-2

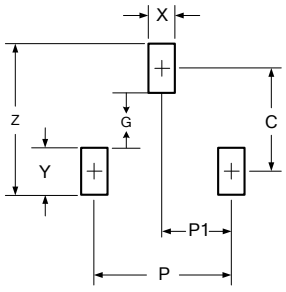


Outline Drawing - SOT-523



DIMENSIONS				
SYMBOL	MILLIMETER		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	0.325	0.010	0.013
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.750	0.850	0.030	0.033
E1	1.450	1.750	0.057	0.069
e	0.950 BSC		0.037 BSC	
e1	0.900	1.100	0.035	0.043
L	0.300	0.500	0.012	0.020
L1	0.028	0.440	0.011	0.017
θ	0	8°	0	8°

Land Pattern - SOT-523



DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	.055	1.40
P	.039	1.00
P1	.020	0.50
G	.024	0.60
X	.016	0.40
Y	.031	0..80
Z	.087	2.20