



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Micro Commercial Components

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# ESD3V3D5 Thru ESD12VD5

## Features

- Halogen free available upon request by adding suffix "-HF"
- For sensitive ESD protection
- Excellent clamping capability
- Low leakage
- ESD rating of class 3(>16KV)per Human Body Mode
- For space saving application
- Fast response ,response time less than 1ns.
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

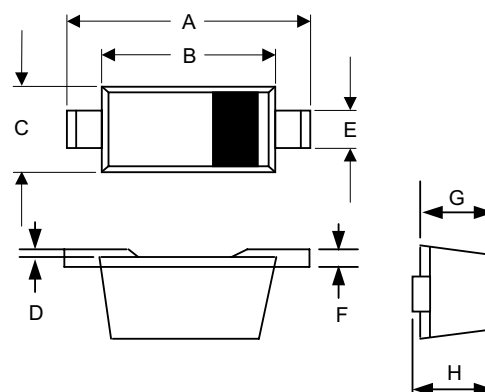
## Maximum Ratings

- Operating Junction &StorageTemperature: -55°C to +150°C
- Maximum Thermal Resistance: 625°C/W Junction To Ambient

Parameter	Symbol	Limits	unit
IEC61000-4-2(ESD) Air Contact		±30 ±30	KV
ESD Voltage per human body mode per machine mode		16 400	KV V
Power Dissipation	Pd	200	mw

## 3.3V~12Volts ESD Protection Devices

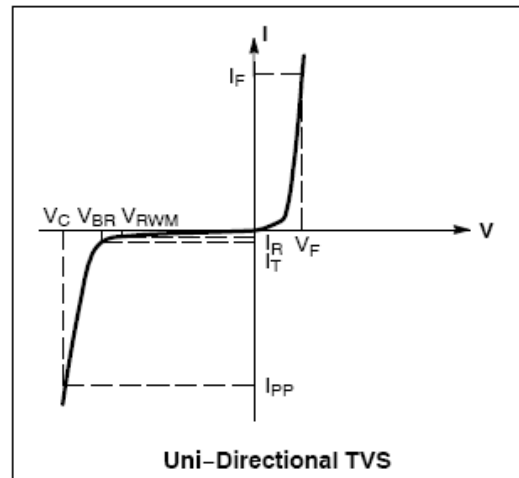
### SOD523



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.059	.067	1.50	1.70	
B	.043	.051	1.10	1.30	
C	.030	.033	0.75	0.85	
D	.001	.003	0.01	0.07	
E	.010	.014	0.25	0.35	
F	.003	.006	0.08	0.15	
G	.020	.028	0.50	0.70	
H	.020	.031	0.51	0.77	

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  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
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$
$P_{pk}$	Peak Power Dissipation
C	Max. Capacitance @ $V_R=0$ and $f=1\text{MHz}$



**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  unless otherwise noted,  $V_F = 0.9\text{ V Max.}$  @  $I_F = 10\text{mA}$  for all types)

Device*	Device Marking	$V_{RWM}$ (V)	$I_R$ ( $\mu\text{ A}$ ) @ $V_{RWM}$	$V_{BR}$ (V) @ $I_T$ (Note 2)	$I_T$	$V_C$ @ $I_{PP}^* = 5\text{ A}$	$I_{PP}^*$ (A)	$V_C$ (V) @ $I_{PP}^*$	$P_{pk}^*$ (W)	C (pF)
		Max	Max	Min		mA		V		
ESD3V3D5	ZE	3.3	0.08	5.0	1.0	9.4	11.2	14.1	158	105
ESD5V0D5	ZF	5.0	0.08	6.2	1.0	11.6	9.4	18.6	174	80
ESD7V0D5	ZH	7.0	0.03	7.5	1.0	13.5	8.8	22.7	200	65
ESD12VD5	ZM	12	0.02	14.1	1.0	23	9.6	29	240	55

+Surge current waveform per Figure 1.

2.  $V_{BR}$  is measured with a pulse test current  $I_T$  at an ambient temperature of  $25^\circ\text{C}$ .

**TYPICAL CHARACTERISTICS**

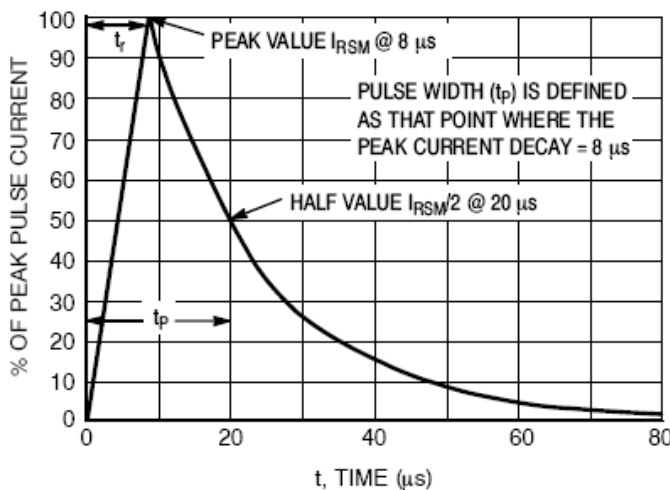


Figure 1. 8 x 20  $\mu\text{s}$  Pulse Waveform



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### Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 8Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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