

## Low Capacitance TVS Diode Array

### APPLICATION



- ◆ Cell Phone Handsets and Accessories
- ◆ Microprocessor based equipment
- ◆ Personal Digital Assistants (PDA's)
- ◆ Notebooks, Desktops, and Servers
- ◆ Portable Instrumentation
- ◆ Peripherals
- ◆ USB Interface



### IEC COMPATIBILITY

Package: SOD-323

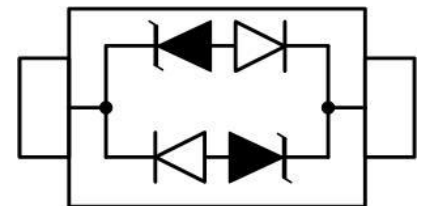
- ◆ IEC61000-4-2 (ESD)  $\pm 15\text{kV}$  (air),  $\pm 8\text{kV}$  (contact)



Contact:  $\pm 8\text{kV}$  Air:  $\pm 15\text{kV}$

### FEATURES

- ◆ 350 Watts Peak Pulse Power per Line ( $t_p=8/20\mu\text{s}$ )
- ◆ Protects one I/O line (bidirectional)
- ◆ Low clamping voltage
- ◆ Working voltages: 3.3V, 5V, 8V, 12V, 15V, 24V
- ◆ Low leakage current



PIN CONFIGURATION

### MECHANICAL CHARACTERISTICS

- ◆ JEDEC SOD-323 Package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Weight 5 Milligrams (Approximate)
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Reel Size : 7 inch
- ◆ Lead Finish : Lead Free

**Electrical Characteristics**

MAXIMUM RATINGS @ 25°C UNLESS OTHERWISE SPECIFIED			
PARAMETER	SYMBOL	VALUE	UNIT
Peak Pulse Power (tp=8/20μs waveform)	P <sub>PP</sub>	350	Watts
Lead Soldering Temperature	T <sub>L</sub>	260(10 sec.)	°C
Operating Temperature Range	T <sub>J</sub>	-55~150	°C
Storage Temperature Range	T <sub>STG</sub>	-55~150	°C

Part Number	VRWM	VBR	IR (max)	Co Max value	V <sub>c</sub> @1A Max	V <sub>c</sub>		P <sub>pp</sub> 8/20us	Package
	V	V	(uA)	pF	V	V <sub>max</sub>	@A	W	
HAH3301D3	3.3	4.0	20.0	1.0	5.15	13.9	8	350	SOD-323
HAH0501D3	5.0	6.0	5.0	1.0	9.80	18.3	8	350	SOD-323
HAH0801D3	8.0	8.5	2.0	1.0	13.40	18.5	8	350	SOD-323
HAH1201D3	12.0	13.3	1.0	1.0	19.00	28.6	6	350	SOD-323
HAH1501D3	15.0	16.7	1.0	1.0	24.00	31.8	5	350	SOD-323
HAH2401D3	24.0	26.7	1.0	1.0	43.00	56.0	3	350	SOD-323

# Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

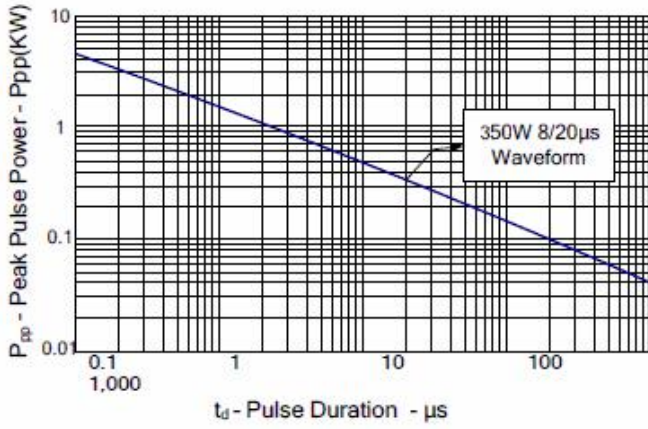


Figure 2: Power Derating Curve

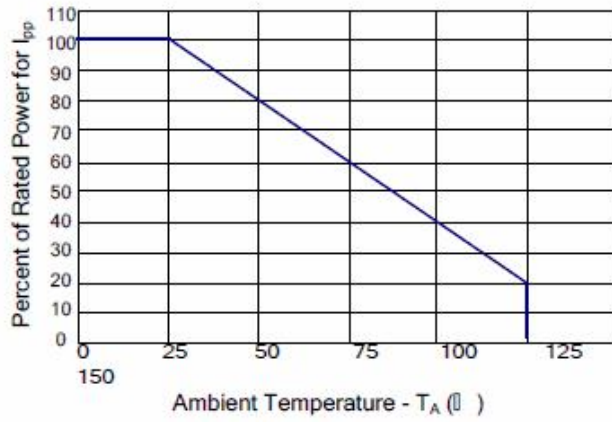


Figure 3: Clamping Voltage vs. Peak Pulse Current

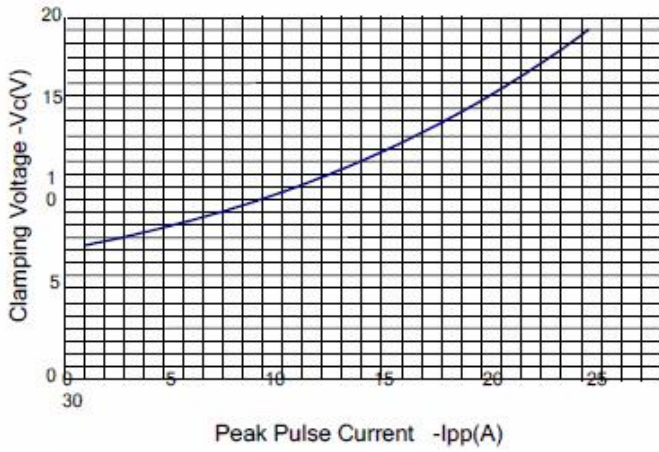


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

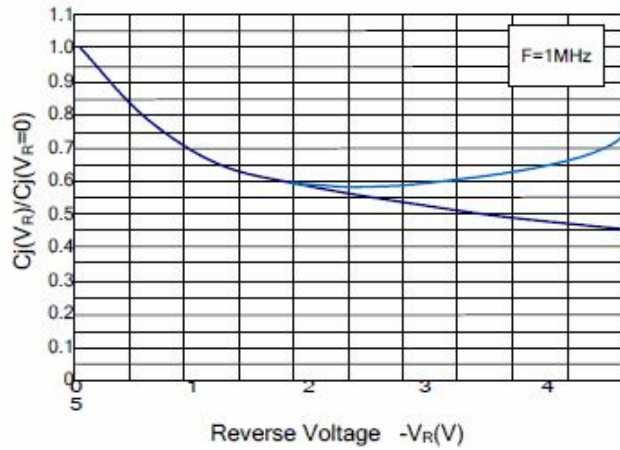


Figure 5: Pulse Waveform

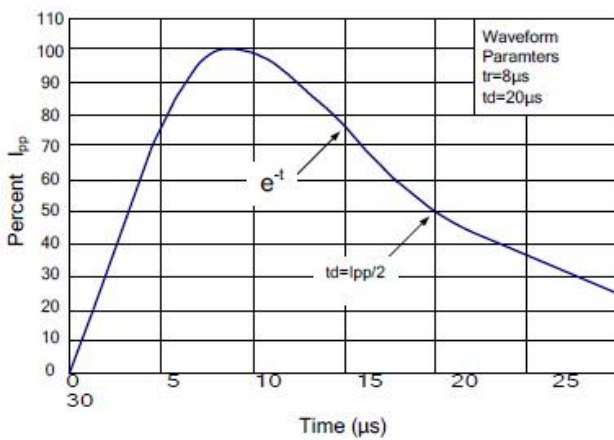
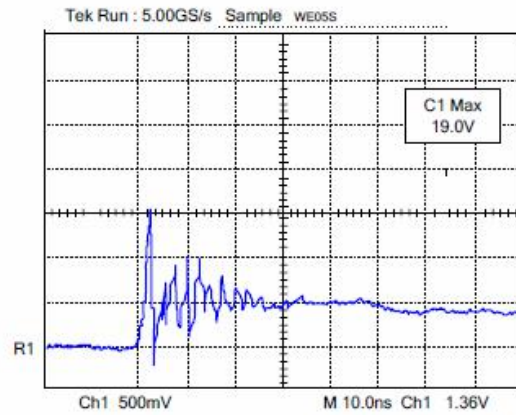

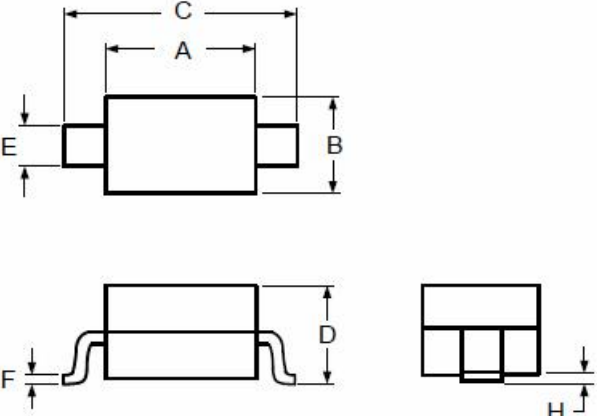
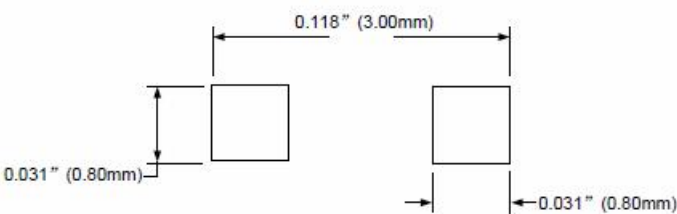


Figure 6: ESD Clamping( 8kV Contact per IEC 61000-4-2)



Dimensions - SOD-323

PACKAGE OUTLINE		 SOD-323			
		DIMENSIONS			
SYMBOL	MILLIMETER		INCHES		
	MIN	MAX	MIN	MAX	
A	1.60	1.90	0.063	0.075	
B	1.15	1.45	0.045	0.057	
C	2.39	2.70	0.094	0.106	
D	0.92	1.10	0.036	0.043	
E	0.25	0.40	0.010	0.016	
F	0.10	0.20	0.004	0.008	
H	-	0.10	-	0.004	
MOUNTING PAD		<b>Notes</b> 1. Controlling Dimensions in Millimeters. 2. Dimensions are exclusive of mold flash and metal burrs.  <b>TAPE &amp; REEL ORDERING NOMENCLATURE</b> 1. Surface mount product is taped and reeled in accordance with EIA-481.			
					

Ordering Information

Part Number	Qty per Reel	Reel Size
<a href="#">HAH3301D3</a>	3000pcs	7inch
<a href="#">HAH0501D3</a>	3000pcs	7inch
<a href="#">HAH0801D3</a>	3000pcs	7inch
<a href="#">HAH1201D3</a>	3000pcs	7inch
<a href="#">HAH1501D3</a>	3000pcs	7inch
<a href="#">HAH2401D3</a>	3000pcs	7inch