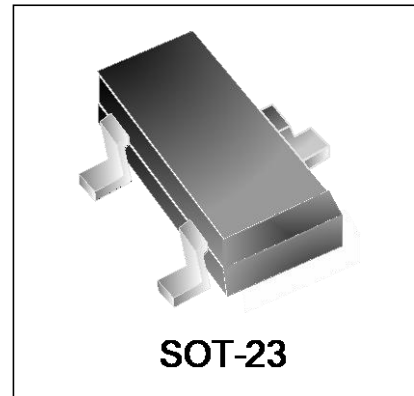


### Features

- 300 watts peak pulse power ( $t_p = 8/20\mu s$ )
- ESD Protection > 40 kilovolts
- Protects one bidirectional line or two unidirectional lines
- Working Voltages: 5V, 12V, 15V, 24V and 36V
- Low clamping voltages

### IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD)  $\pm 15kV$  (air),  $\pm 8kV$  (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)



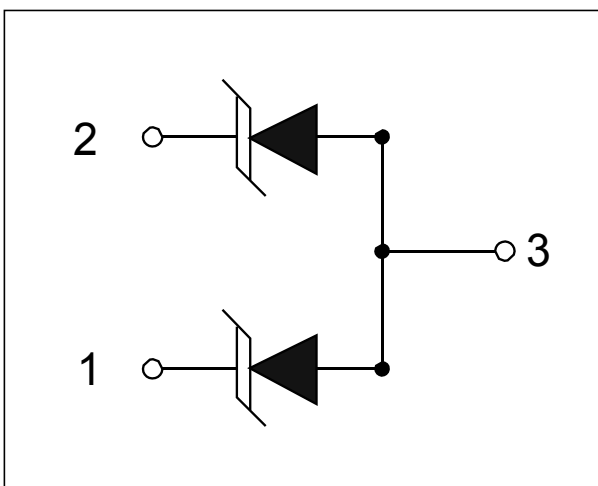
### Mechanical Characteristics

- JEDEC SOT23 package
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS/WEEE Compliant

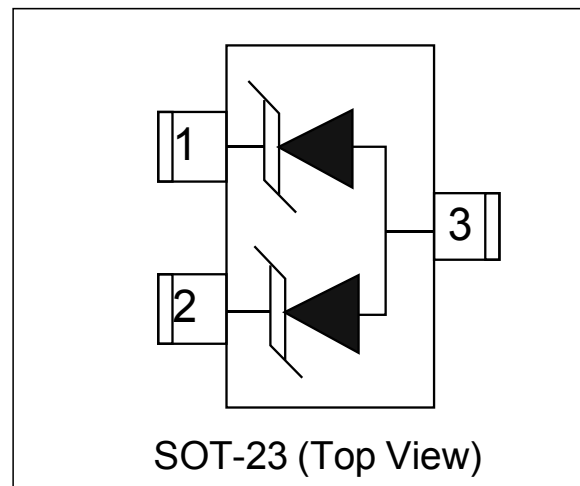
### Applications

- RS-232, RS-422 & RS-485
- Cellular Handsets and Accessories
- Control & Monitoring Systems
- Portable Electronics
- Set-Top Box
- Servers, Notebook, and Desktop PC
- Wireless Bus Protection

### Circuit Diagram



### Schematic & PIN Configuration

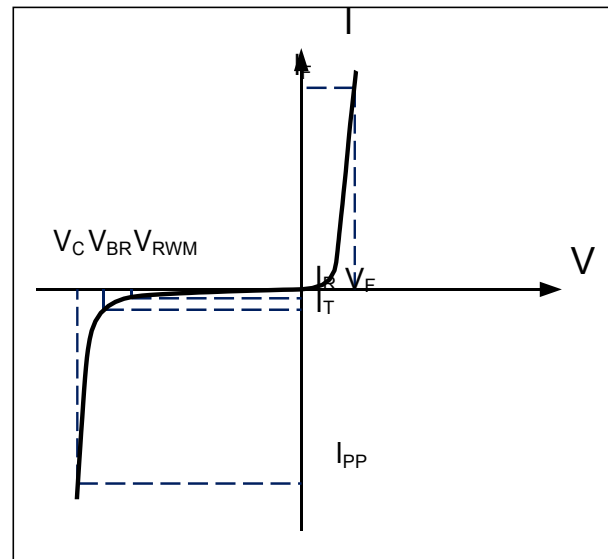


**Absolute Maximum Rating**

Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p=8/20\mu s$ )	$P_{PP}$	300	Watts
Lead Soldering Temperature	$T_L$	260(10sec)	$^{\circ}C$
Operating Temperature	$T_J$	-55 to + 125	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}C$

**Electrical Parameters (T=25 $^{\circ}C$ )**

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

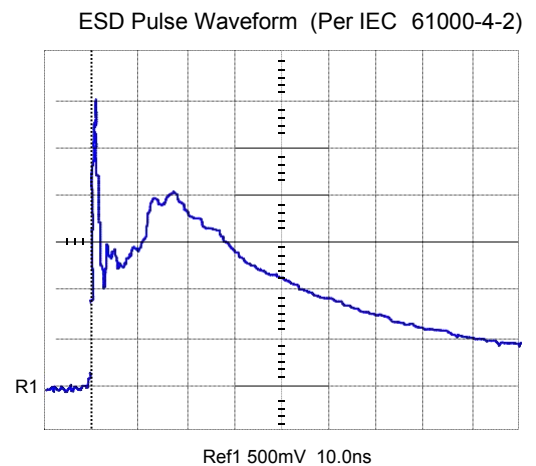
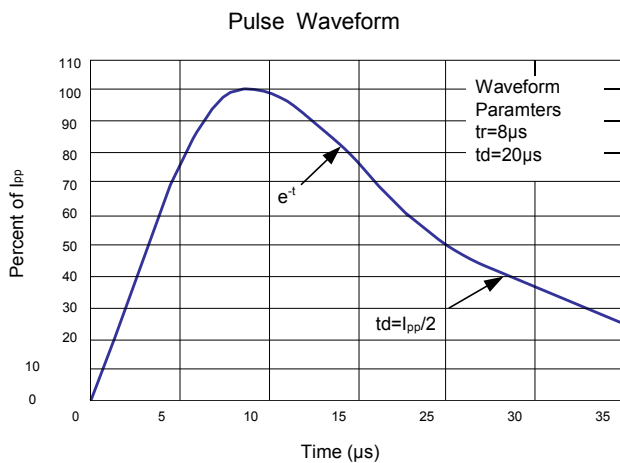
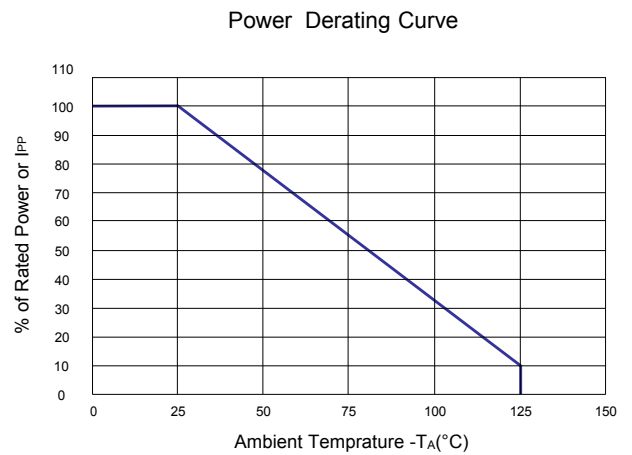
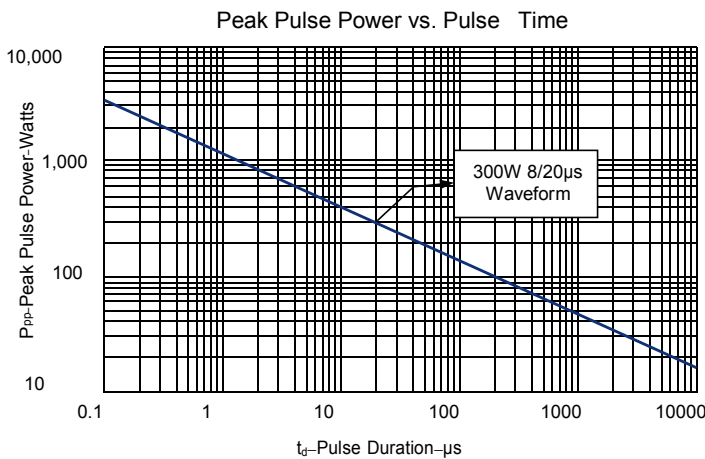

**Electrical Characteristics(T=25 $^{\circ}C$ )**

<b>BST23A052V</b>						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	$V_{RWM}$				5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	6			V
Reverse Leakage Current	$I_R$	$V_{RWM}=5V, T=25^{\circ}C$			1	$\mu A$
Peak Pulse Current	$I_{PP}$	$t_p = 8/20\mu s$			18	A
Clamping Voltage	$V_C$	$I_{PP}=1A, t_p=8/20\mu s$			9.8	V
Maximum Clamping Voltage	$V_C$	$I_{PP}=18A, t_p=8/20\mu s$			16.7	V
Junction Capacitance	$C_j$	Pin 1 to 2 $V_R = 0V, f = 1MHz$		100		pF
Junction Capacitance	$C_j$	Pin 1 to 3 and Pin 2 to 3 $V_R = 0V, f = 1MHz$		150		pF

<b>BST23A122V</b>						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	$V_{RWM}$				12	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	13.3			V
Reverse Leakage Current	$I_R$	$V_{RWM}=12V, T=25^{\circ}C$			1	$\mu A$
Peak Pulse Current	$I_{PP}$	$t_p=8/20\mu s$			12	A
Clamping Voltage	$V_C$	$I_{PP}=1A, t_p=8/20\mu s$			19	V
Maximum Clamping Voltage	$V_C$	$I_{PP}=12A, t_p=8/20\mu s$			25	V
Junction Capacitance	$C_j$	Pin 1 to 2 $V_R=0V, f=1MHz$		30		pF
Junction Capacitance	$C_j$	Pin 1 to 3 and Pin 2 to 3 $V_R=0V, f=1MHz$		50		pF
<b>BST23A152V</b>						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	$V_{RWM}$				15	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	16.7			V
Reverse Leakage Current	$I_R$	$V_{RWM}=15V, T=25^{\circ}C$			1	$\mu A$
Peak Pulse Current	$I_{PP}$	$t_p=8/20\mu s$			10	A
Clamping Voltage	$V_C$	$I_{PP}=1A, t_p=8/20\mu s$			24	V
Maximum Clamping Voltage	$V_C$	$I_{PP}=10A, t_p=8/20\mu s$			30	V
Junction Capacitance	$C_j$	Pin 1 to 2 $V_R=0V, f=1MHz$		25		pF
Junction Capacitance	$C_j$	Pin 1 to 3 and Pin 2 to 3 $V_R=0V, f=1MHz$		40		pF
<b>BST23A242V</b>						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	$V_{RWM}$				24	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	26.7			V
Reverse Leakage Current	$I_R$	$V_{RWM}=24V, T=25^{\circ}C$			1	$\mu A$
Peak Pulse Current	$I_{PP}$	$t_p=8/20\mu s$			5	A
Clamping Voltage	$V_C$	$I_{PP}=1A, t_p=8/20\mu s$			43	V
Maximum Clamping Voltage	$V_C$	$I_{PP}=5A, t_p=8/20\mu s$			60	V
Junction Capacitance	$C_j$	Pin 1 to 2 $V_R=0V, f=1MHz$		20		pF
Junction Capacitance	$C_j$	Pin 1 to 3 and Pin 2 to 3 $V_R=0V, f=1MHz$		30		pF

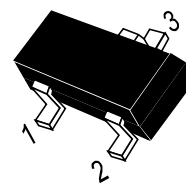
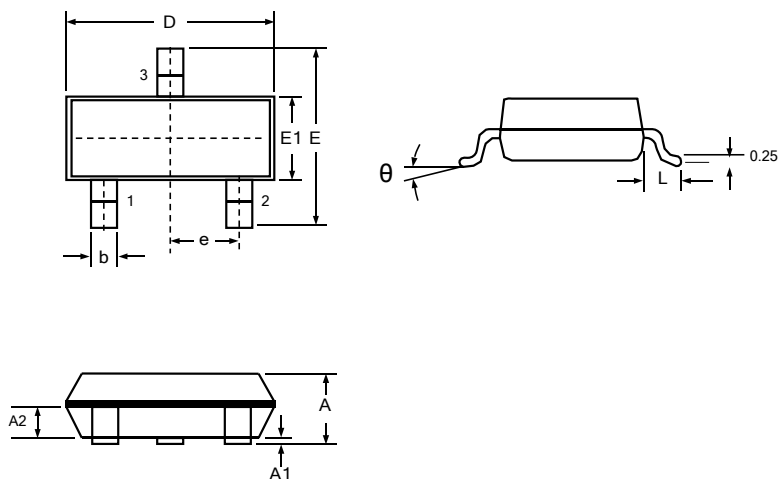
<b>BST23A362V</b>						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	$V_{RWM}$				36	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	40			V
Reverse Leakage Current	$I_R$	$V_{RWM}=36V, T=25^\circ C$			1	$\mu A$
Peak Pulse Current	$I_{PP}$	$t_p=8/20\mu s$			4	A
Clamping Voltage	$V_C$	$I_{PP}=1A, t_p=8/20\mu s$			60	V
Maximum Clamping Voltage	$V_C$	$I_{PP}=4A, t_p=8/20\mu s$			75	V
Junction Capacitance	$C_j$	Pin 1 to 2 $V_R=0V, f=1MHz$		20		pF
Junction Capacitance	$C_j$	Pin 1 to 3 and Pin 2 to 3 $V_R=0V, f=1MHz$		26		pF

## Typical Characteristics



## Outline Drawing – SOT-23

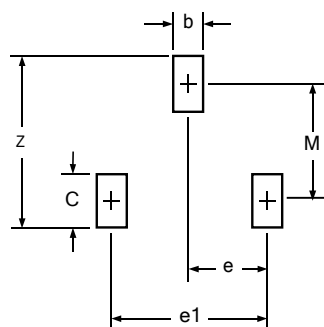
### PACKAGE OUTLINE



SOT-23

### DIMENSIONS

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
D	2.800	3.000	0.110	0.118
b	0.300	0.500	0.012	0.020
E	2.250	2.550	0.089	0.100
E1	1.200	1.400	0.047	0.055
e	0.950 BSC		0.037 BSC	
L	0.300	0.500	0.012	0.020
$\theta$	0	8°	0	8°



### DIMENSIONS

DIM	INCHES	MILLIMETERS
M	0.088	2.20
C	0.0058	0.15
Z	0.093	2.35
e	0.037 BSC	0.95 BSC
e1	0.074 BSC	1.9 BSC
b	0.0389	0.35

### Notes

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Inches
3. Pin 3 is the cathode (Unidirectional Only).
4. Dimensions are exclusive of mold flash and metal burrs.

## Marking Codes

Part Number	Marking Code
BST23A052V	5M2
BST23A122V	AB2
BST23A152V	BM2
BST23A242V	CM2
BST23A362V	DM2

## Package Information

Qty: 3k/Reel