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TPESD7C5.0DT5G

Ultra-Low Capacitance 2-Line ESD Protection

www.sot23.com.tw

Features

- Low operating voltage: 5V
- Ultra low capacitance: 0.2 pF typical (IO to IO)
- Ultra low leakage: nA level
- Low clamping voltage
- Complies with following standards:
- - IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±23kV
  Contact discharge: ±20kV
  – IEC61000-4-5 (Lightning) 3A (8/20μs)
- These are Pb–Free Devices
- Response Time is Typically < 1 ns

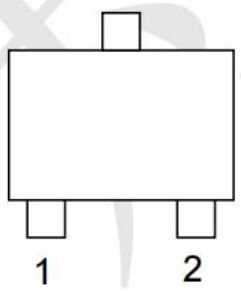
Mechanical Characteristics

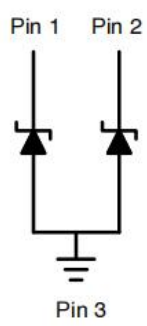
- Package: SOT-723
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Shipping Qty : 8000pcs/7Inch Tape & Reel

Applications

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

Dimensions and Pin Configuration





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

Parameter	Symbol	Value	Unit
Peak Pulse Current (8/20μs)	Ipp	3	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±23 ±20	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		0.35	0.4	pF	VR = 0V, f = 1MHz IO to GND
Junction Capacitance	C_J		0.2	0.25	pF	VR = 0V, f = 1MHz IO to IO

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

Fig1. 8/20μs Pulse Waveform

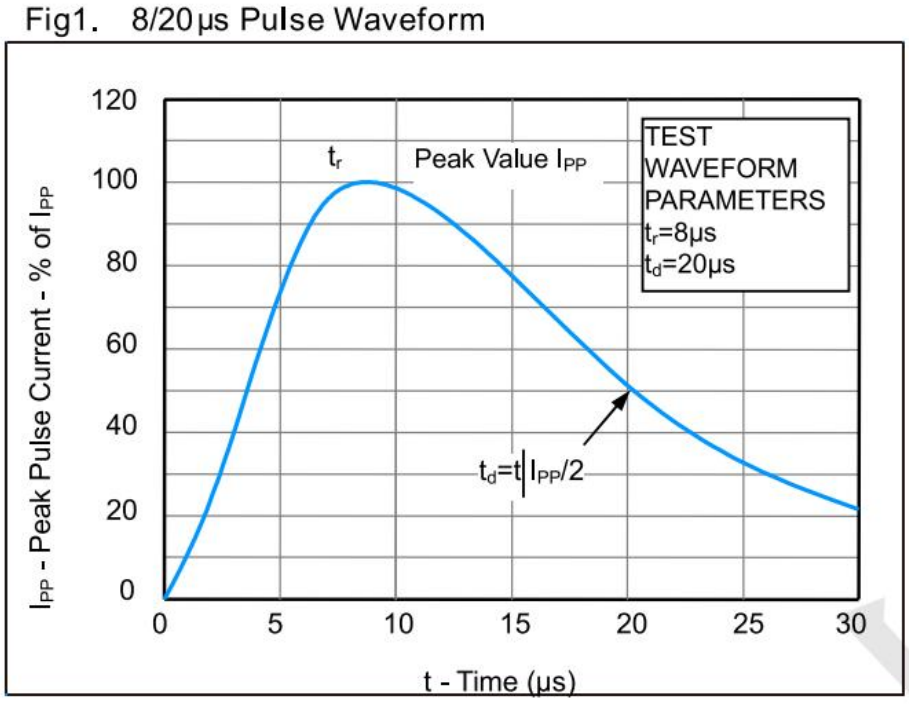


Fig2. ESD Pulse Waveform (acco rding to IEC 61000-4-2)

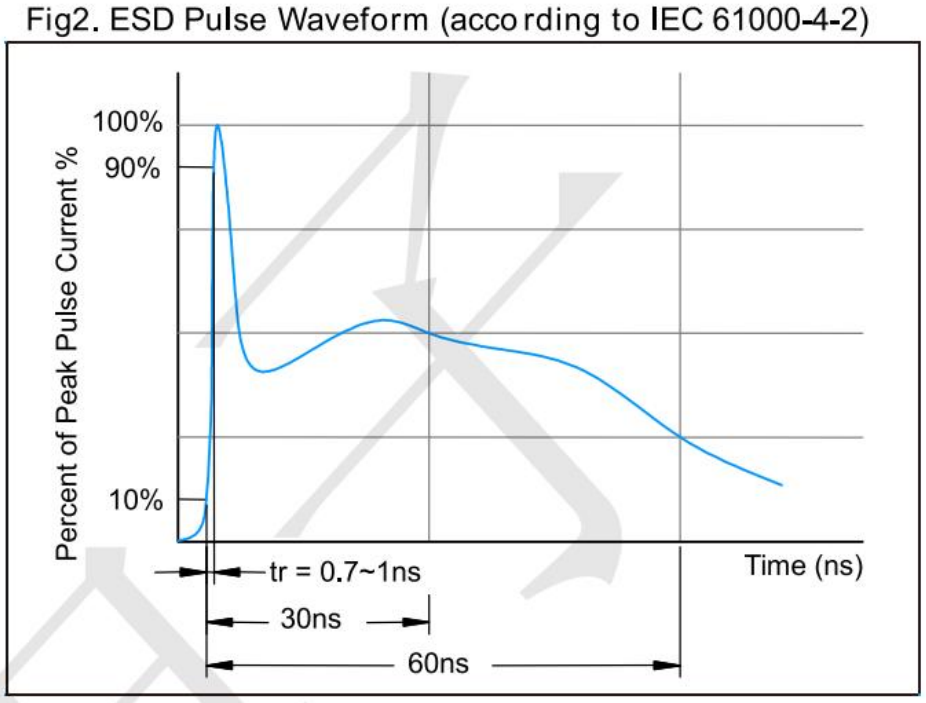
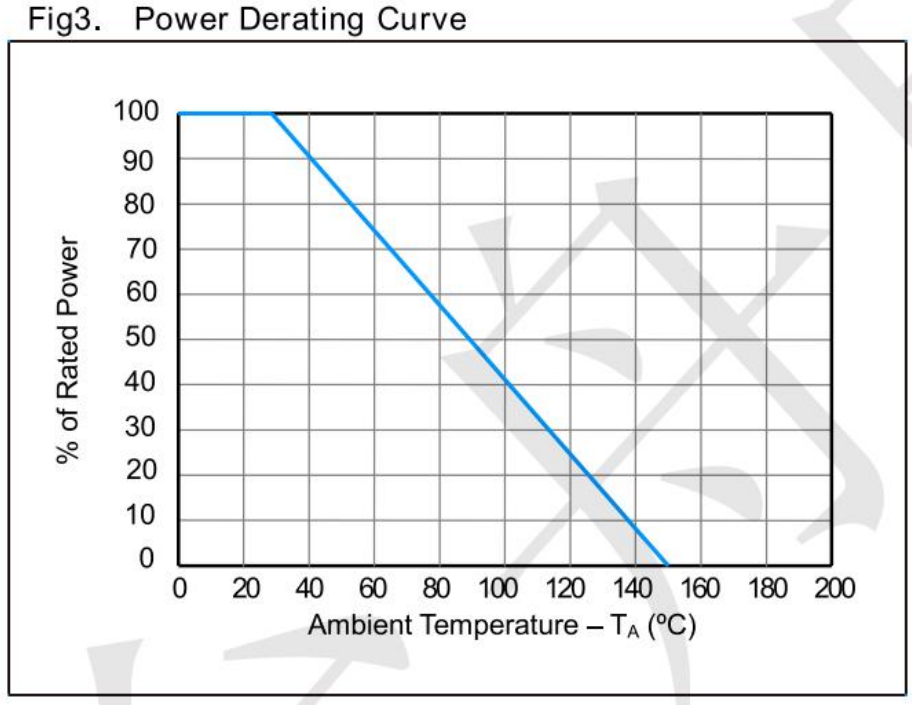
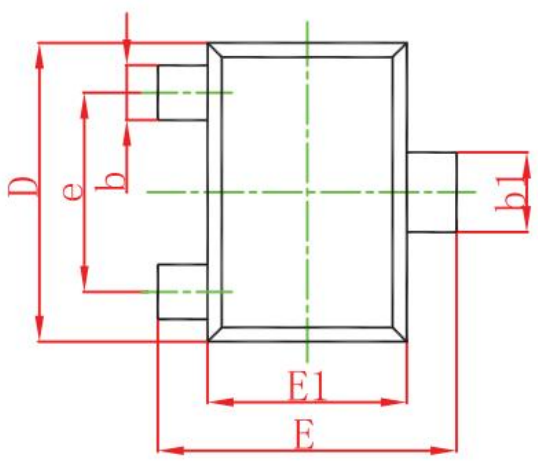
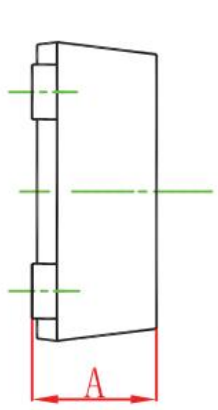


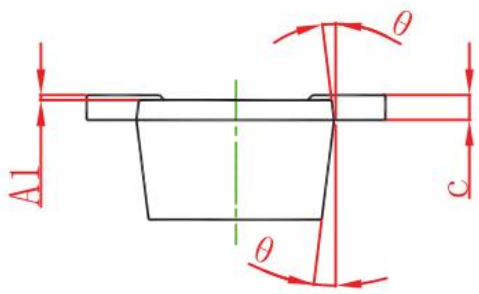
Fig3. Power Derating Curve



SOT-723 Package Outline Dimensions







Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.430	0.500	0.017	0.020
A1	0.000	0.050	0.000	0.002
b	0.170	0.270	0.007	0.011
b1	0.270	0.370	0.011	0.015
c	0.080	0.150	0.003	0.006
D	1.150	1.250	0.045	0.049
E	1.150	1.250	0.045	0.049
E1	0.750	0.850	0.030	0.033
e	0.800TYP.		0.031TYP.	
θ	7° REF.		7° REF.	

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