

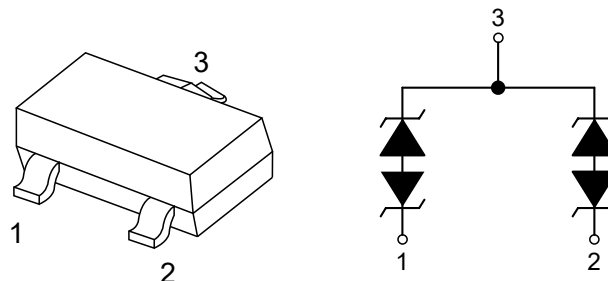
1.Features

- 250 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 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.Pinning information



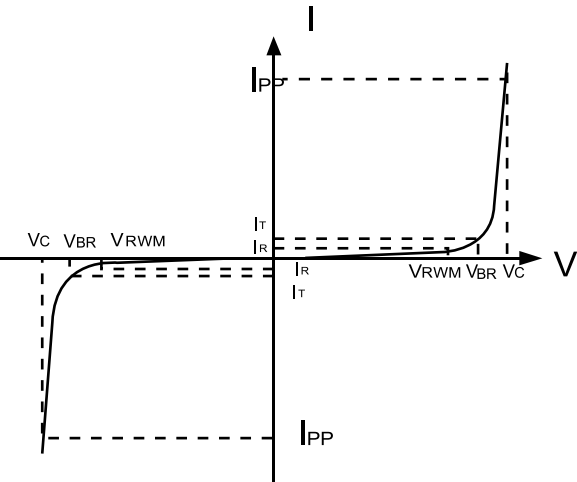
SOT-23



4.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}	250	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	$^{\circ}\text{C}$

5.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



6.1 Electrical Characteristic (BST23C052V)

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}	$t_p=8/20\mu s$			17	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 2 to 3, $V_R=0V, f=1MHz$		100		pF
		Pin 1 to 3 and Pin 2 to 3		100		pF
		$V_R=0V, f=1MHz$				

6.2 Electrical Characteristic (BST23C122V)

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
		$V_R=0V, f=1MHz$				



6.3 Electrical Characteristic (BST23C152V)

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
		$V_R=0V, f=1MHz$				

6.4 Electrical Characteristic (BST23C242V)

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
		$V_R=0V, f=1MHz$				

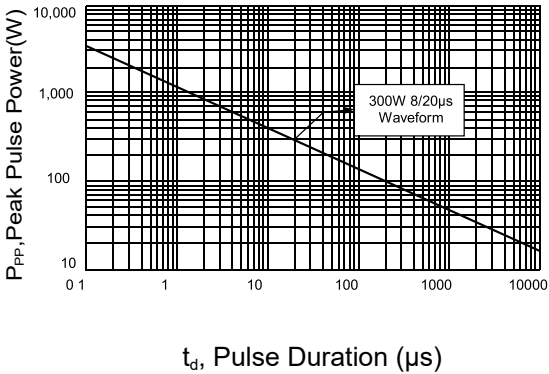
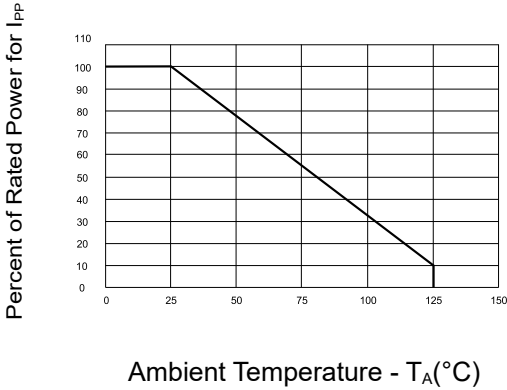
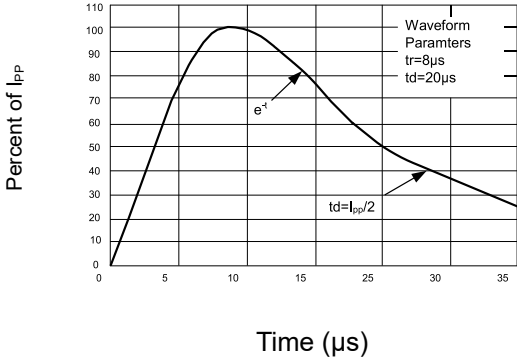
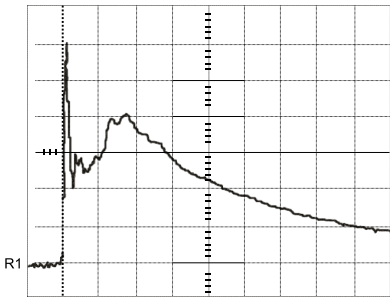


6.5 Electrical Characteristic (BST23C362V)

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
		$V_R=0V, f=1MHz$				

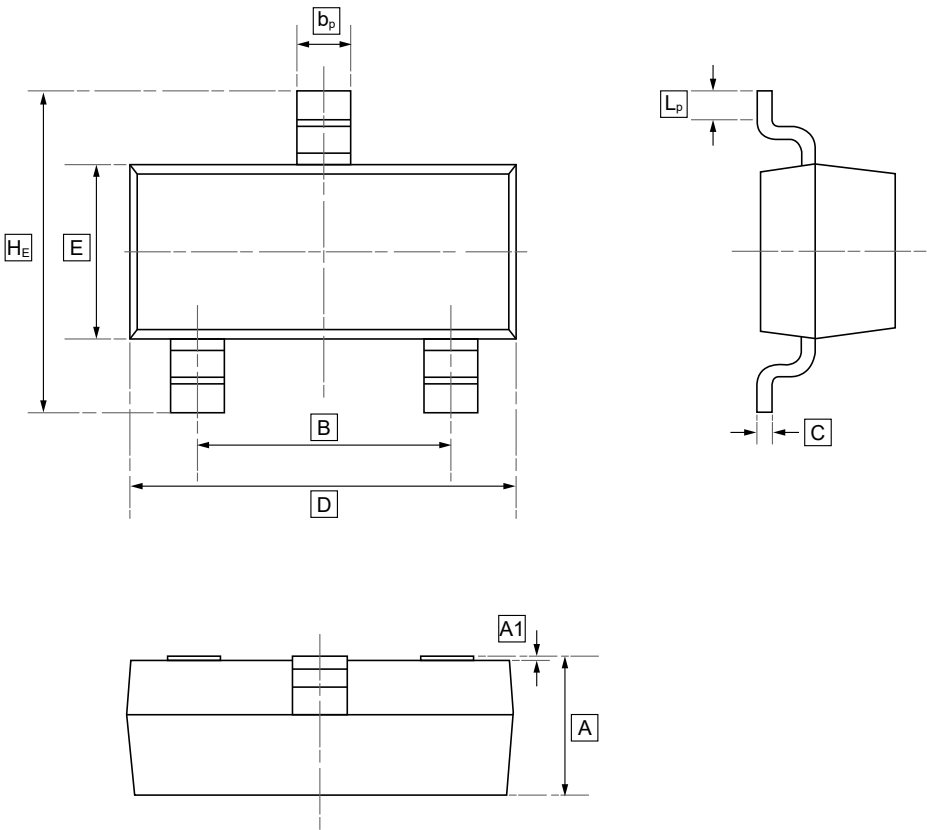


7. Typical characteristic

 P_{PP}, Peak Pulse Power (W) t_d, Pulse Duration (μs)	 Percent of Rated Power for I_{PP} Ambient Temperature - $T_A(^{\circ}C)$
Figure 1: Peak Pulse Power vs. Pulse Time	Figure 2: Power Derating Curve
 Percent of I_{PP} Time (μs) Waveform Parameters $t_r=8\mu s$ $t_d=20\mu s$ e^{-1} $t_d=I_{PP}/2$	 Ref1 500mV 10.0ns
Figure 3: Pulse Waveform	Figure 4: ESD Pulse Waveform (Per IEC 61000-4-2)



8.SOT-23 Package Outline Dimensions

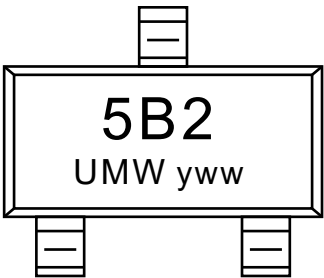


DIMENSIONS (mm are the original dimensions)

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



9.Ordering Information



yww: Batch Code

Order Code	Marking	Package	Base QTY	Delivery Mode
UMW BST23C242V	CB2	SOT-23	3000	Tape and reel
UMW BST23C052V	5B2	SOT-23	3000	Tape and reel
UMW BST23C122V	AB2	SOT-23	3000	Tape and reel
UMW BST23C152V	BB2	SOT-23	3000	Tape and reel
UMW BST23C362V	3B2	SOT-23	3000	Tape and reel



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