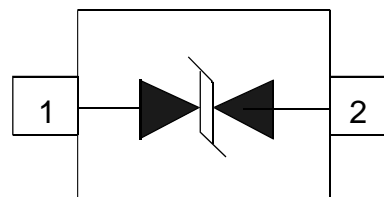


## Description

The TVSS5VCES-02GP-J is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.



## Features

- Small Body Outline Dimensions
- Low Body Height
- Peak Power up to 200 Watts @ 8 x 20  $\mu$ s Pulse
- Low Leakage current
- Response Time is Typically < 1 ns

Complies with the following standards

IEC61000-4-2

Level 4 15 kV (air discharge)

8 kV(contact discharge)

MIL STD 883E - Method 3015-7 Class 325 kV

HBM (Human Body Model)

## Applications

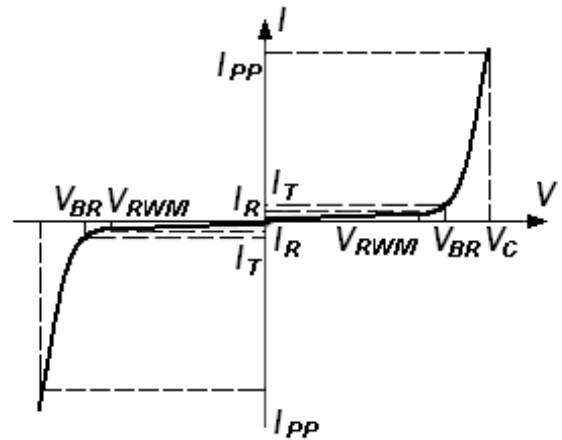
- Cellular phones
- Portable devices
- Digital cameras
- Power supplies

## Absolute Ratings ( $T_{amb}=25^{\circ}C$ )

Symbol	Parameter	Value	Units	
$P_{PP}$	Peak Pulse Power ( $t_p = 8/20\mu s$ )	200	W	
$T_L$	Maximum lead temperature for soldering during 10s	260	$^{\circ}C$	
$T_{stg}$	Storage Temperature Range	-55 to +155	$^{\circ}C$	
$T_{op}$	Operating Temperature Range	-40 to +125	$^{\circ}C$	
$T_j$	Maximum junction temperature	150	$^{\circ}C$	
	IEC61000-4-2 (ESD)	air discharge contact discharge	$\pm 15$ $\pm 8$	kV
	IEC61000-4-4 (EFT)		40	A
	ESD Voltage	Per Human Body Model	16	kV
		Per Machine Model	400	V

### Electrical Parameter

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 @ $V_{RWM}$
$I_T$	Test Current
$V_{BR}$	Breakdown Voltage @ $I_T$



### Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.  $V_F = 0.9V$  at  $I_F = 10mA$

Part Numbers	$V_{BR}$			$I_T$	$V_{RWM}$	$I_R$	$V_F$	$I_F$	$C$
	Min.	Typ.	Max.				Max.	Typ.	Typ. 0v bias
	V	V	V				V	mA	pF
TVSS5VCES-02GP-J	5.8	6.7	7.8	1	5.0	1	1.25	200	30

\*Surge current waveform per Figure 1.

- $V_{BR}$  is measured with a pulse test current  $I_T$  at an ambient temperature of 25°C.

### Typical Characteristics

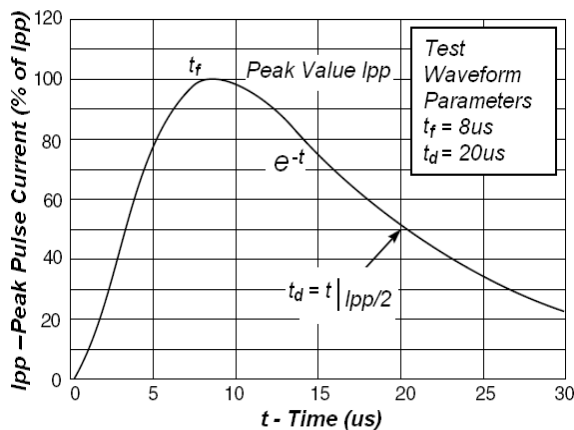
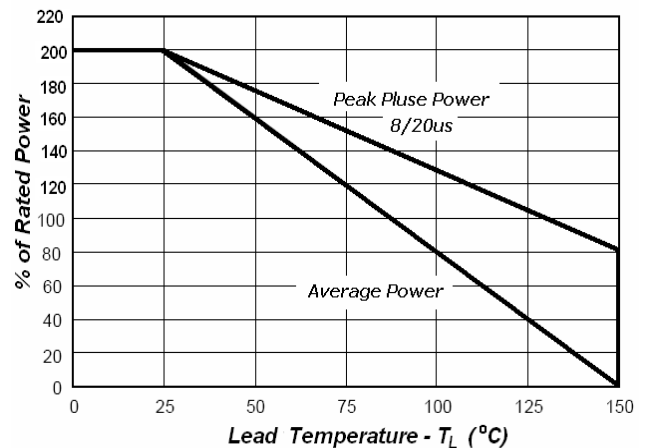
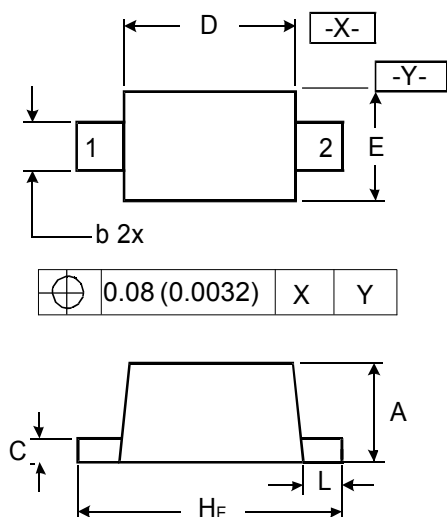


Fig1. Pulse Waveform



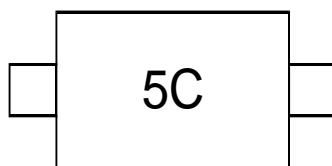
### Outline Drawing – SOD523



**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
HE	1.50	1.70	0.059	0.067
L	0.15	0.25	0.006	0.010

### Marking



### Ordering information

Order code	Package	Baseqty	Deliverymode
UMW TVSS5VCES-02GP-J	SOD-523	3000	Tape and reel

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