

SP0503BAHTG

Uni-directional 3-Line TVS Array

www.sot23.com.tw

Features

Ultra low leakage: nA level

Operating voltage: 5.5V

Low clamping voltage

Complies with following standards:

- IEC 61000-4-2 (ESD) immunity test

Air discharge: ±30kV Contact discharge: ±30kV

- IEC61000-4-4 (EFT) 40A (5/50ns)

-IEC61000-4-5 (Lightning) 10A (8/20µs)

RoHS Compliant

Mechanical Characteristics

Package: SOT-143Lead Finish: Matte Tin

• Case Material: "Green" Molding Compound.

• UL Flammability Classification Rating 94V-0

Moisture Sensitivity: Level 3 per J-STD-020

• Shipping Qty:10000/7Inch Tape & Reel

Applications

USB 2.0 power and data line

Set-top box and digital TV

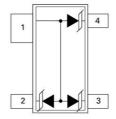
Digital video interface (DVI)

Notebook Computers

SIM Ports

10/100 Ethernet

Dimensions and Pin Configuration



Marking: 503B





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

Parameter	Symbol	Value	Unit	
Peak Pulse Power (8/20µs)	Ppk	150	w	
Peak Pulse Current (8/20µs)	Ірр	10	А	
ESD per IEC 61000-4-2 (Air)	VECD	±30	kV	
ESD per IEC 61000-4-2 (Contact)	VESD	±30		
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	Тур	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			5.5	V	
Breakdown Voltage	VBR	6			V	IT = 1mA
Reverse Leakage Current	I _R			0.08	uA	VRWM =5.5V
Clamping Voltage	Vc	X		11	V	IPP = 1A (8 x 20µs pulse)
Clamping Voltage	Vc			14	V	IPP = 10A (8 x 20 □ s pulse)
Junction Capacitance	CJ		60	85	pF	VR = 0V, f = 1MHz IO to ground
Junction Capacitance	Cı		30		pF	VR = 0V, f = 1MHz IO to IO



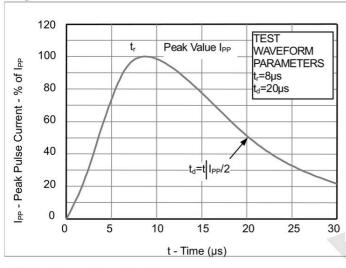
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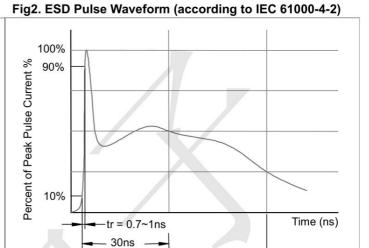
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Typical Performance Characteristics (T_A=25°C unless otherwise Specified)

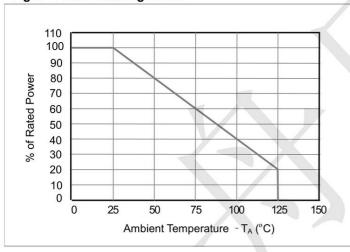
Fig1. 8/20μs Pulse Waveform Fig2. ES





60ns

Fig3. Power Derating Curve

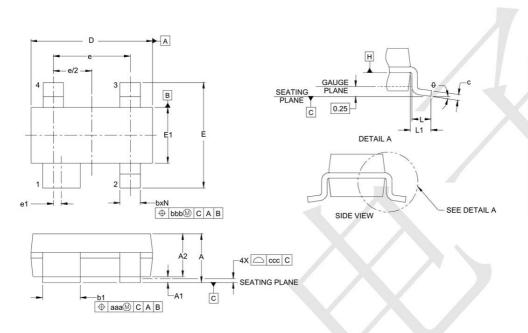




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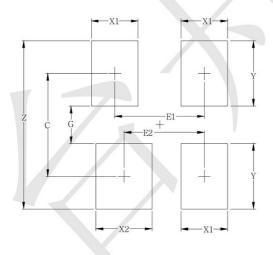
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Outline Drawing - SOT-143



		DIN	IENSI	ONS			
	INCHES			MILLIMETERS			
DIM	MIN	NOM	MAX	MIN	NOM	MAX	
Α	.031	-	.048	0.80	-	1.22	
A1	.000	-	.006	0.013	-	0.15	
A2	.029	.035	.042	0.75	0.90	1.07	
b	.011	-	.020	0.30		0.51	
b1	.029	-	.037	0.76		0.94	
С	.003	7.	.008	0.08	174	0.20	
D	.110	.114	.120	2.80	2.90	3.04	
E	.082	.093	.104	2.10	2.37	2.64	
E1	.047	.051	.055	1.20	1.30	1.40	
е	.075			1	1.92 BSC		
e1	.008		0	.20 BSC			
L	.015	.020	.024	0.40	0.50	0.60	
L1	(.021)				(0.54)		
N	4				4		
-0	0°	-	8°	0°	-	8°	
aaa	.006			0.15			
bbb	.008				0.20		
ccc	004				0.10		

Land Pattern -SOT-143



SYM	DIMENSIONS			
	MILLIMETERS	INCHES		
С	2.20	0.087		
E1	1.92	0.076		
E2	1.72	0.068		
G	0.80	0.031		
X1	1.00	0.039		
X2	1.20	0.047		
Υ	1.40	0.055		
Z	3.60	0.141		