

## ESD/Surge Protection Diode

### Features

- Low leakage current
- SOD-523 package
- Excellent clamping voltage
- Fast response time, typically < 1 ns
- 400W peak pulse power (tp= 8/20μs)
- IEC 61000-4-2 ±30kV (Air) ESD protection
- IEC 61000-4-4 40A (5/50ns) EFT protection
- IEC 61000-4-5 20A (8/20us) Surge protection
- IEC 61000-4-2 ±30kV (Contact) ESD protection
- RoHS compliant



Marking: C5

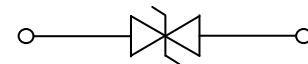
SOD-523



### Applications

- Cellular phones
- Portable devices
- Digital cameras
- Power supplies

### Schematic Diagram



### Absolute Maximum Ratings (TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power (TP=8/20μS)	P <sub>PP</sub>	400	W
Peak Pulse Current (TP=8/20μS)	I <sub>PP</sub>	20	A
Operating temperature	T <sub>J</sub>	-55 to 150	°C
Storage temperature	T <sub>STG</sub>	-55 to 150	°C

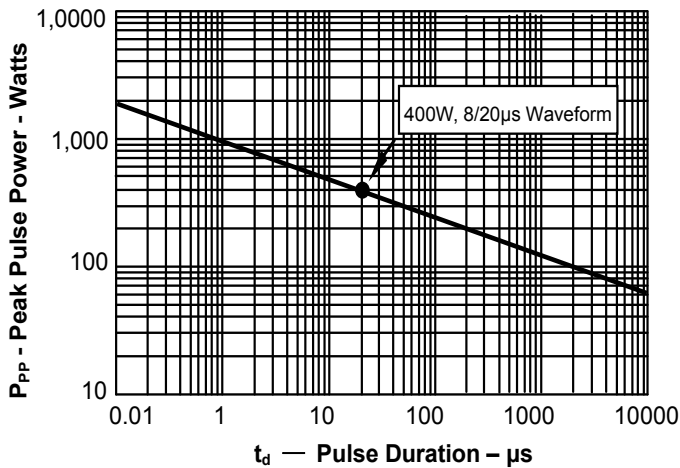
### Electrical Specifications (TA=25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reversestand-off Voltage	V <sub>RWM</sub>				5	V
ReverseBreakdown Voltage	V <sub>BR</sub>	I <sub>T</sub> =1mA	6		9	V
ReverseLeakage Current	I <sub>R</sub>	V <sub>R</sub> =5V			1	μA
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> =20A, T <sub>P</sub> =8/20μS			20	V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> =0V, f=1MHz		35	40	pF

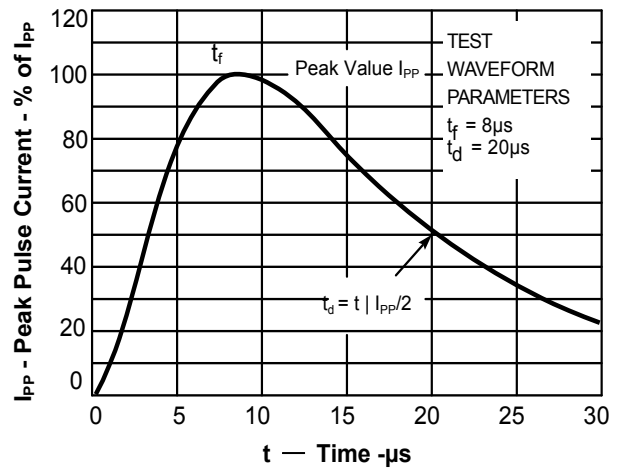
## Ratings and Characteristics Curves

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

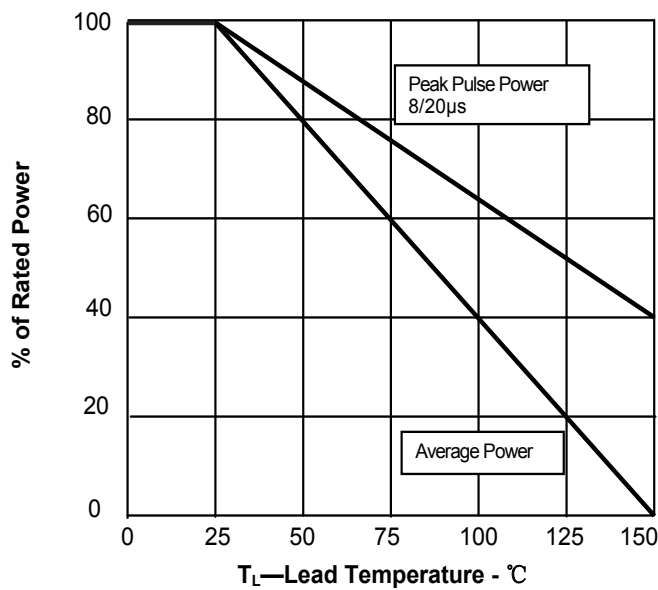
**Fig.1 Peak Pulse Power vs Pulse Time**



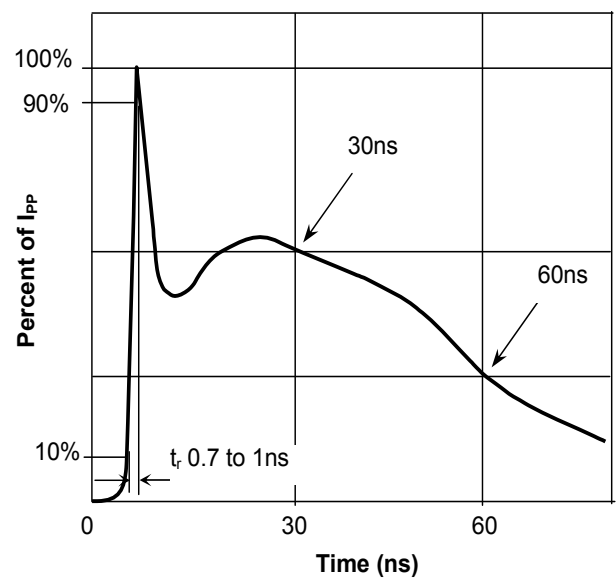
**Fig.2 Pulse WaveForm-8/20 $\mu\text{s}$**



**Fig.3 Power Derating Curve**

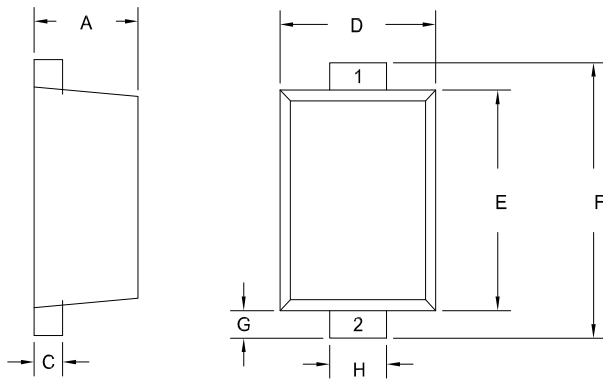


**Fig.4 Pulse Waveform-ESD(IEC61000-4-2)**



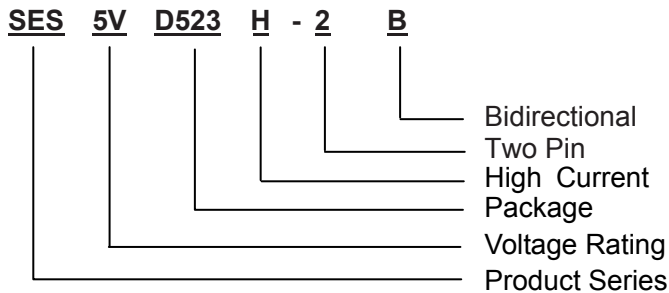
## Package Outline Dimensions

in inches (millimeters)



Dim	millimeters	
	min	max
A	0.50	0.70
C	0.07	0.20
D	0.70	0.90
E	1.10	1.30
F	1.50	1.70
G	0.15	0.25
H	0.25	0.35

## Part Number System



## Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.01	First issue

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