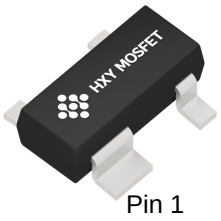
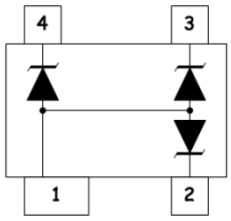
Discription

The SP0503BAHTG-HXY is a 3-channel ultra low capacitance rail clamp ESD protection diodes array. Each channel consists of a pair of ESD diodes that steer positive or negative ESD current to either the positive or negative rail.A zener diode is integrated in to the array between the positive and negative supply rails.In the typical applications, the negative rail pin (assigned as GND) is connected with system ground. The Positive ESD current is steered to the ground through an ESD diode and Zener diode and the positive ESD voltage is clamped to the zener voltage.



Pin 1

SOT-143



Circuit Diagram

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)

Ordering Information

Product ID	Pack	Qty(PCS)
SP0503BAHTG-HXY	SOT-143	3000

Absolute Ratings (T_{amb}=25℃)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppp	150	W
ESD per IEC 61000−4−2 (Air)	V_{ESD}	±15	Kv
ESD per IEC 61000−4−2 (Contact)		±8	
Operating Temperature Range	T_J	-55 to +125	℃
Storage Temperature Range	T_{STJ}	-55 to +150	℃

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

P/N	Marking	V_{RWM} (V)	V_{BR} (V)	I_T (mA)	V_C @1A	Vc		I_R μA (Max)	C (Pf) (Typ.)
						(Max)	(@A)		
SP0503BAHTG-HXY	503B	5	6	1	10	15	10	1	30

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

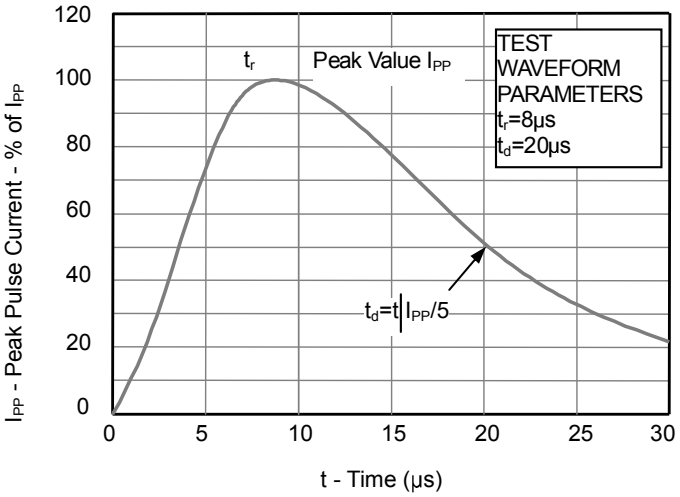


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

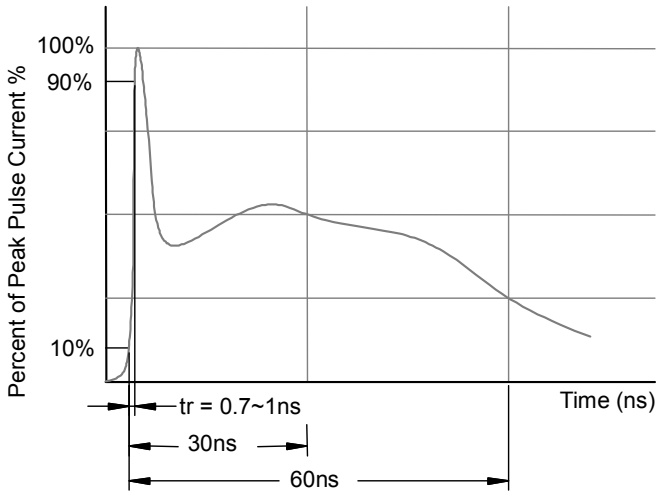
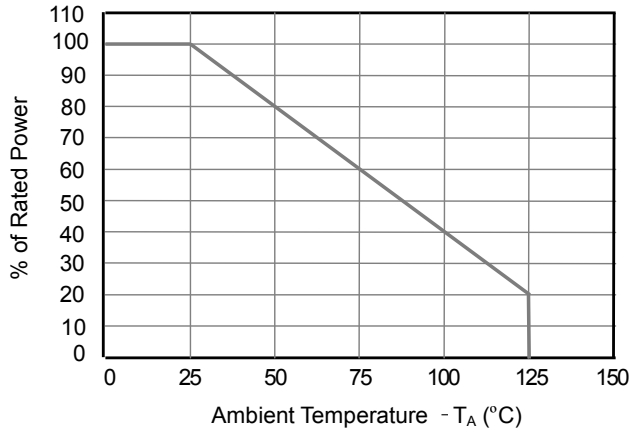
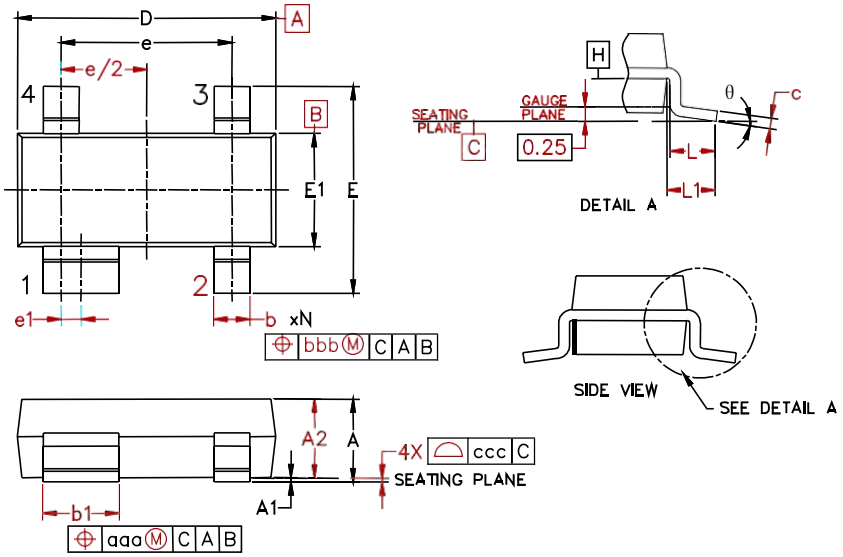


Fig3. Power Derating Curve



PACKAGE MECHANICAL DATA



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

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