

## SOD-323 Plastic-Encapsulate ESD Protection Diodes

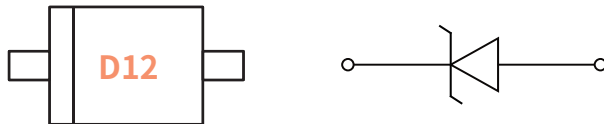
### Features

- Low leakage current
- SOD-323 surface mount package
- IEC 61000-4-2 (ESD Air):  $\pm 30\text{kV}$
- IEC 61000-4-2 (ESD Contact):  $\pm 30\text{kV}$
- IEC 61000-4-5 (Lightning 8/20 $\mu\text{s}$ ): 35A

### Applications

- Laptop Computers
- Cellular Phones
- Digital Cameras
- Personal Digital Assistants(PDAs)

### Function Diagram



**Reverse Working Voltage**  
12V Max.  
**Normal capacitance**  
85 pF(Max.)

SOD-323

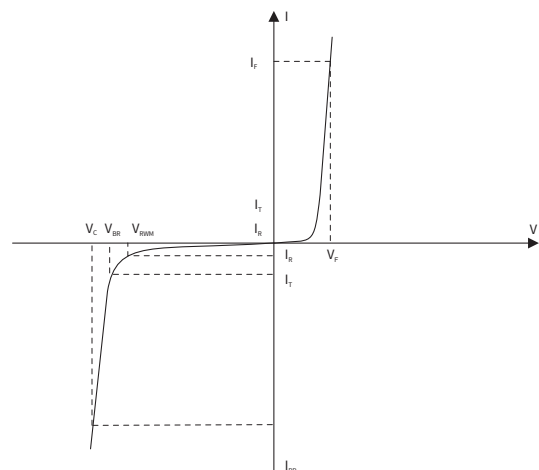


### Maximum Ratings (Ta=25°C Unless otherwise specified)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>ESD</sub>	Electrostatic Discharge Voltage	ESD per IEC 61000-4-2( Air )	$\pm 30$	KV
		ESD per IEC 61000-4-2( Contact)	$\pm 30$	KV
P <sub>PP</sub>	Peak Pulse Power	tp = 8/20 $\mu\text{s}$	1260	W
I <sub>PP</sub>	Rated Peak Pulse Current	tp = 8/20 $\mu\text{s}$	35	A
T <sub>J</sub>	Operating JunctionTemperature Range	—	-55 to +125	°C
T <sub>STG</sub>	Operating JunctionTemperature Range	—	-55 to +150	°C

### Electrical Parameter

SYMBOL	PARAMETER
V <sub>C</sub>	Clamping Voltage @ I <sub>PP</sub>
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>
I <sub>PP</sub>	Peak Pulse Current
I <sub>T</sub>	Test Current
I <sub>R</sub>	Reverse Leakage Current @ VRWM
V <sub>RWM</sub>	Peak Reverse Working Voltage
P <sub>PP</sub>	Peak Pulse Power Dissipation
C <sub>J</sub>	Junction Capacitance @ V <sub>R</sub> =0V,f=1MHz
I <sub>F</sub>	Forward Current
V <sub>F</sub>	Forward Voltage @I <sub>F</sub>



## ● Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	CONDITION	Min	Typ	Max	UNIT
Peak Reverse Working Voltage	$V_{RWM}$	$T_a=25^\circ\text{C}$	—	—	12	V
Breakdown Voltage	$V_{BR}$	$I_R=1.0\text{mA}, T_a=25^\circ\text{C}$	13.3	—	15	V
Reverse Leakage Current	$I_R$	$V_R=12\text{V}, T_a=25^\circ\text{C}$	—	—	0.2	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$	—	—	16	V
		$I_{PP}=13\text{A}, t_p=8/20\mu\text{s}$	—	—	24	
		$I_{PP}=35\text{A}, t_p=8/20\mu\text{s}$	—	—	36	
Junction Capacitance	$C_J$	$V_R=0\text{V}, f=1\text{MHz}$	—	—	85	pF

## ● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

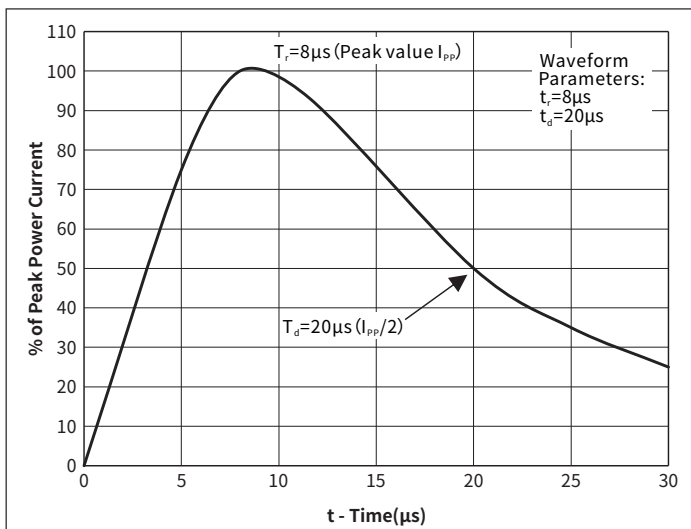


Fig.1 Pulse Waveform

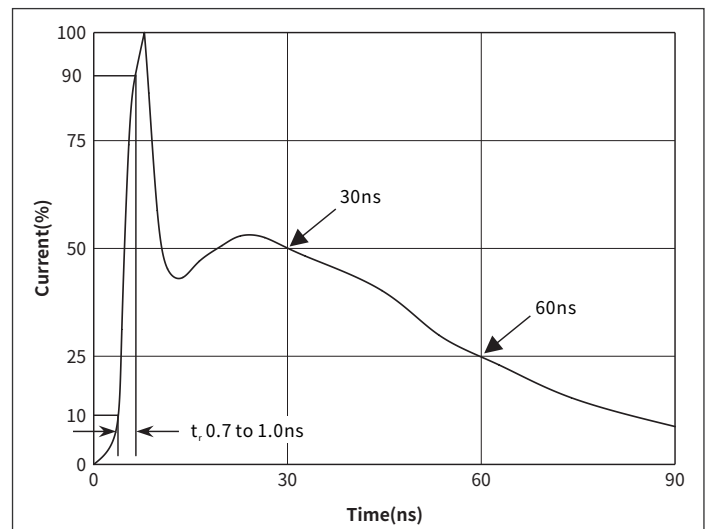


Fig.2 Pulse Waveform-ESD(IEC61000-4-2)

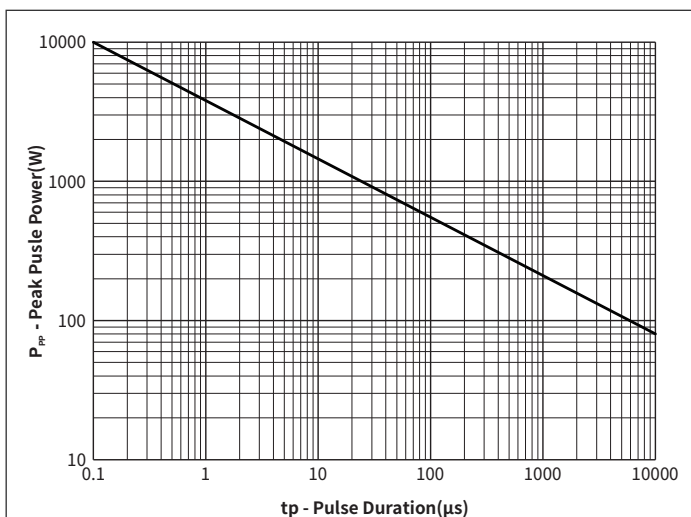


Fig.3 Peak Pulse Power vs. Pulse Time

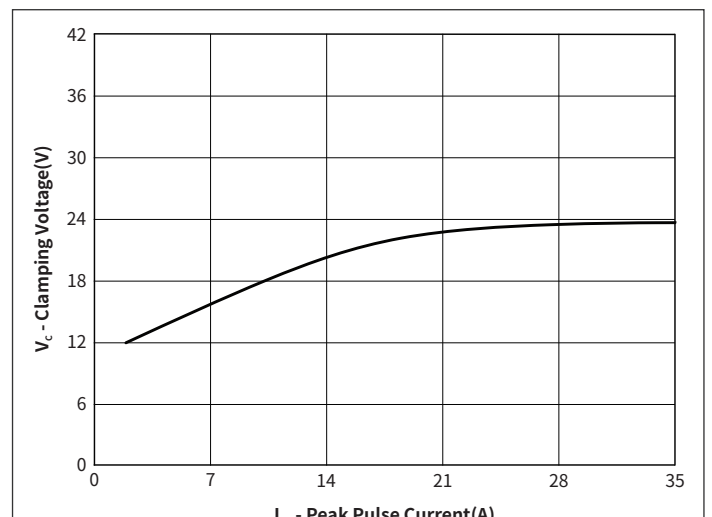


Fig.4 Clamping Voltage vs. Peak Pulse Current

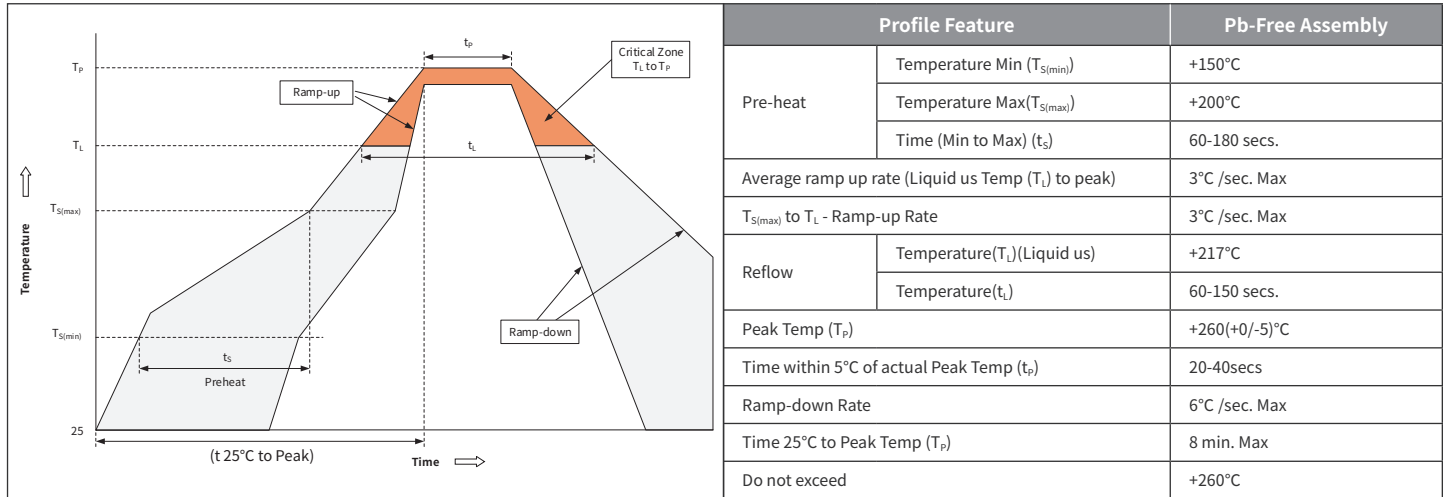
# H12VHD3U

Uni-directional 12V Normal Capacitance ESD

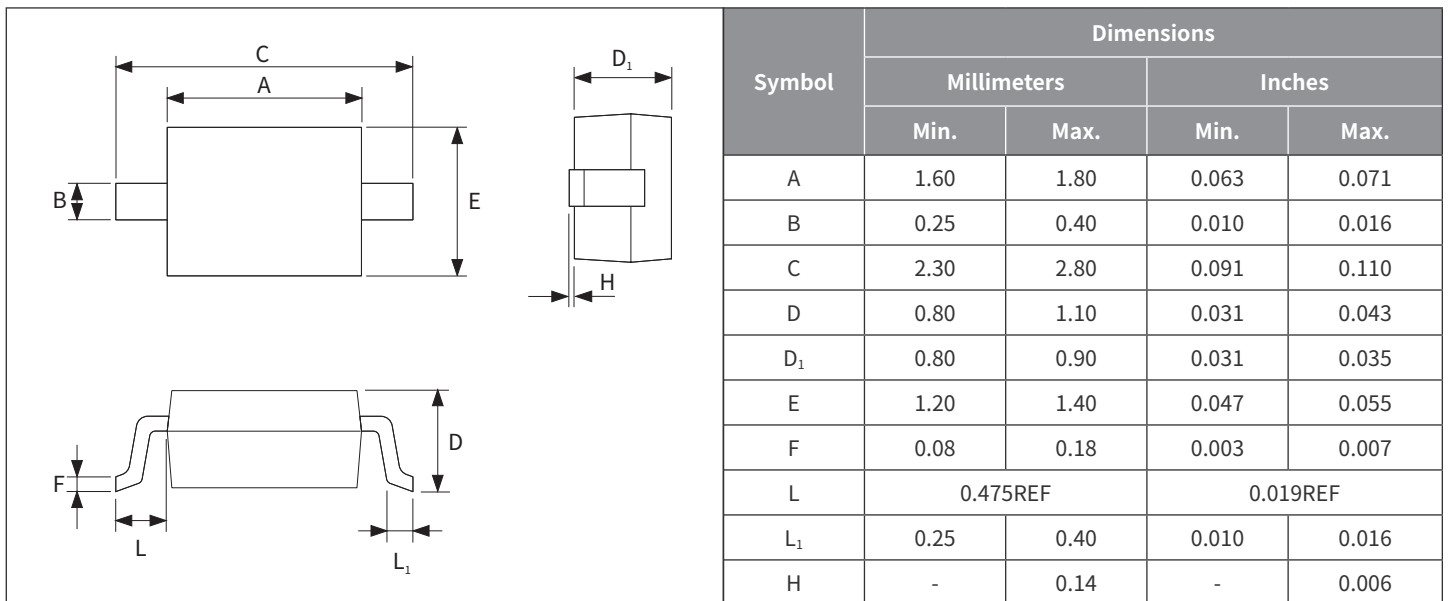
## Ordering Information

PREFERED P/N	PACKAGE	SIZE(mm)	DELIVERY MODE	MPQ(PCS)
H12VHD3U	SOD-323	2.55×1.30×0.95	7" REEL	3000

## Recommended Soldering Conditions



## Package Outline Dimensions (SOD-323)



## Suggested Pad Layout

