



## Features

- Small Body Outline Dimensions:  
0.063" x 0.032" (1.6x0.8 mm)
- Low Body Height: 0.024" (0.6 mm) nom
- Bidirectional ESD protection of one I/O line
- Ultra low capacitance: typically 0.5pF
- Low clamping voltage
- Working voltage: 5V
- Low leakage current
- Solid-state silicon-avalanche technology



## IEC Compatibility (EN61000-4)

- IEC 61000-4-2 (ESD)  $\pm 15\text{kV}$  (air),  $\pm 8\text{kV}$  (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)

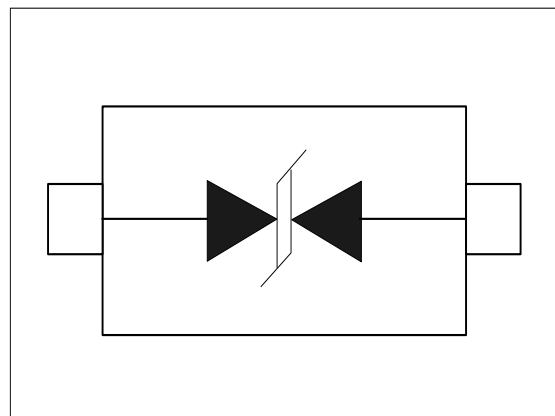
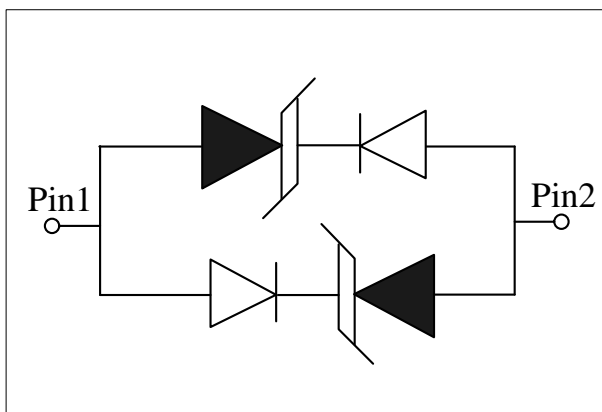
## Mechanical Characteristics

- JEDEC SOD-523 package
- Molding compound flammability rating:  
UL 94V-0
- Marking : Marking Code
- Packaging : Tape and Reel per EIA 481
- RoHS Compliant

## Applications

- Cellular Handsets & Accessories
- Personal Digital Assistants (PDAs)
- Notebooks & Handhelds
- Portable Instrumentation
- Digital Cameras
- MP3 players

## Schematic & PIN Configuration

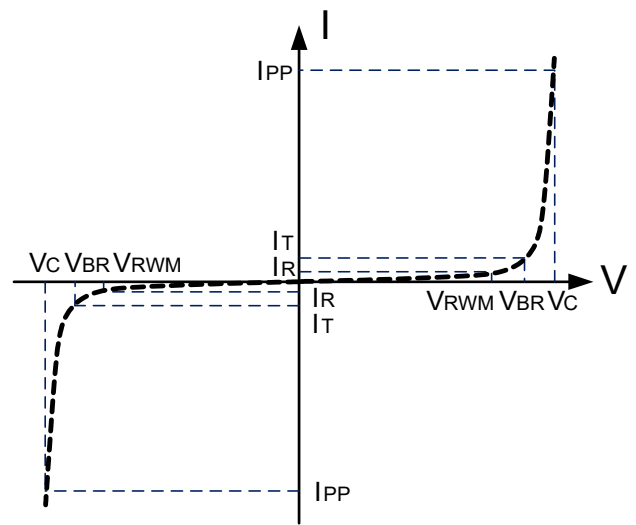


## Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu s$ )	$P_{PP}$	50	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	+/- 15 +/- 8	kV
Operating Temperature	$T_J$	-55 to + 125	°C
Storage Temperature	$T_{STG}$	-55 to +150	°C

## Electrical Parameters (T=25°C)

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



## Electrical Characteristics

DW05D5UC-B-E						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	$V_{RWM}$				5.0	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	6.0			V
Reverse Leakage Current	$I_R$	$V_{RWM}=5V, T=25°C$			1	$\mu A$
Junction Capacitance	$C_j$	$V_R=0V, f=1MHz$		0.5	0.9	pF

**Note1:** ESD Pulse Waveform according to IEC 61000-4-2. see Table1 and Figure4.

**Note2:** ESD tests Setup see Figure 5.



Typical Characteristics

Figure 1: Power Derating Curve

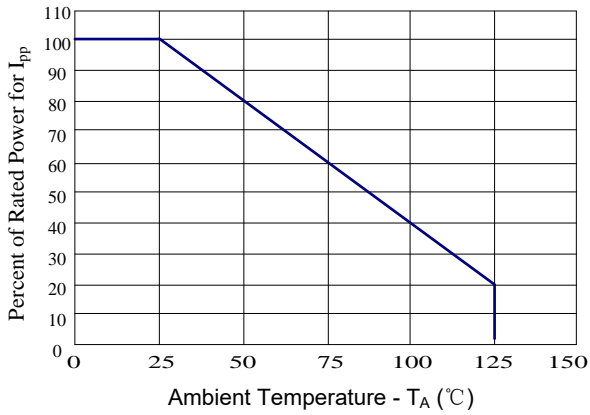


Figure 2: Insertion Loss



Figure 3: Normalized Junction Capacitance vs. Reverse Voltage

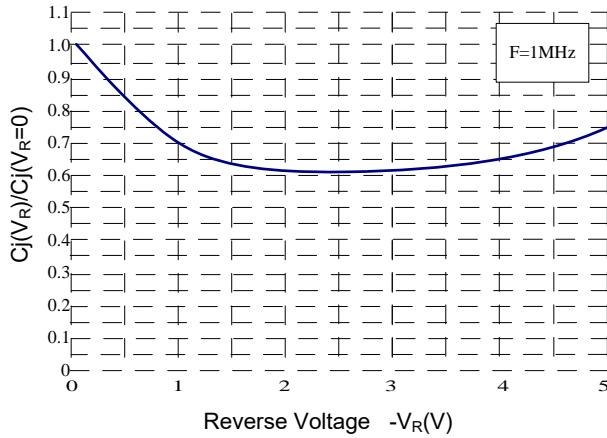


Table 1. IEC 61000-4-2 Discharge Parameters

Level	First Peak Current (A)	Peak Current at 30 ns (A)	Peak Current at 60 ns (A)	Test Voltage (Contact Discharge) (kV)	Test Voltage (Air Discharge) (kV)
1	7.5	4	2	2	2
2	15	8	4	4	4
3	22.5	12	6	6	8
4	30	16	8	8	15

Figure 4. IEC 61000-4-2 Waveform

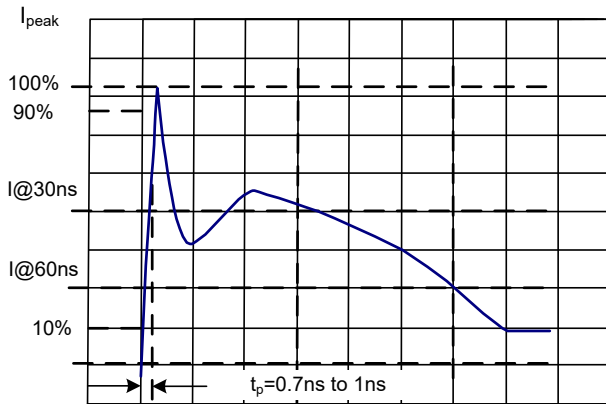
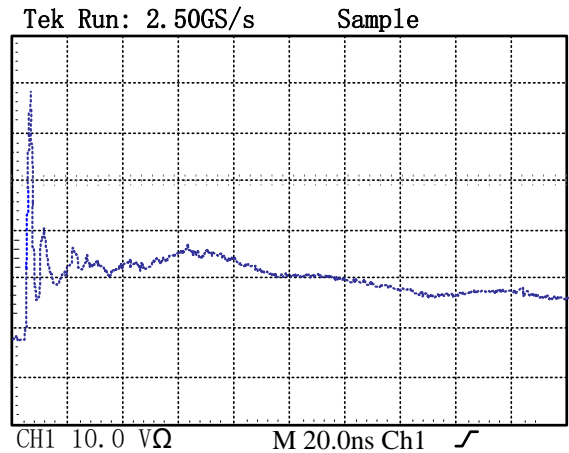
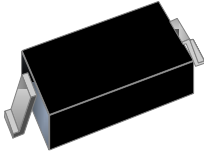
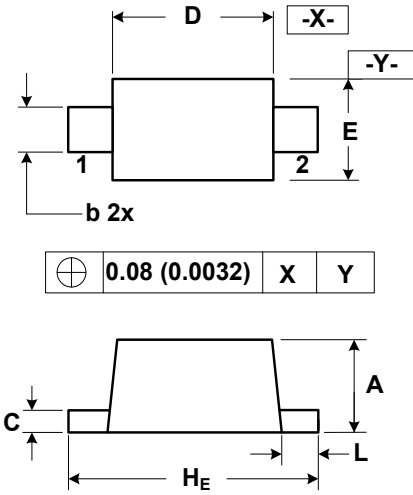
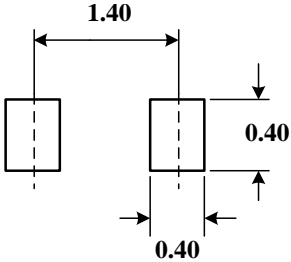


Figure 5: ESD Clamping( 8kV Contact per IEC 61000-4-2)





## Outline Drawing – SOD-523

PACKAGE OUTLINE		 <b>SOD-523</b>			
		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	
H <sub>E</sub>	1.50	1.70	0.059	0.067	
L	0.15	0.25	0.006	0.010	
		<b>Notes</b> 1. Controlling Dimensions in Millimeters. 2. Dimensions are exclusive of mold flash and metal burrs.			
DIMENSIONS: MILLIMETERS					

## Marking Codes

Part Number	DW05D5UC-B-E
Marking Code	5S

## Package Information

Qty: 5k/Reel