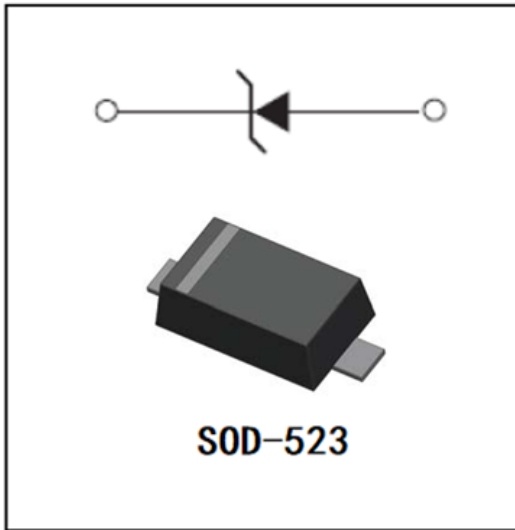


## ESD Protection Diode



### Features

- For sensitive ESD protection
- Low leakage
- Uni-directional ESD protection of one line
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

### Mechanical Data

- **Package:** SOD523
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end
- **Marking:** ZM

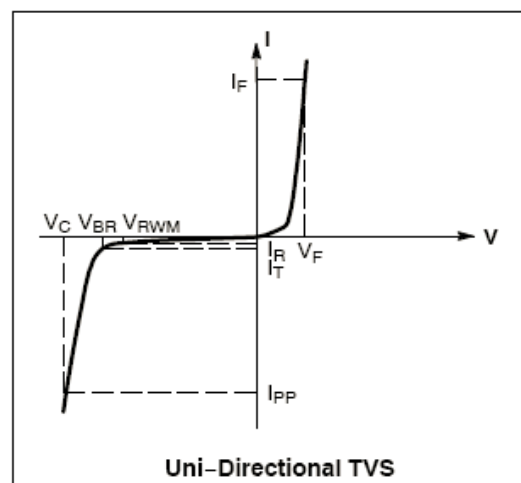
### Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Operating Junction & Storage Temperature	$T_J$ & $T_{STG}$	-45 to +125	°C
IEC61000-4-2(ESD)Air	$V_{ESD}$	±30	KV
IEC61000-4-2(ESD)Contact		±30	KV
JESD22-A114-B(ESD)Machine		±0.4	KV
JESD22-A114-B(ESD)Human Body		±16	KV
Peak Pulse Current	$I_{PP}^{(1)}$	9.6	A

(1). Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5.

### Electrical Parameter

PARAMETER	SYMBOL
Clamping Voltage@ $I_{PP}$	$V_C$
Breakdown Voltage@ $I_T$	$V_{BR}$
Peak Pulse Current	$I_{PP}$
Test Current	$I_T$
Reverse Leakage Current@ $V_{RWM}$	$I_R$
Reverse Standoff Voltage	$V_{RWM}$
Forward Voltage@ $I_F$	$V_F$
Forward Current	$I_F$
Peak Power Dissipation	$P_{PK}$
Max. Capacitance @ $V_R=0$ and $f=1MHz$	$C$





# ESD12VD5

## ■ Electrical Characteristics (T<sub>A</sub>=25°C Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse Standoff Voltage	V <sub>RWM</sub> <sup>(1)</sup>	V				12
Reverse Leakage Current	I <sub>R</sub>	μA	V <sub>RWM</sub> =12V			0.02
Breakdown Voltage	V <sub>(BR)</sub>	V	I <sub>T</sub> =1mA	13.5		16.5
Clamping Voltage	V <sub>C</sub> <sup>(2)</sup>	V	I <sub>pp</sub> =5A ,tp=8/20us			23
Clamping Voltage	V <sub>C</sub> <sup>(2)</sup>	V	I <sub>pp</sub> =9.6A ,tp=8/20us			26
Forward voltage	V <sub>F</sub>	V	I <sub>F</sub> =10mA			0.9
Peak Power Dissipation	P <sub>pk</sub>	W	tp=8/20us			250
Junction Capacitance	C <sub>J</sub>	pF	V <sub>R</sub> =0V,f=1MHz		45	

(1).Other voltages available upon request.

(2).Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5

## ■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD12VD5	F2	Approximate 0.002	8000	80000	320000	7" reel

## ■ Characteristics (Typical)

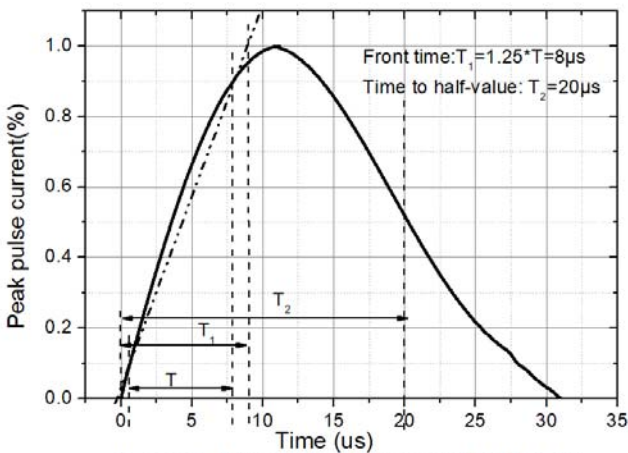


Figure 1. 8/20μs waveform per IEC61000-4-5

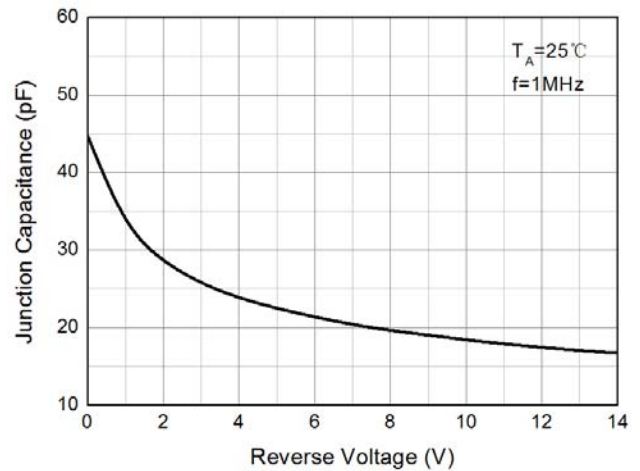


Figure 2. Capacitance Characteristics

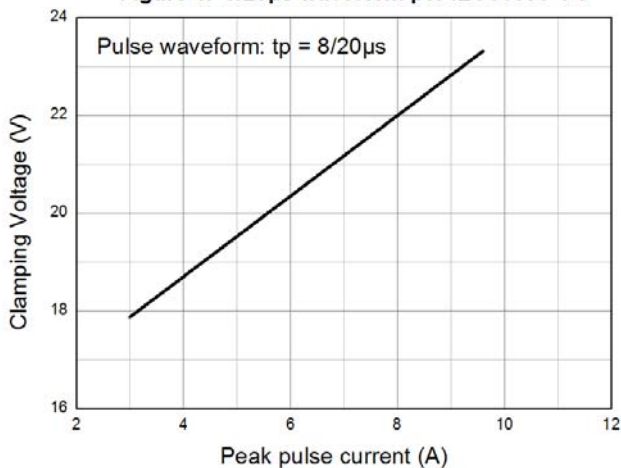


Figure 3. Clamping voltage vs. Peak pulse current

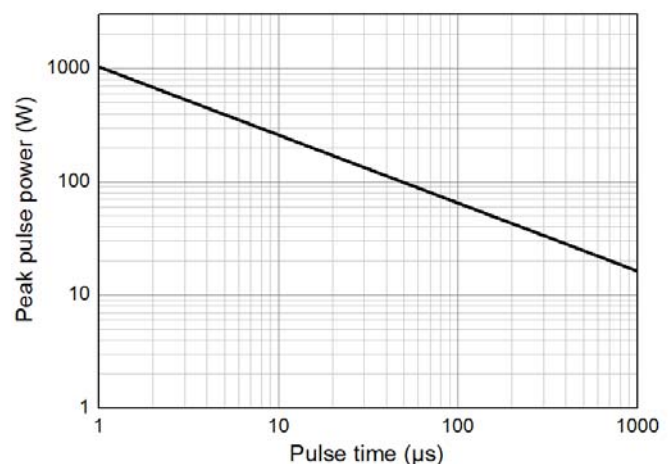
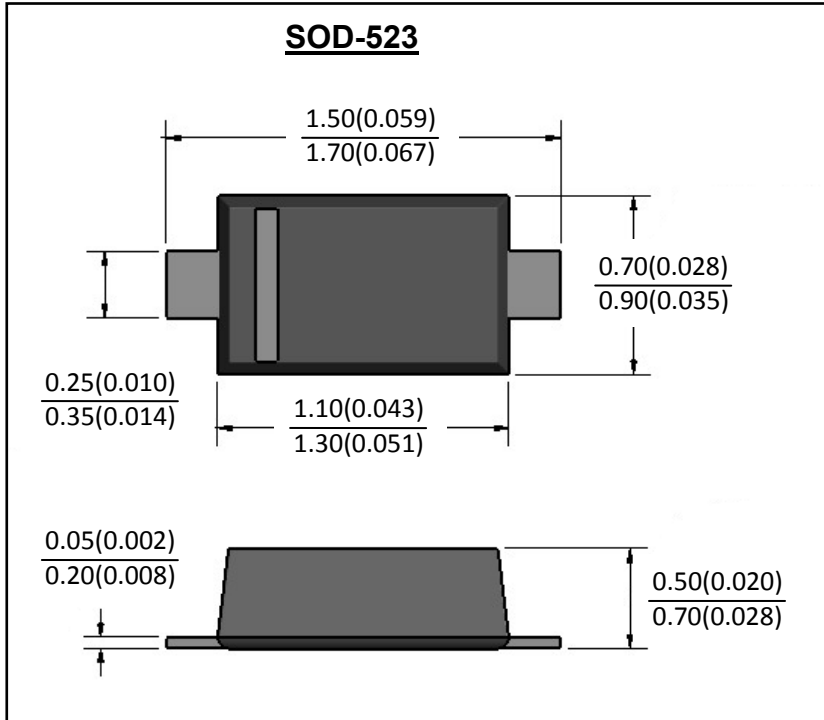
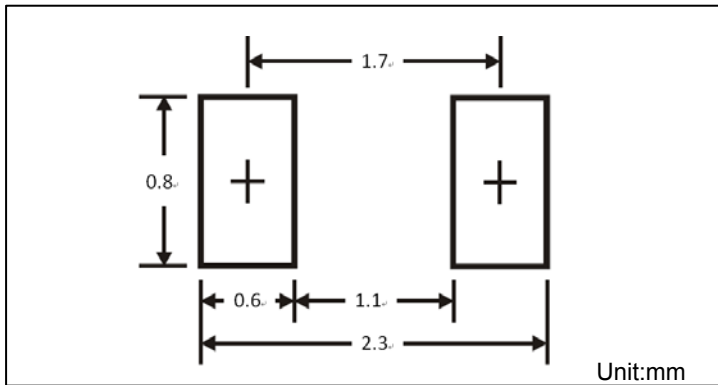


Figure 4 Non-repetitive peak pulse power vs. Pulse time

## ■ Outline Dimensions



## ■ Soldering Footprint





## ESD12VD5

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