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TPESD112-B1-02ELS

Ultra-Low Capacitance 1-Line ESD Protection

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Features

- Ultra small package: 0.6x0.3x0.3mm
- Ultra low capacitance: 0.2 pF typical
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
- - IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±18kV
  Contact discharge: ±12kV
  – IEC61000-4-5 (Lightning) 3A (8/20μs)
- These are Pb–Free Devices
- Response Time is Typically < 1 ns

Mechanical Characteristics

- Package: DFN0603-2 (0201)
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below

Applications

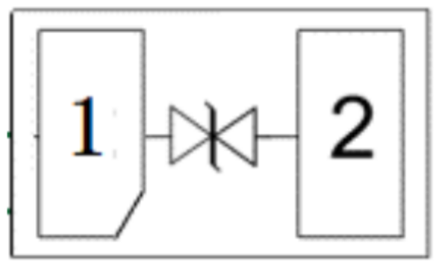
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals

Ordering Information

Part Number	Qty per Reel	Reel Size
TPESD112-B1-02ELS	10000 or 15000	7″

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Dimensions and Pin Configuration



Marking:



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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	70	W
Peak Pulse Current (8/20μs)	Ipp	3	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±18 ±12	kV
Operating Temperature Range	T_J	−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	V_{RWM}			5	V	
Breakdown Voltage	V_{BR}	6	7.5	8.6	V	I_T = 1mA
Reverse Leakage Current	I_R			0.07	uA	V_{RWM} = 5V
Clamping Voltage	V_C			12	V	Ipp=1A(8x 20us pulse)
Clamping Voltage	V_C			20	V	Ipp=3A(8x 20us pulse)
Junction Capacitance	C_J		0.2	0.25	pF	VR = 0V, f = 1MHz

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Typical Performance Characteristics (T_A=25°C unless otherwise Specified)

Fig1. 8/20μs Pulse Waveform

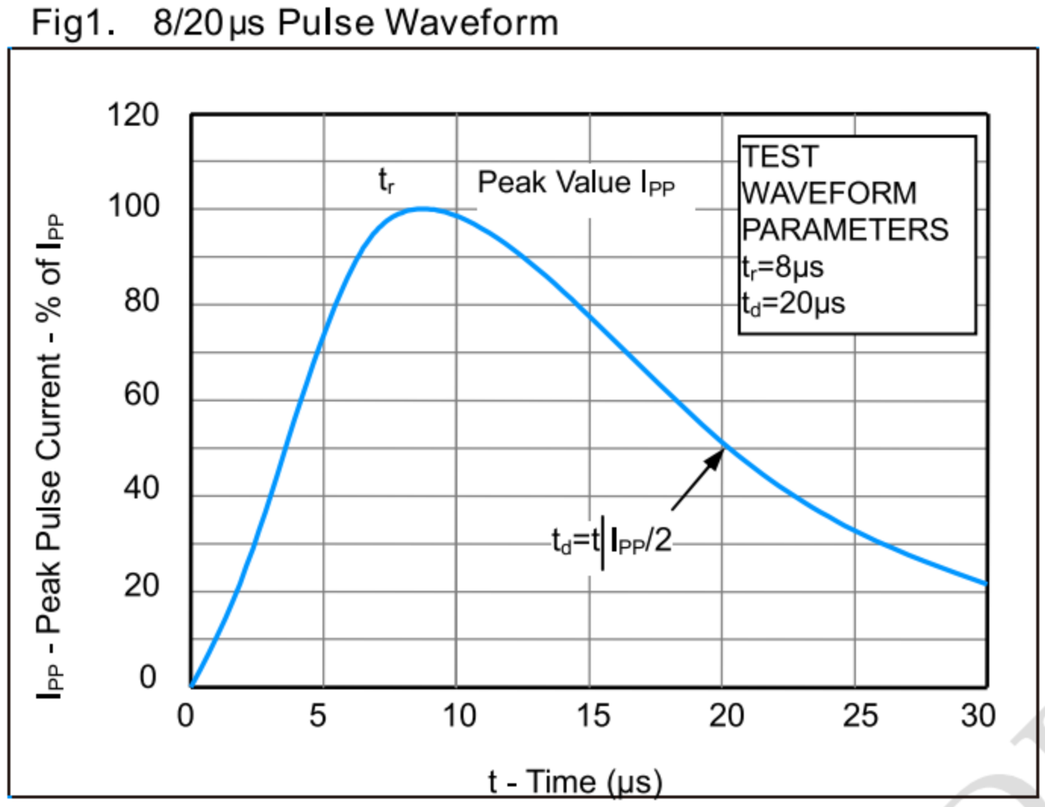


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

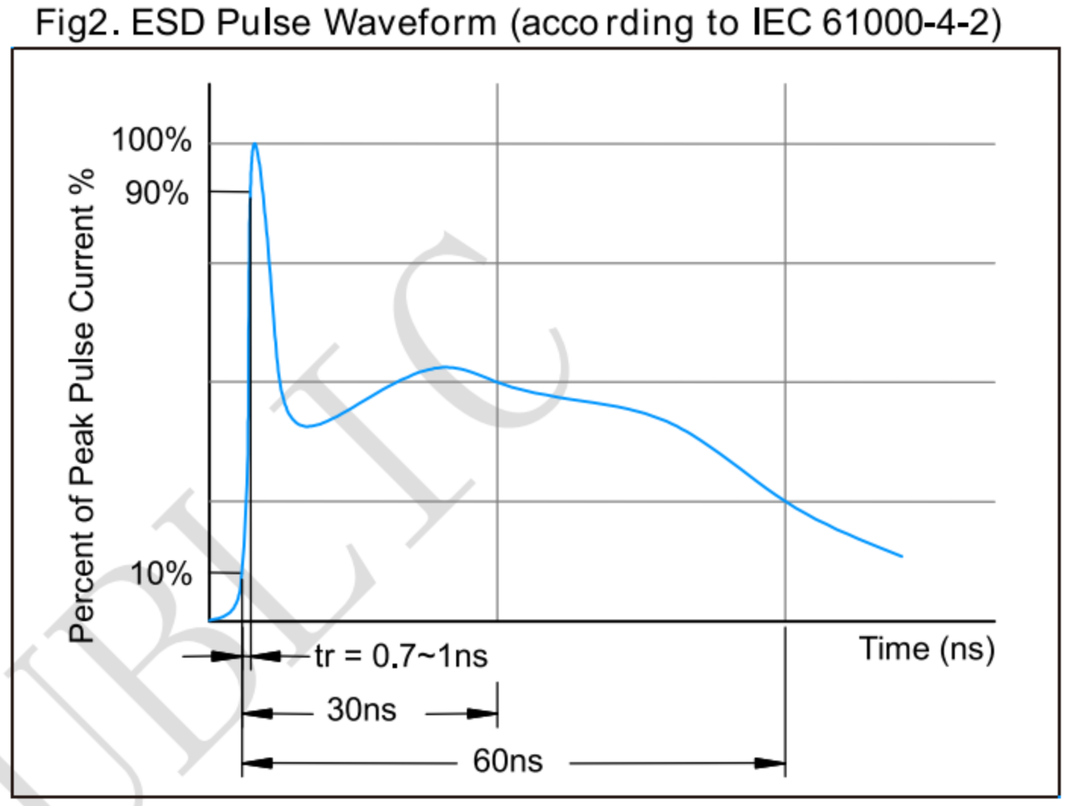
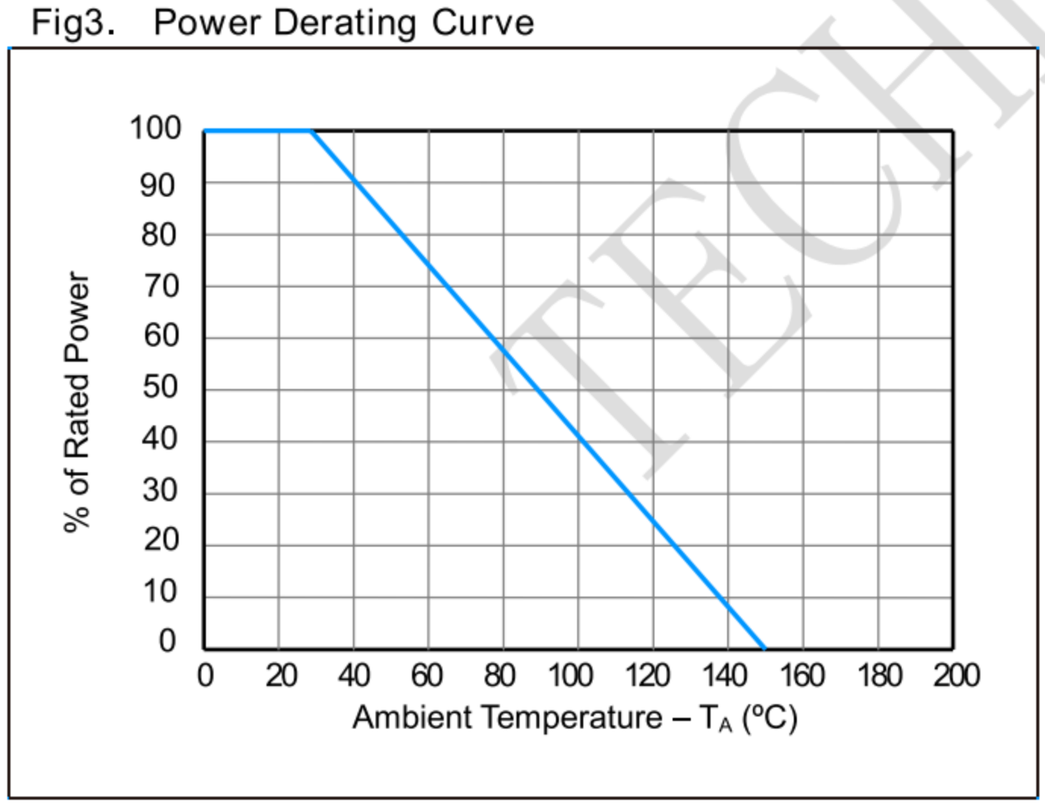
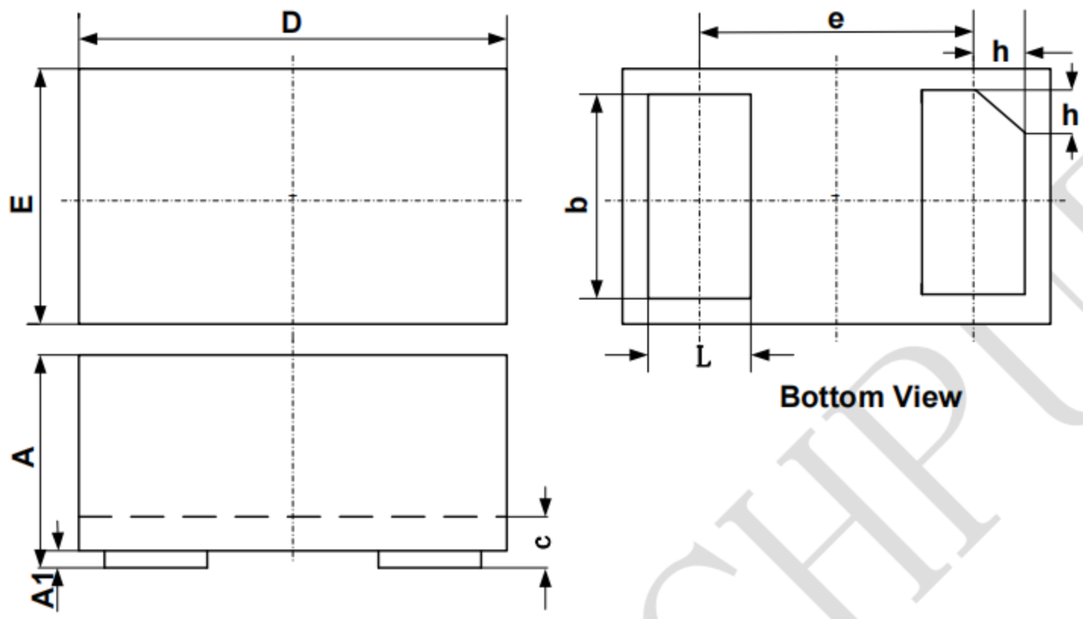


Fig3. Power Derating Curve



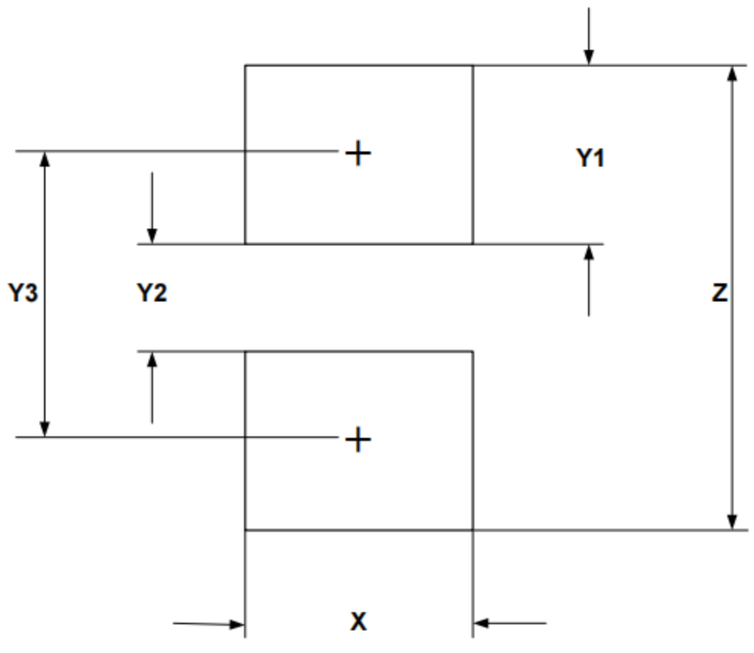
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DFN0603-2 Package Outline Drawing (0201)



SYM	DIMENSIONS		
	MILLIMETERS		
	MIN	NOM	MAX
A	0.230	0.300	0.330
A1	0.000	0.020	0.050
b	0.215	0.245	0.275
c	0.120	0.150	0.180
D	0.550	0.600	0.650
e	0.355 BSC		
E	0.250	0.300	0.350
L	0.160	0.190	0.220
h	0.079 BSC		

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.30	0.012
Y1	0.25	0.010
Y2	0.15	0.006
Y3	0.40	0.016
Z	0.65	0.026