

Features

- Protects two I/O line
- Ultra-Low capacitance (< 0.6pF)
- Low Clamping Voltage
- Working Voltage: 5V
- Low Leakage Current
- IEC 61000-4-2 (ESD) $\pm 20\text{kV}$ (air), $\pm 15\text{kV}$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)

Mechanical Characteristics

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

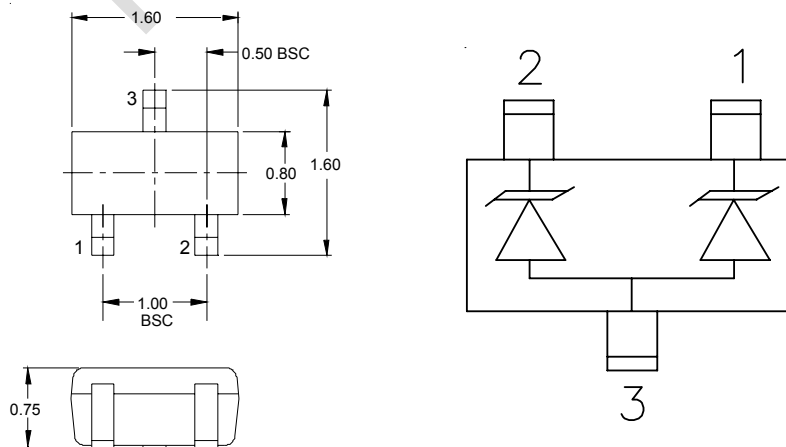
Applications

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

Ordering Information

Part Number	Qty per Reel	Reel Size
TPESD0512R3	3000	7"

Dimensions and Pin Configuration



Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	100	W
Peak Pulse Current (8/20μs)	Ipp	4	A
ESD per IEC 61000-4-2 (Air)	VESD	±20	kV
ESD per IEC 61000-4-2 (Contact)		±15	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			5	V	
Breakdown Voltage	VBR	6		8.5	V	IT = 1mA
Reverse Leakage Current	IR			0.2	μA	VRWM = 15V
Clamping Voltage	VC			15	V	I _{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	VC			25	V	I _{PP} = 4A (8 x 20μs pulse)
Junction Capacitance	CJ		0.5	0.6	pF	Vr=0V ,f=1MH Pin1 or 2 to Pin3
			0.35		pF	Vr=0V ,f=1MH Pin1 to Pin2

Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

Fig1. 8/20 μs Pulse Waveform

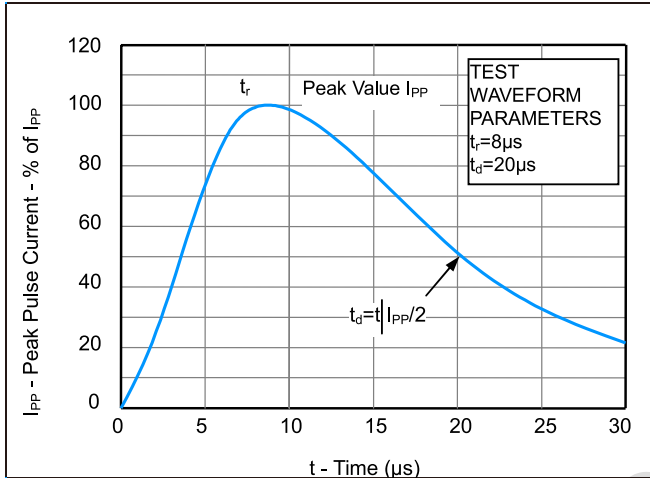


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

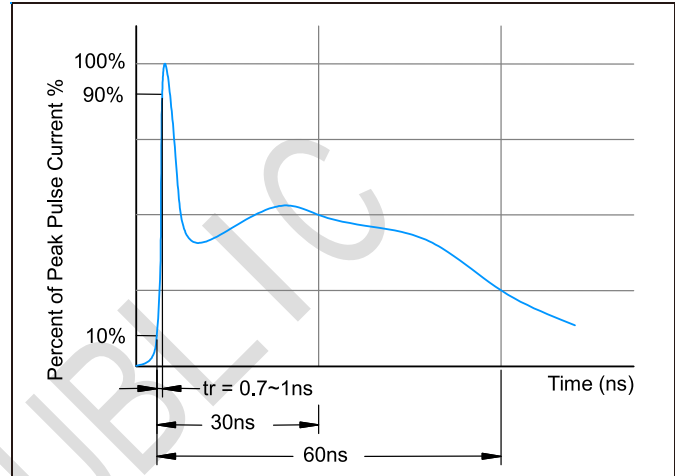


Fig3. Power Derating Curve

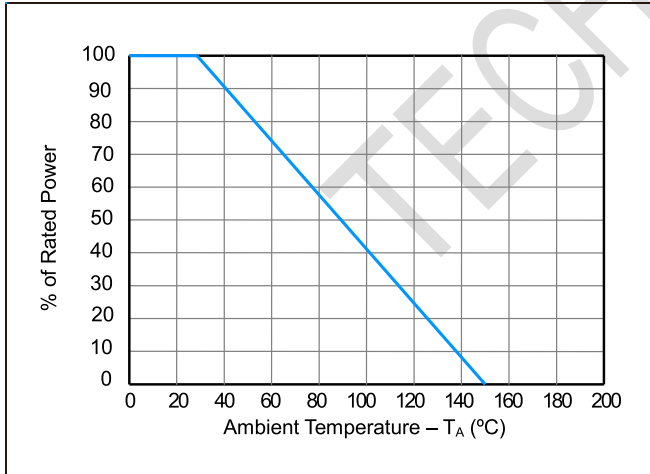
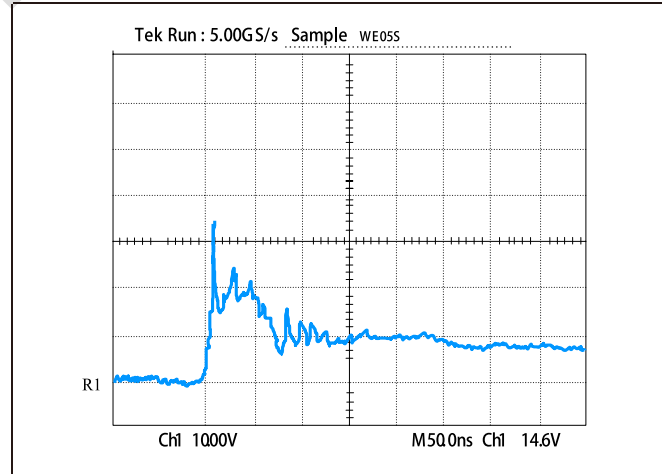
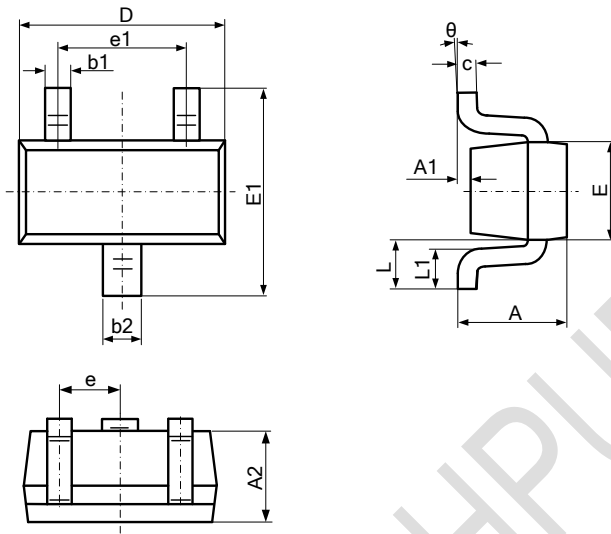


Figure 4: ESD Clamping (8kV Contact per IEC 61000-4-2)

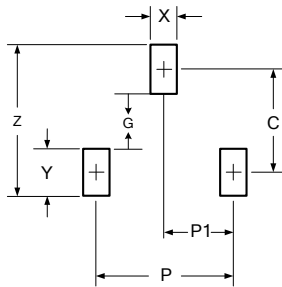


Outline Drawing - SOT-523



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