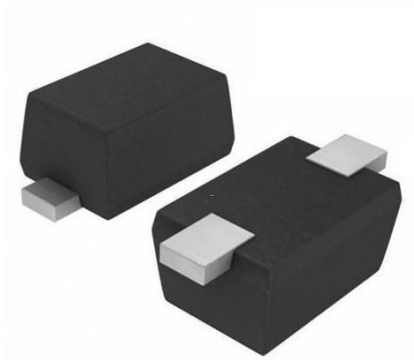


### Features

- 100Watts peak pulse power ( $t_p = 8/20\mu s$ )
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2  $\pm 25kV$  contact  $\pm 25kV$  air
- IEC 61000-4-4 (EFT) 40A(5/50ns)
- IEC 61000-4-5 (Lightning) 10A(8/20 $\mu s$ )



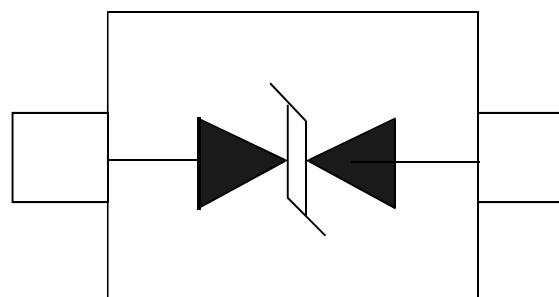
### Applications

- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Pagers Peripherals

### Mechanical Data

- SOD523 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

### Schematic & PIN Configuration



SOD-523

### Absolute Maximum Rating

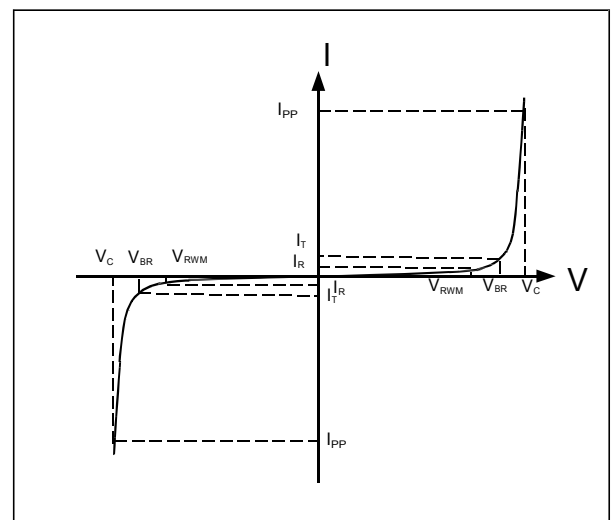
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p=8/20\mu s$ )	$P_{PP}$	100	Watts
Peak Pulse Current ( $t_p=8/20\mu s$ )(note1)	$I_{pp}$	10	A
ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2(Contact)	$V_{ESD}$	25 25	kV
Lead Soldering Temperature	$T_L$	260(10seconds)	$^{\circ}C$
Junction Temperature	$T_J$	-55 to + 150	$^{\circ}C$
Storage Temperature	$T_{stg}$	-55 to + 150	$^{\circ}C$

### Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	$V_{RWM}$				3.3	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	3.8	4.3	5.3	V
Reverse Leakage Current	$I_R$	$V_{RWM}=5.0V, T=25^{\circ}C$			500	$\mu A$
Clamping Voltage	$V_C$	$I_{PP}=10A, t_p=8/20\mu s$		8	10	V
Junction Capacitance	$C_j$	$V_R = 0V, f = 1MHz$		12	15	pF

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

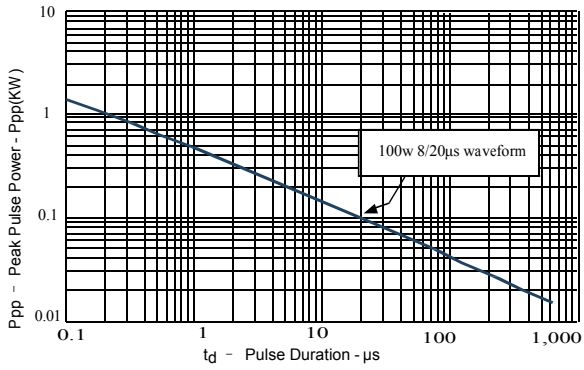
Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current



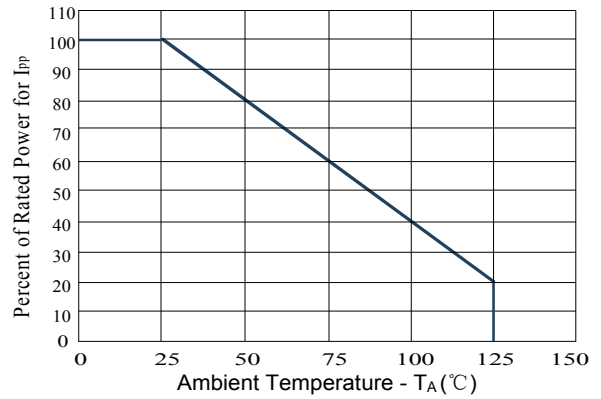
Note: 8/20 $\mu s$  pulse waveform.

**Typical Characteristics**

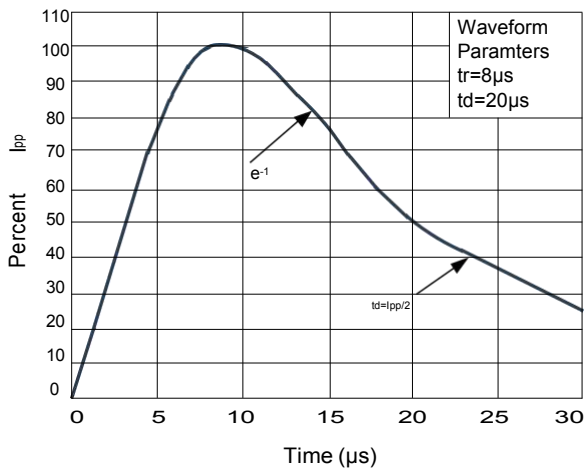
**Figure 1: Peak Pulse Power vs. Pulse Time**



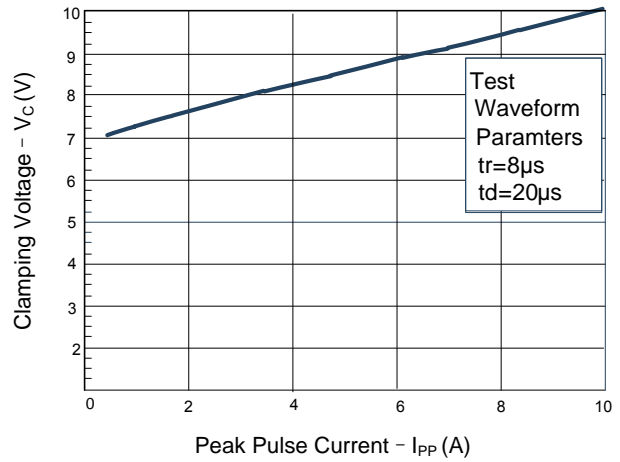
**Figure 2: Power Derating Curve**

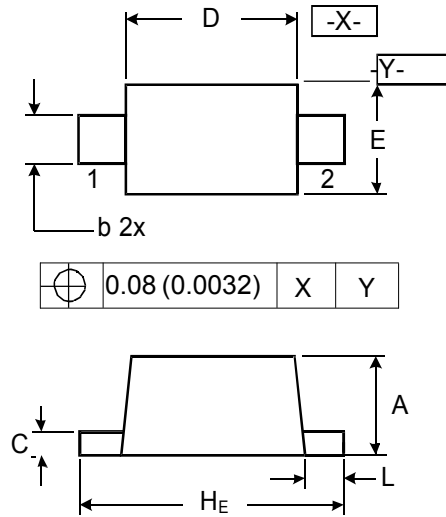


**Figure3: Pulse Waveform**



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



**Outline Drawing – SOD523**

**DIMENSIONS**

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.50	0.70	0.020	0.028
b	0.25	0.35	0.010	0.014
C	0.07	0.20	0.0028	0.0079
D	1.10	1.30	0.043	0.051
E	0.70	0.90	0.028	0.035
H <sub>E</sub>	1.50	1.70	0.059	0.067
L	0.15	0.25	0.006	0.010

CCS Semiconductor and are trademarks of Semiconductor Components Industries. CCS Semiconductor reserves the right to make changes without further notice to any products herein. CCS Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does CCS Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. CCS Semiconductor does not convey any license under its patent rights nor the rights of others.