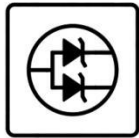


# MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV

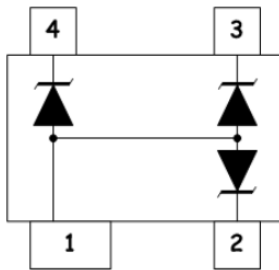
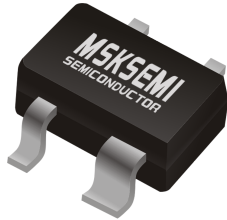


GDT



PLED

Product data sheet



SOT-143

## Features

- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±15kV
    - Contact discharge: ±8kV
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 10A
- RoHS Compliant (8/20µs)

## 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

## Mechanical Characteristics

- Package: SOT-143
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel:3,000pcs
- Reel Size:7inch

## Absolute Maximum Ratings (T<sub>amb</sub>=25°C unless otherwise specified)

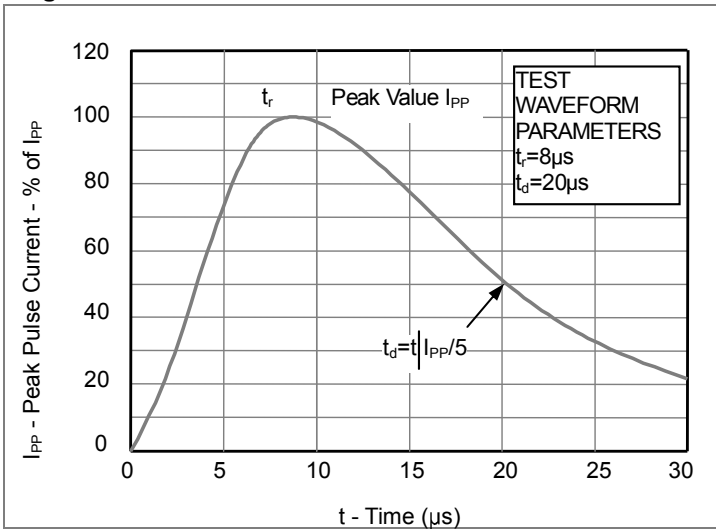
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20µs)	P <sub>pp</sub>	150	W
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	± 15	Kv
ESD per IEC 61000-4-2 (Contact)		± 8	
Operating Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>STJ</sub>	-55 to +150	°C

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

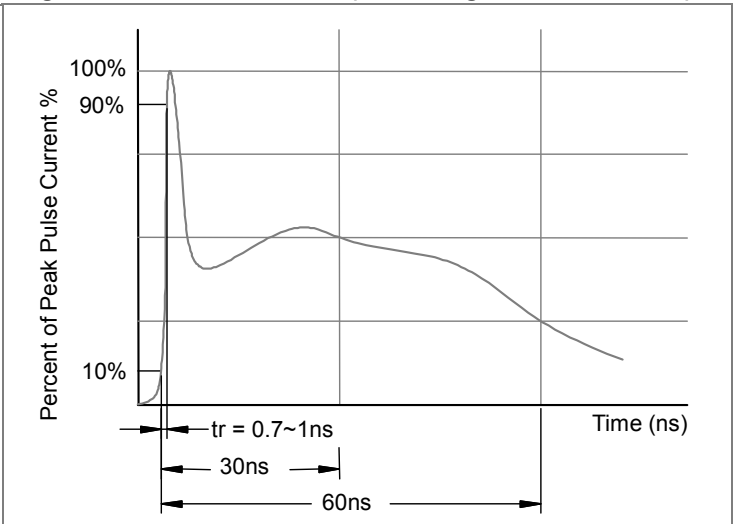
P/N	Marking	V <sub>RWM</sub> (V)	V <sub>BR</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> @1A	V <sub>C</sub>		I <sub>R</sub> μA (Max)	C (Pf) (Typ.)
						(Max)	(@A)		
SP0503BAHTG-MS	503B	5	6	1	10	15	10	1	30

**Characteristic Curves**

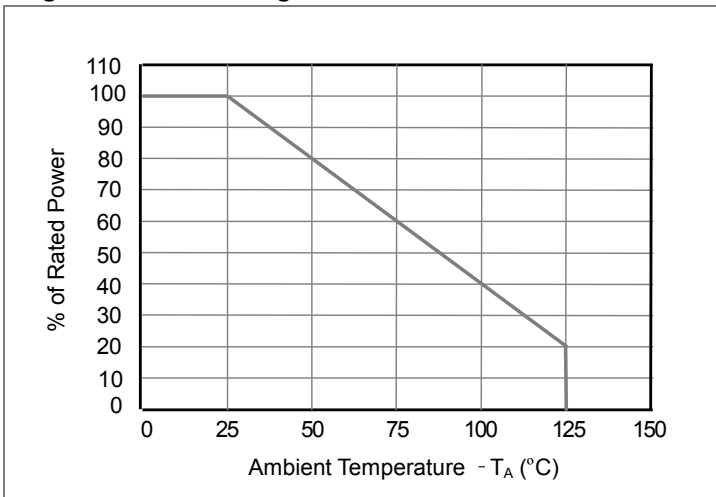
**Fig1. 8/20μs Pulse Waveform**



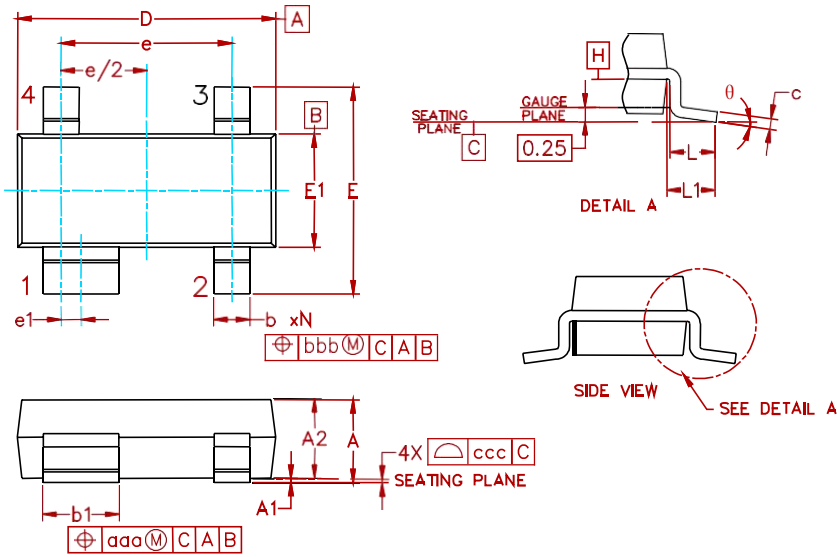
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Power Derating Curve**

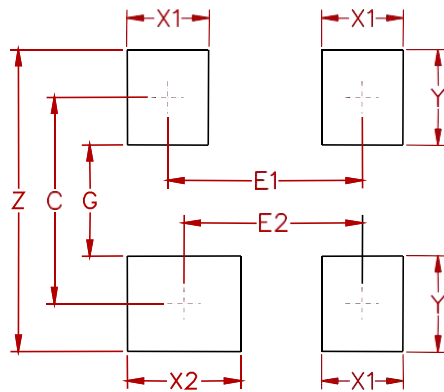


**PACKAGE MECHANICAL DATA**



Symbol	Inches			Millimeters		
	Min.	Nom.	Max.	Min.	Nom.	Max.
<b>A</b>	0.031	-	0.048	0.80	-	1.22
<b>A1</b>	0.000	-	0.008	0.013	-	0.15
<b>A2</b>	0.020	0.035	0.042	0.75	0.90	1.07
<b>b</b>	0.011	-	0.020	0.30	-	0.51
<b>b1</b>	0.029	-	0.037	0.76	-	0.94
<b>c</b>	0.003	-	0.008	0.08	-	0.20
<b>D</b>	0.110	0.114	0.120	2.80	2.90	3.04
<b>E</b>	0.082	0.093	0.104	2.10	2.37	2.64
<b>E1</b>	0.047	0.051	0.055	1.20	1.30	1.40
<b>e</b>	0.075		1.92 BSC			
<b>e1</b>	0.008		0.20 BSC			
<b>L</b>	0.015	0.020	0.024	0.40	0.50	0.60
<b>L1</b>	(0.021)		(0.54)			
<b>N</b>	4		4			
<b>θ</b>	0°	-	8°	0°	-	8°
<b>aaa</b>	0.006		0.15			
<b>bbb</b>	0.008		0.20			
<b>ccc</b>	0.004		0.10			

**Suggested Pad Layout**



**REEL SPECIFICATION**

P/N	PKG	QTY
SP0503BAHTG-MS	SOT-143	3000

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