

**Features**

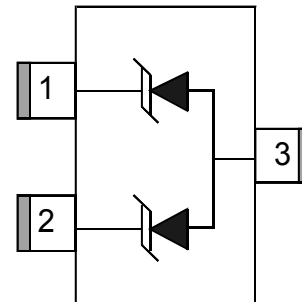
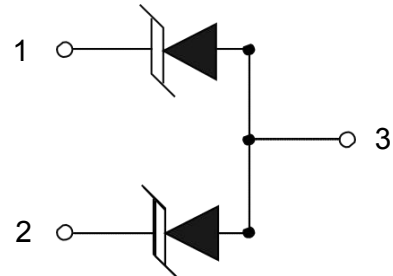
- 300Wattspeakpulsepower( $t_p = 8/20\mu s$ )
- Unidirectionalconfigurations
- Solid-statesilicon-avalanchetechnology
- Low clampingvoltage
- Low leakagecurrent
- Low capacitance( $C_j = 120pF$  typ.)
- Protectiontwo datalines
- IEC 61000-4-2 $\pm 30kV$  contact $\pm 30kV$  air
- IEC 61000-4-4(EFT) 40A(5/50ns)
- IEC 61000-4-5(Lightning) 17A(8/20 $\mu s$ )

**Applications**

- Dataline
- Automatic Teller Machines
- Net works
- Power line

**MechanicalData**

- SOT-23 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS Compliant



SOT-23 (Top View)

**Absolute Maximum Rating**

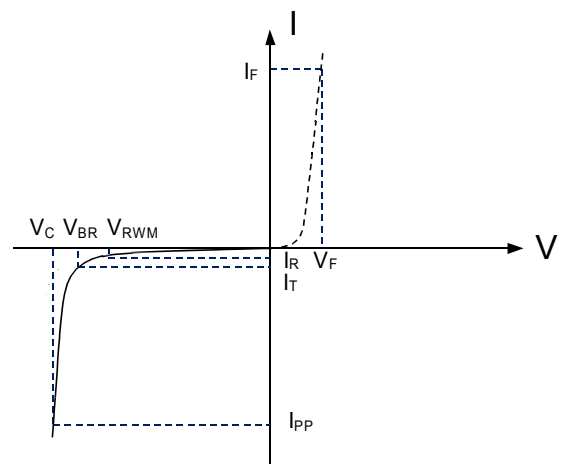
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p=8/20\mu s$ )	$P_{PP}$	300	Watts
Peak Pulse Current ( $t_p=8/20\mu s$ )(note1)	$I_{PP}$	17	A
ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2(Contact)	$V_{ESD}$	30 30	kV
Lead Soldering Temperature	$T_L$	260(10seconds)	°C
Junction Temperature	$T_J$	-55 to +125	°C
Storage Temperature	$T_{stg}$	-55 to +125	°C

**Electrical Characteristics**

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	$V_{RWM}$				5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	6.0	7.0	8.5	V
Reverse Leakage Current	$I_R$	$V_{RWM}=5V, T=25^\circ C$		0.5	1	$\mu A$
Peak Pulse Current	$I_{PP}$	$t_p=8/20\mu s$			17	A
Clamping Voltage	$V_C$	$I_{PP}=10A, t_p=8/20\mu s$		12	15	V
		$I_{PP}=17A, t_p=8/20\mu s$			16	V
Junction Capacitance	$C_j$	$V_R = 0V, f = 1MHz$ (pin1、pin2 to pin3)		150		pF

**Electrical Parameters (TA = 25°C unless otherwise noted)**

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



Note: 8/20 $\mu s$  pulse waveform.

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

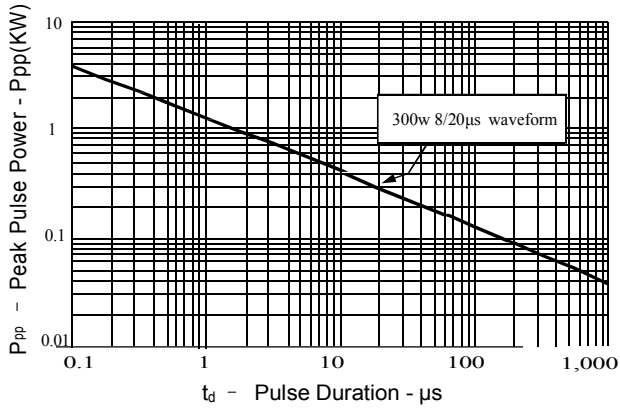


Figure 2: Power Derating Curve

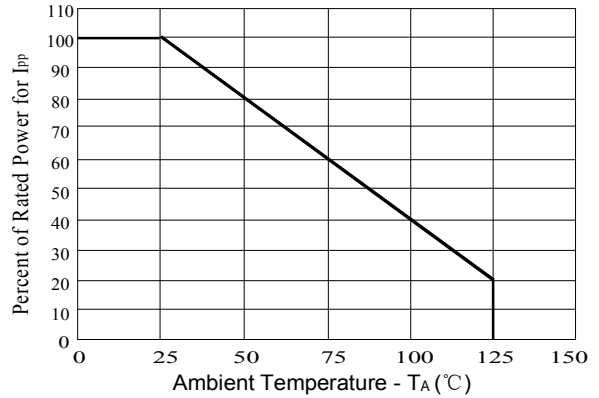


Figure 3: Pulse Waveform

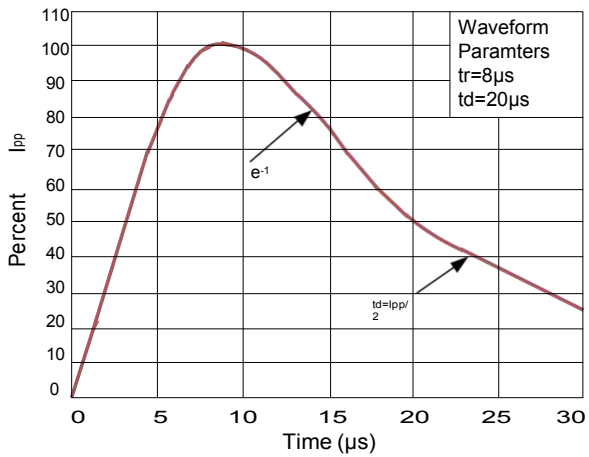
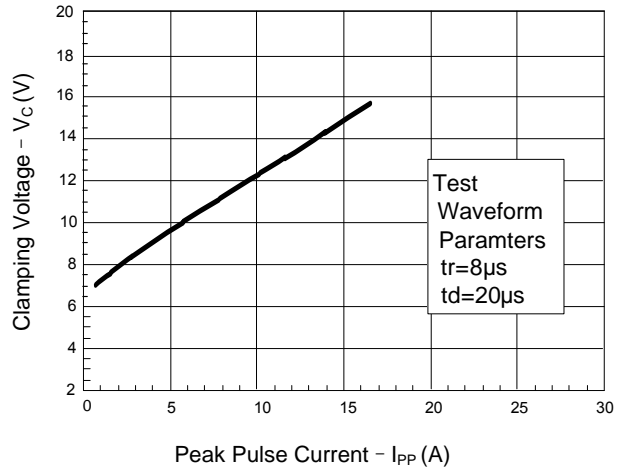
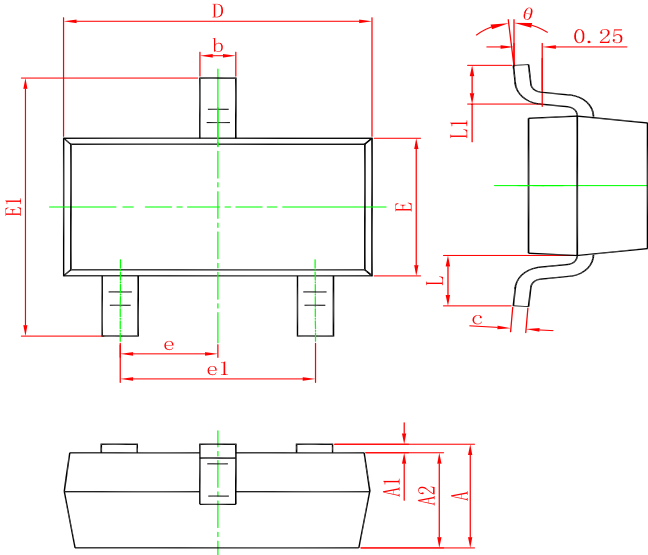


Figure 4: Clamping Voltage vs. Ipp

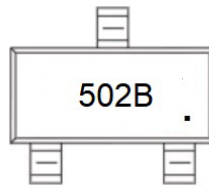


SOT-23 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In 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
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

Marking



Ordering information

Order code	Package	Baseqty	Deliverymode
UMW SP0502BAHTG	SOT-23	3000	Tape and reel

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