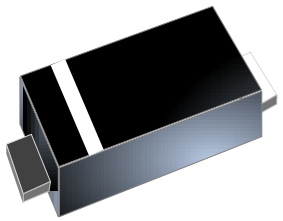
MSKSEMI
SEMICONDUCTOR

WE05D5UC

Transient Voltage Suppressor

Features

- 150 Watts Peak Pulse Power per Line (t_p = 8/20μs)
- Replacement for MLV (0603)
- Protects one I/O or power line
- Low Clamping Voltage
- Ultra Low Capacitance:0.5pF
- Working Voltage: 5 V
- Low Leakage Current
- Response Time is Typically < 1 ns



SOD-523

IEC COMPATIBILITY (EN61000-4)

- **IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact)**
- **IEC 61000-4-4 (EFT) 40A (5/50ns)**

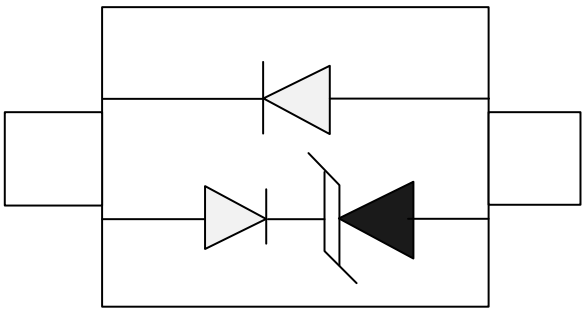
Mechanical Characteristics

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

Applications

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

Schematic & PIN Configuration

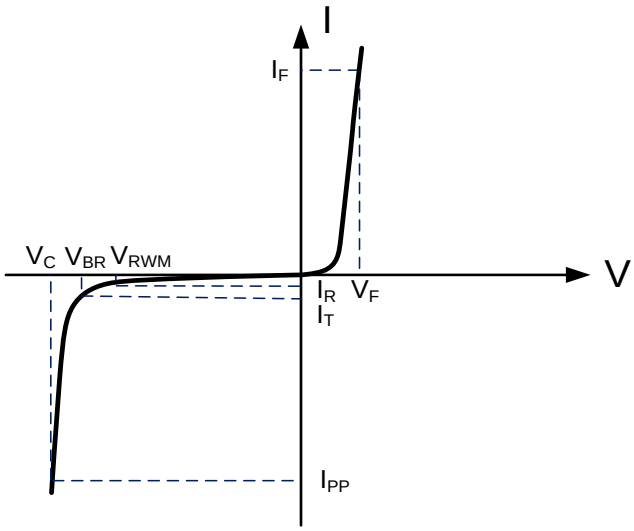


SOD-523 (Top View)

Absolute Maximum Rating			
Rating	**Symbol**	**Value**	**Units**
Peak Pulse Power（t_p =8/20μs）	P_{PP}	150	Watts
Peak Forward Voltage (I_F = 1A, t_p=8/20μs)	V_{FP}	1.4	V
Operating Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Parameters (T=25℃)

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



Electrical Characteristics

WE05D5UC						
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	μA
Peak Pulse Current	I_{PP}	t_p =8/20μs			2	A
Clamping Voltage	V_C	I_{PP}=1A, t_p=8/20μs		8.5	12.5	V
Junction Capacitance	C_j	V_R = 0V, f= 1MHz		0.5	0.8	pF

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

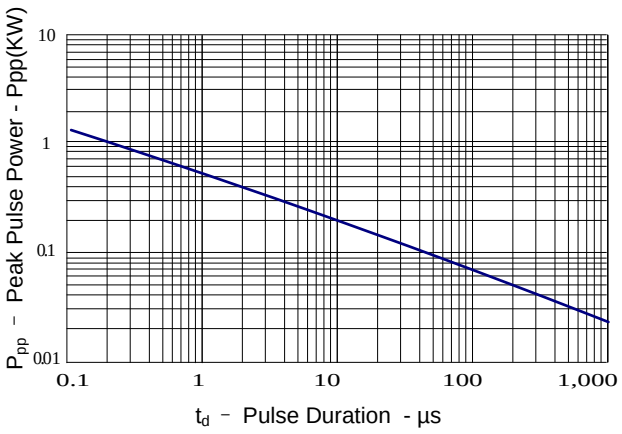


Figure 2: Power Derating Curve

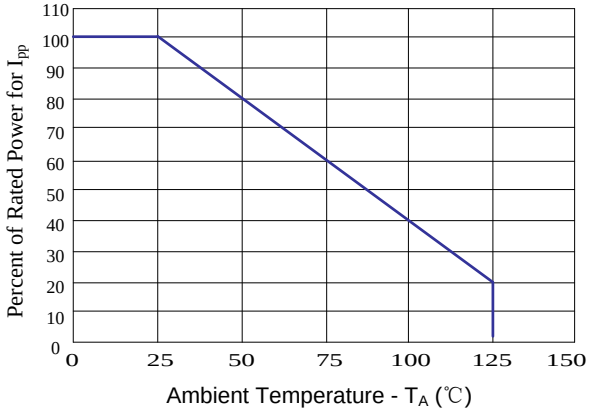


Figure 3: Insertion Loss

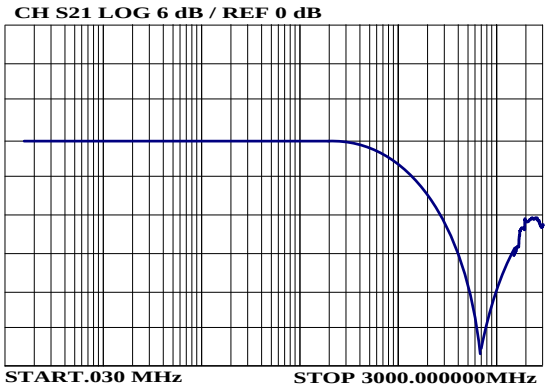


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

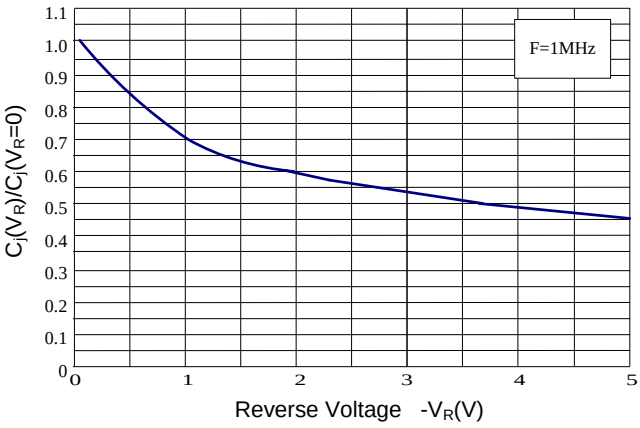
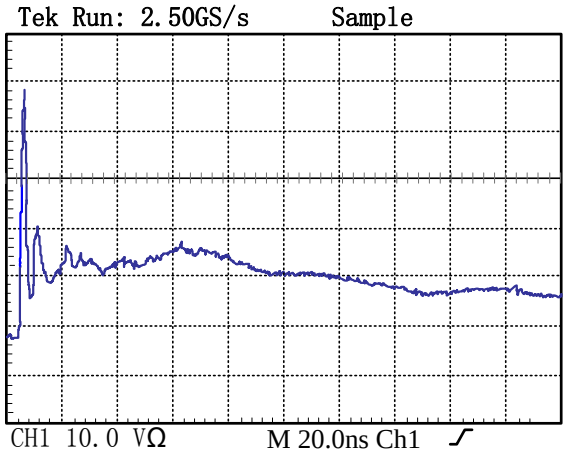
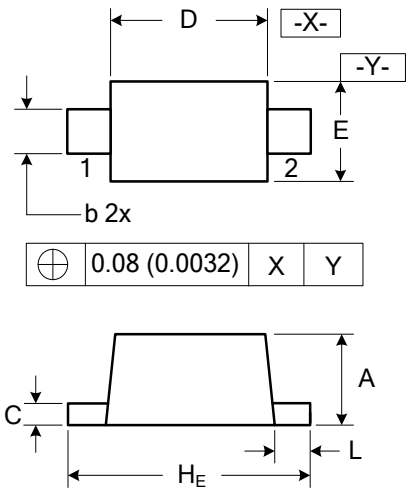


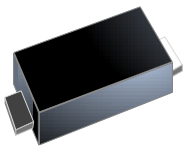
Figure 5: ESD Clamping(8kV Contact per IEC 61000-4-2)



Outline Drawing – SOD-523

PACKAGE OUTLINE

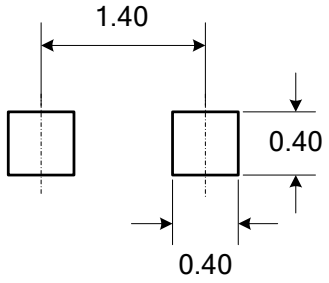




SOD-523

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_E	1.50	1.70	0.059	0.067
L	0.15	0.25	0.006	0.010

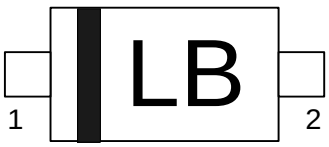


DIMENSIONS: MILLIMETERS

Notes

1. Controlling Dimensions in Millimeters.
2. Dimensions are exclusive of mold flash and metal burrs.

Marking Codes



Pin Style: 1.Cathode 2.Anode