

1.Features

- 300 watts peak pulse power ($t_p=8/20\mu s$)
- Protects one bidirectional line or two unidirectional lines
- Working Voltages: 5V, 12V, 15V, 24V and 36V
- ESD Protection > 40 kilovolts
- Low clamping voltages
- IEC 61000-4-2 (ESD) $\pm 15kV$ (air), $\pm 8kV$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)

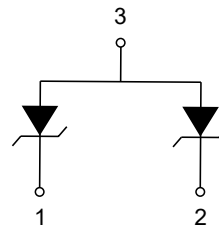
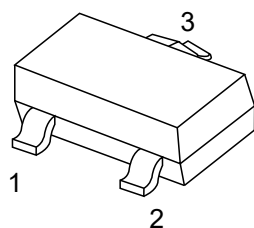
2.Applications

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

3.Mechanical Characteristics

- JEDEC SO-T23 package
- Molding compound flammability rating: UL94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS Compliant

4.Pinning information



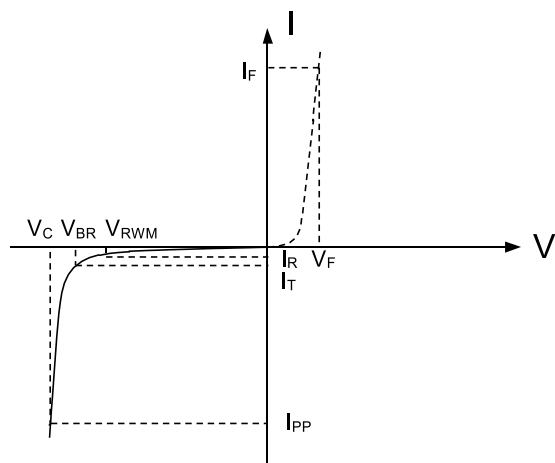
SOT-23



5. Absolute Maximum Ratings $T_A = 25^\circ\text{C}$

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

6. Electrical Parameters ($T=25^\circ\text{C}$)



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



7.1 Electrical Characteristic (BST23A052V)

Parameter	Symbol	Conditions	Min	Typ	Max	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	μA
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
		Pin 1 to 3 and Pin 2 to 3		150		pF
		$V_R=0V, f=1MHz$				

7.2 Electrical Characteristic (BST23A122V)

Parameter	Symbol	Conditions	Min	Typ	Max	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	μA
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
		Pin 1 to 3 and Pin 2 to 3		50		pF
		$V_R=0V, f=1MHz$				



7.3 Electrical Characteristic (BST23A152V)

Parameter	Symbol	Conditions	Min	Typ	Max	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	μA
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
		Pin 1 to 3 and Pin 2 to 3		40		pF
		$V_R=0V, f=1MHz$				

7.4 Electrical Characteristic (BST23A242V)

Parameter	Symbol	Conditions	Min	Typ	Max	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	μA
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
		Pin 1 to 3 and Pin 2 to 3		30		pF
		$V_R=0V, f=1MHz$				

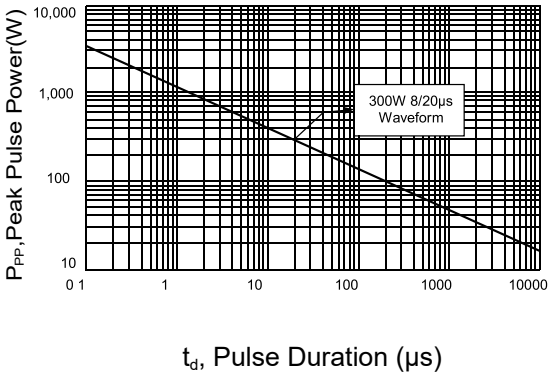
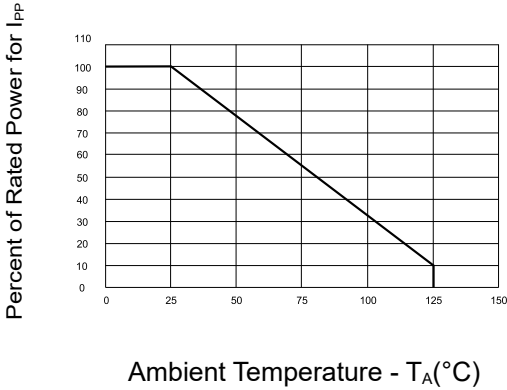
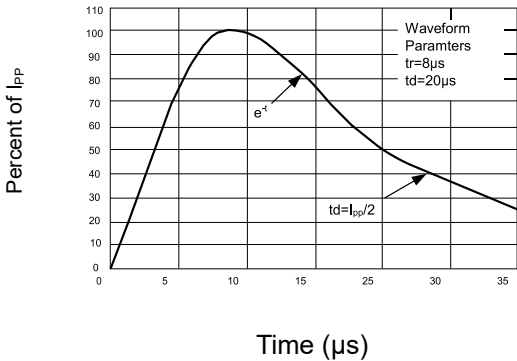
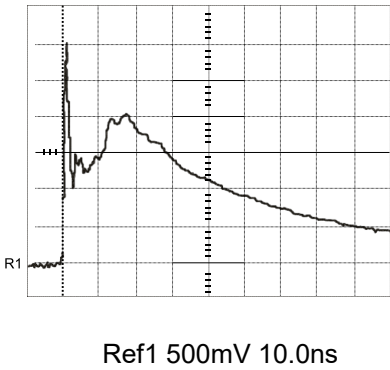


7.5 Electrical Characteristic (BST23A362V)

Parameter	Symbol	Conditions	Min	Typ	Max	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	μA
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
		Pin 1 to 3 and Pin 2 to 3		26		pF
		$V_R=0V, f=1MHz$				

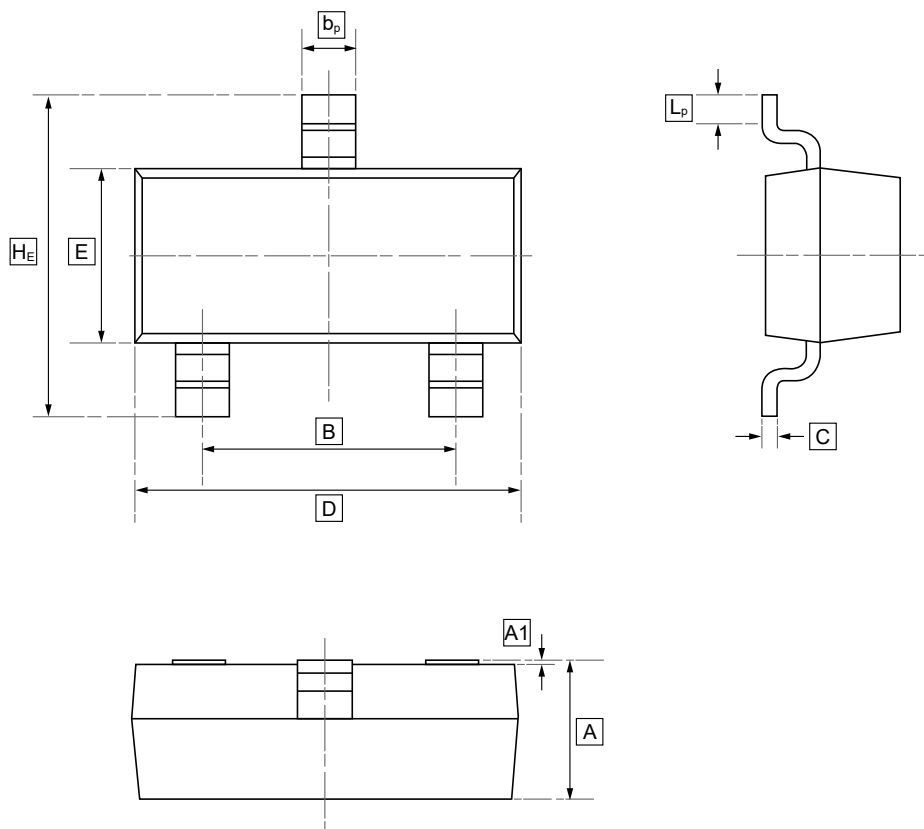


8. Typical characteristic

 Figure 1: Peak Pulse Power vs. Pulse Time	 Figure 2: Power Derating Curve
 Figure 3: Pulse Waveform	 Figure 4: ESD Pulse Waveform (Per IEC 61000-4-2)



9.SOT-23 Package Outline Dimensions

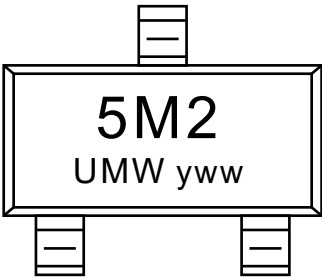


DIMENSIONS (mm are the original dimensions)

Symbol	A	B	b _p	C	D	E	H _E	A1	L _p
Min	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20
Max	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50



10.Ordering information



yww: Batch Code

Order Code	Package	Base QTY	Delivery Mode
UMW BST23A052V	SOT-23	3000	Tape and reel
UMW BST23A122V	SOT-23	3000	Tape and reel
UMW BST23A152V	SOT-23	3000	Tape and reel
UMW BST23A242V	SOT-23	3000	Tape and reel
UMW BST23A362V	SOT-23	3000	Tape and reel



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