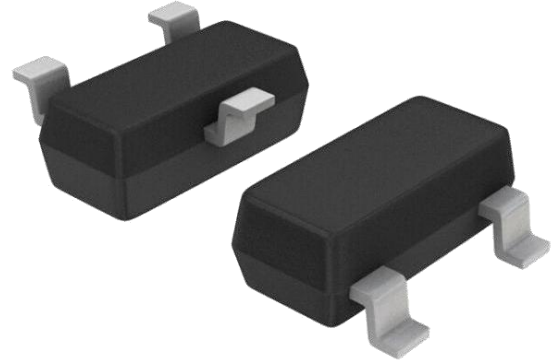


### »Features

- 45 Watts peak pulse power ( $t_p = 8/20\mu s$ )
- Unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance ( $C_j=0.7$  pF typ.)
- Protection two data lines
- IEC 61000-4-2  $\pm 15V$  contact  $\pm 15kV$  air
- IEC 61000-4-4 (EFT) 40A(5/50ns)
- IEC 61000-4-5 (Lightning) 3.5A (8/20 $\mu s$ )



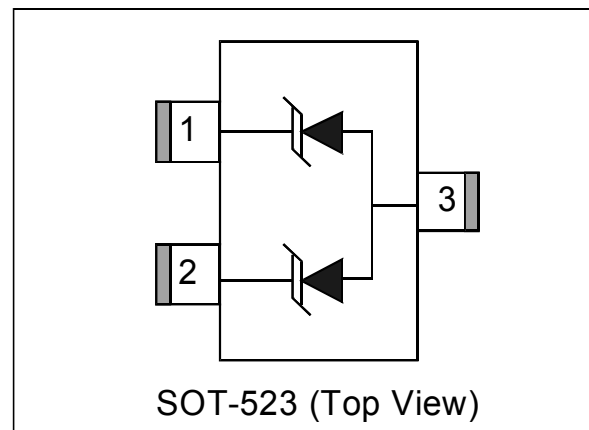
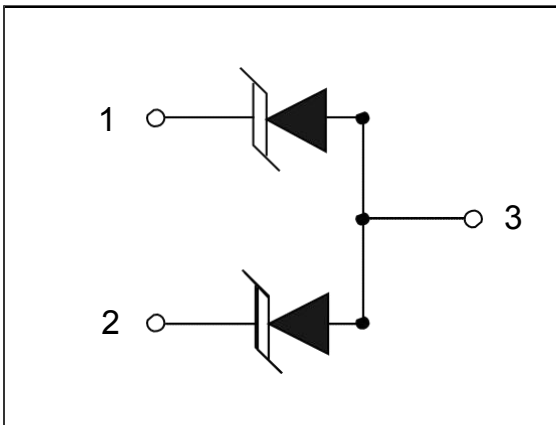
### »Applications

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

### »Mechanical Data

- SOT-523 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

### »Schematic & PIN Configuration



»Absolute Maximum Rating

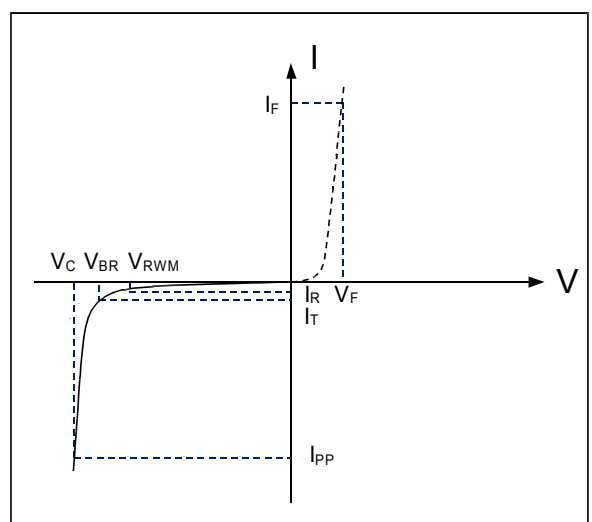
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p=8/20\mu s$ )	$P_{PP}$	45	Watts
Peak Pulse Current ( $t_p=8/20\mu s$ )(note1)	$I_{pp}$	3.5	A
ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2(Contact)	$V_{ESD}$	15 15	kV
Lead Soldering Temperature	$T_L$	260(10seconds)	°C
Junction Temperature	$T_J$	-55 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	7	8	V
Reverse Leakage Current	$I_R$	$V_{RWM}=5V, T=25^\circ C$		0.5	1	$\mu A$
Peak Pulse Current	$I_{PP}$	$t_p=8/20\mu s$			3.5	A
Clamping Voltage	$V_C$	$I_{PP}=3.5A, t_p=8/20\mu s$		12	17	V
Junction Capacitance	$C_j$	$V_R = 0V, f = 1MHz$		0.7	0.8	pF

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

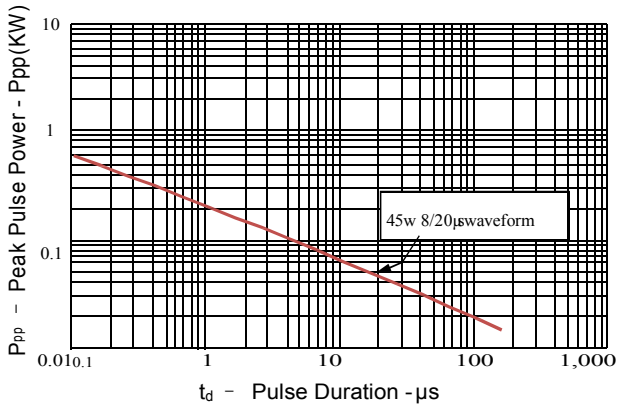
Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current



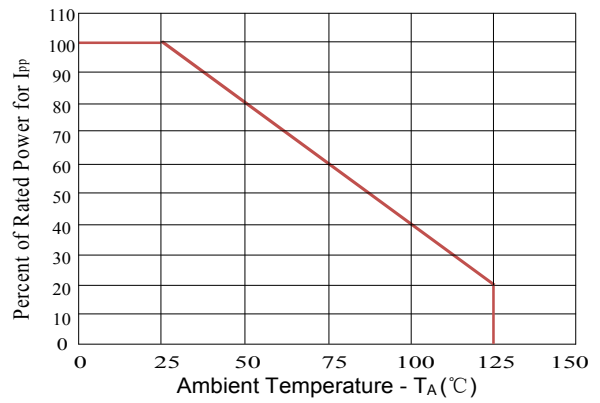
Note.: 8/20 $\mu s$  pulse waveform.

» Typical Characteristics

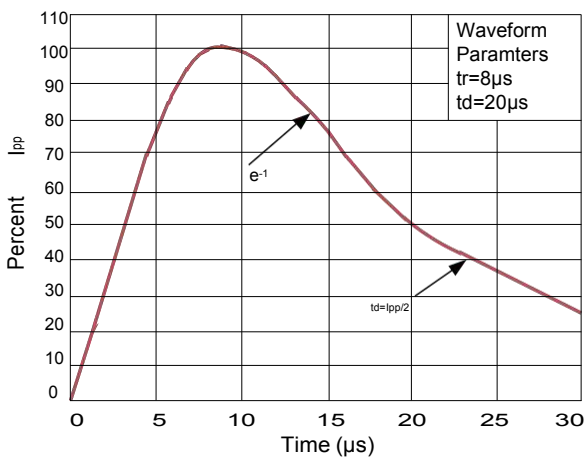
**Figure 1: Peak Pulse Power vs. Pulse Time**



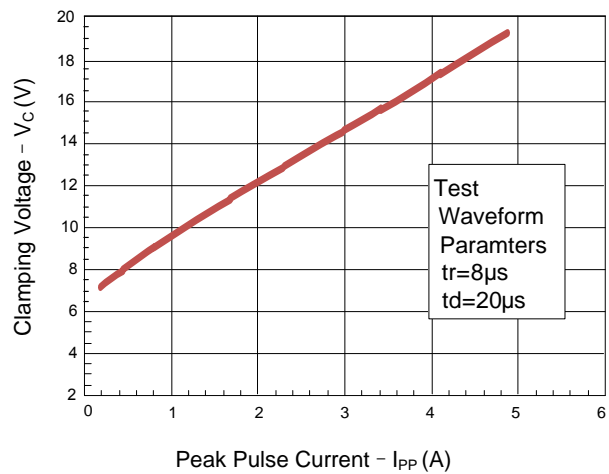
**Figure 2: Power Derating Curve**



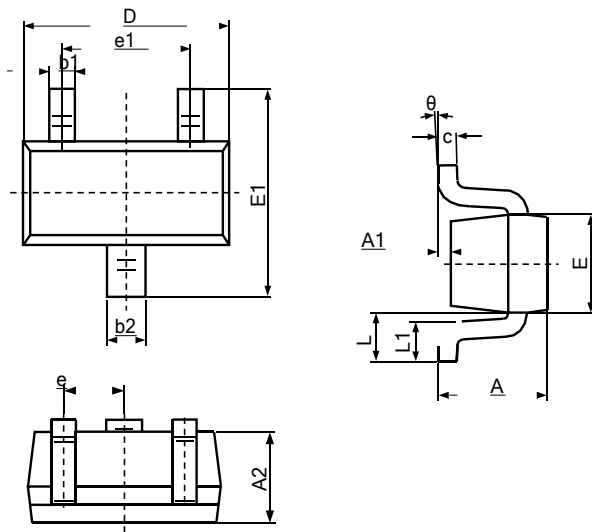
**Figure 3: Pulse Waveform**



**Figure 4: Clamping Voltage vs. Ipp**

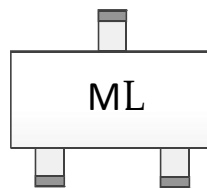


»Outline Drawing – SOT-523



Symbol	Dimensions			
	Millimeter		Inches	
	MIN	MAX	MIN	MAX
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.325	0.010	0.013
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.750	0.850	0.030	0.033
E1	1.450	1.750	0.057	0.069
e	0.50 BSC		0.02 BSC	
e1	0.900	1.100	0.035	0.043
L	0.300	0.500	0.012	0.020
L1	0.028	0.440	0.011	0.017
θ	0	8°	0	8°

»Marking



»Ordering information

Order code	Package	Base qty	Delivery mode
ESDR0502BT1G-N	SOT-523	3k	Tape and reel

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