

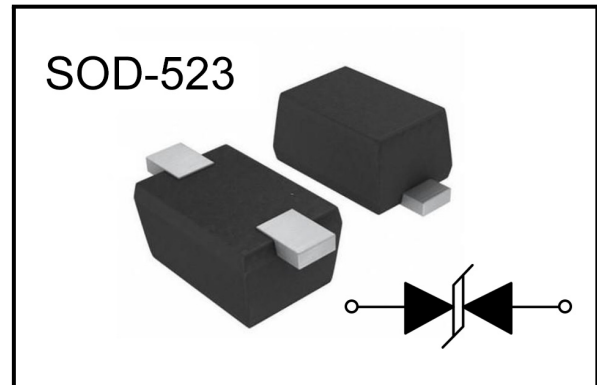
# BNAZ5123-01H

## ESD Protection Diode

### Features

- 110Watts peak pulse power ( $t_p = 8/20\mu s$ )
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping Voltage
- Low leakage current
- IEC 61000-4-2  $\pm 30kV$  contact ;  $\pm 30kV$  air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 10A (8/20 $\mu s$ )

### Package



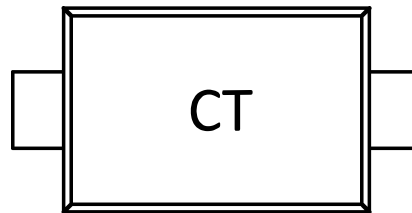
### Applications

- Pagers Peripherals
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation

### Mechanical Characteristics

- SOD523 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

### Marking



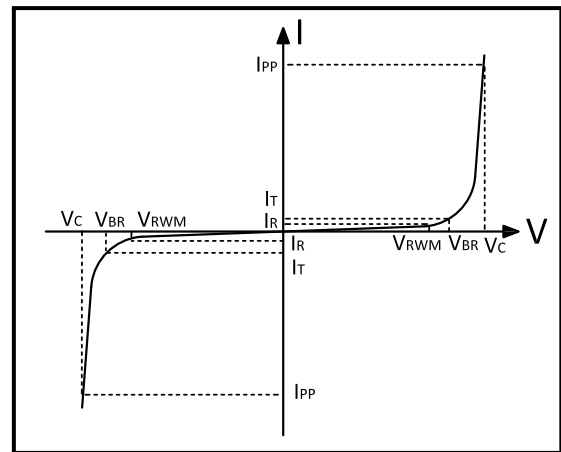
### Ordering information

Order code	Package	Base qty	Delivery mode
BNAZ5123-01H	SOD-523	5k	Tape and reel



### Electrical Parameters ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Peak Reverse Working Voltage
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current



Note: 8/20us pulse Waveform.

### Absolute Maximum Rating

Rating	Symler	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu\text{s}$ )	$P_{PP}$	110	Watts
Peak Pulse Current ( $t_p = 8/20\mu\text{s}$ )	$I_{PP}$	10	A
ESD per IEC 61000-4-2 (Air)	$V_{ESD}$	30	KV
ESD per IEC 61000-4-2 (Contact)		30	
Lead Soldering Temperature	$T_L$	260(10seconds)	$^\circ\text{C}$
Junction Temperature	$T_J$	-55 to + 150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to + 150	$^\circ\text{C}$

### Electrical Characteristics

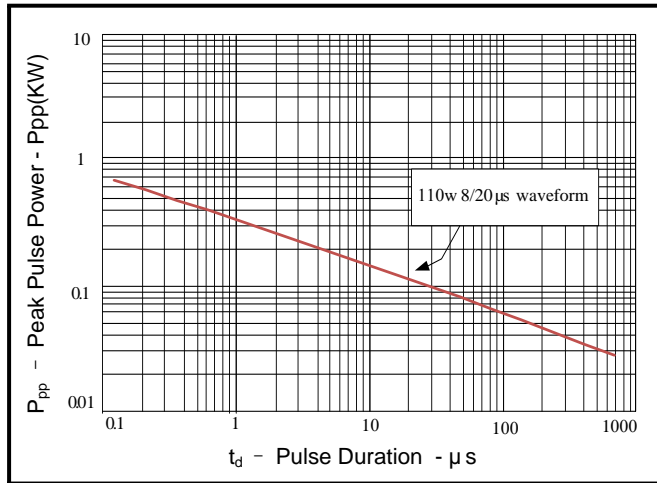
Parameter	Symler	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	$V_{RWM}$	–	–	–	3.3	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1\text{mA}$	4	5.0	6.5	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 3.3\text{V}, T = 25^\circ\text{C}$	–	–	0.5	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP} = 10\text{A}, t_p = 8/20\mu\text{s}$	–	8	11	V
Junction Capacitance	$C_j$	$V_R = 0\text{V}, f = 1\text{MHZ}$	–	18	23	pF



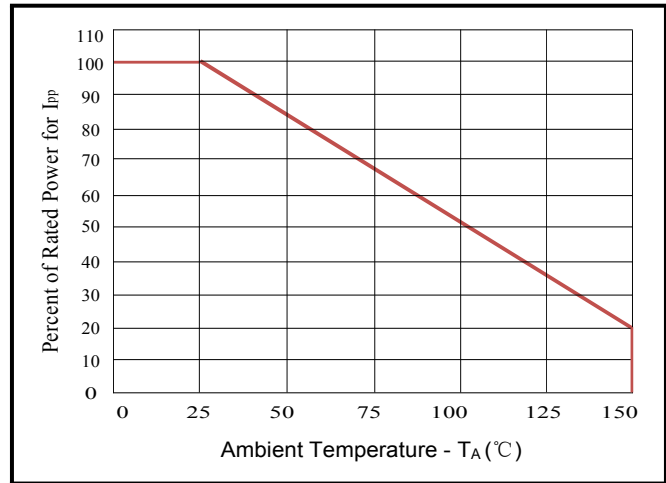


**Typical Characteristics**

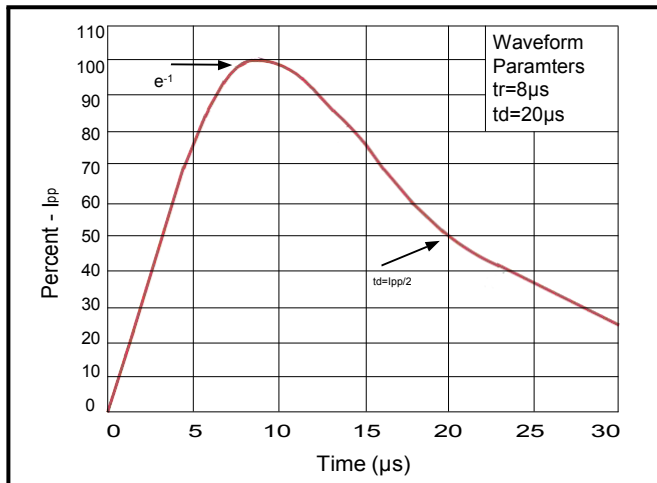
**Figure 1: Peak Pulse Power vs. Pulse Time**



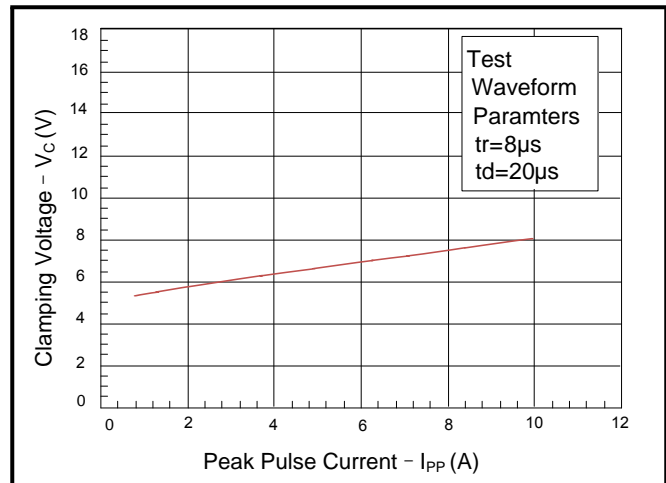
**Figure 2: Power Derating Curve**



**Figure 3: Pulse Waveform**



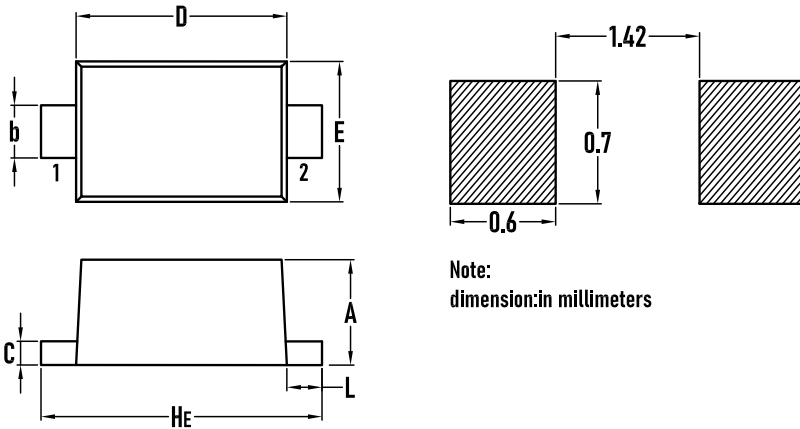
**Figure 4: Clamping Voltage vs. I\_PP**



**BNAZ5123-01H**

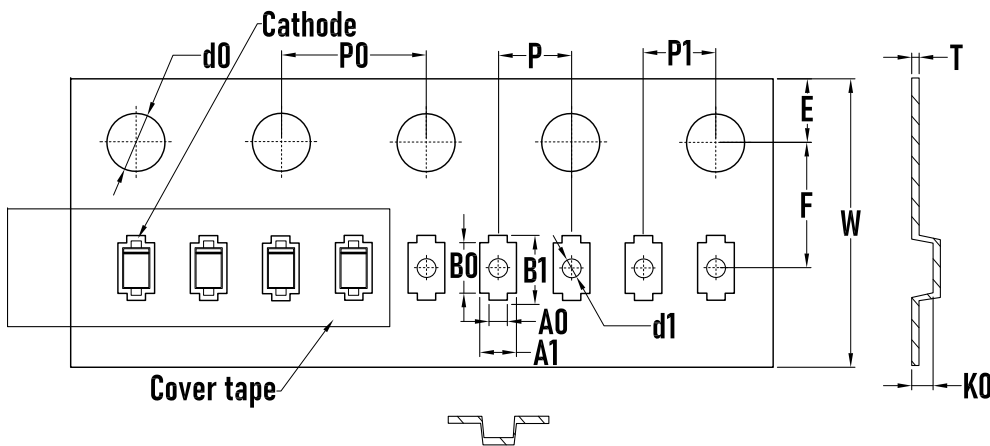
ESD Protection Diode

**Outline Drawing – SOD-523**



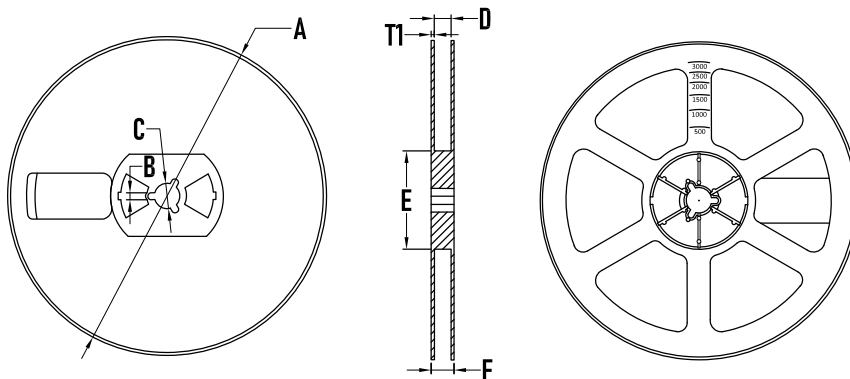
SYMBOL	MILLIMETER		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	0.50	0.70	0.020	0.028
b	0.25	0.35	0.010	0.014
C	0.07	0.20	0.0028	0.0079
D	1.10	1.30	0.043	0.051
E	0.70	0.90	0.028	0.035
H <sub>E</sub>	1.50	1.70	0.059	0.067
L	0.15	0.25	0.006	0.010

**Packaging Tape - SOD-523**



SYMBOL	MILLIMETER
A0	0.50±0.10
A1	1.00±0.10
B0	1.30±0.10
B1	1.80±0.10
d0	1.55±0.10
d1	0.50±0.05
E	1.75±0.10
F	3.50±0.10
K0	0.65±0.10
P	2.00±0.10
P0	4.00±0.10
P1	2.00±0.10
W	8.00±0.30
T	0.2 ±0.05

**Packaging Reel**



SYMBOL	MILLIMETER
A	177.8±0.2
B	2.7±0.2
C	13.5±0.2
D	9.6±0.3
E	54.5±0.2
F	12.3±0.3
T1	1.0±0.2
Quantity	5000PCS



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