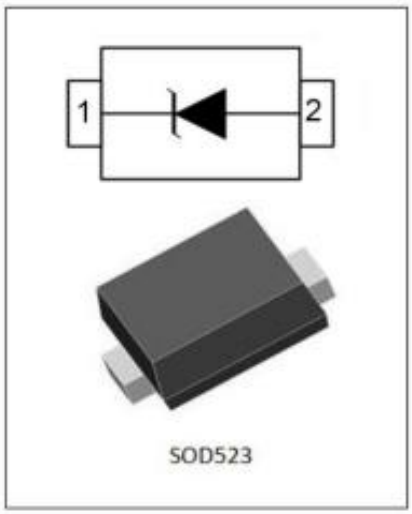
CAN CIRCLE SEMI

CSE5.0ULS523

Transient Voltage Suppressor

Features

- 150 Watts Peak Pulse Power per Line (tp= 8/20μs)
- Low Clamping Voltage
- Ultra Low Capacitance:0.5pF
- Working Voltage: 5 V
- Low Leakage Current
- Response Time is Typically < 1 ns



IEC COMPATIBILITY (EN61000-4)

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

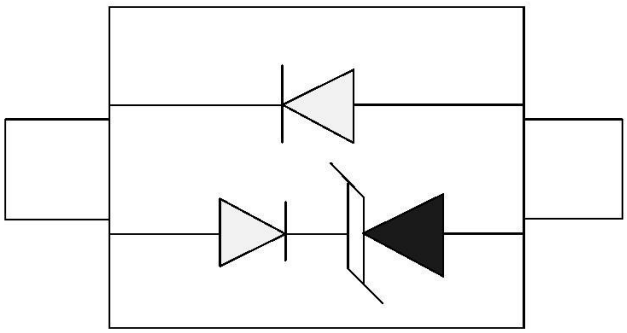
Mechanical Characteristics

- SOD523 package (0603 size)
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS/WEEE Compliant

Applications

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

Schematic & PIN Configuration

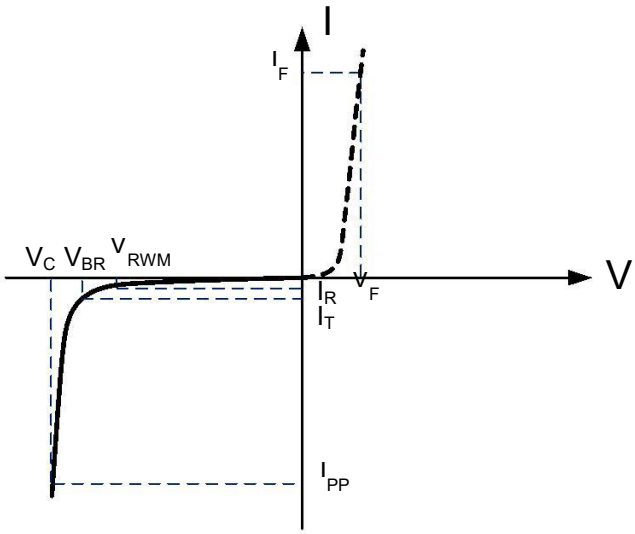


SOD-523

solute 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	℃
Storage Temperature	T_{STG}	-55 to +150	℃

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

CSE5.0ULS523						
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℃			1	μA
Peak Pulse Current	I_{PP}	tp=8/20μs			2	A
Clamping Voltage	V_C	I_{PP}=1A, t_p=8/20μs		8.5	12.5	V
Junction Capacitance	C_j	VR= 0V, f= 1MHz		0.5		pF

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

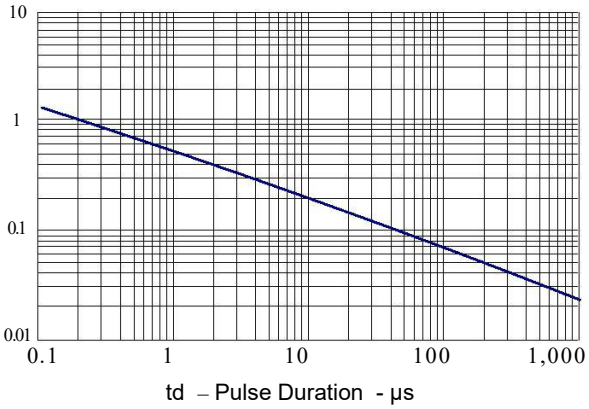


Figure 2: Power Derating Curve

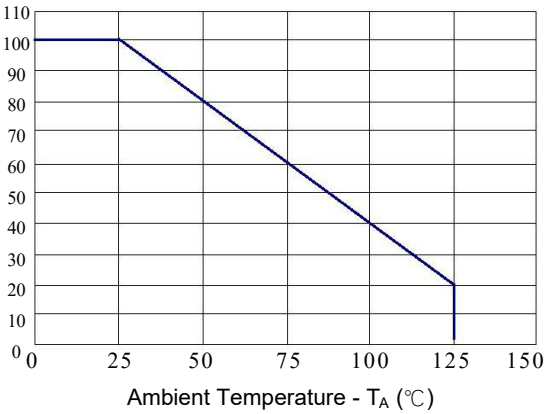


Figure 3: Insertion Loss

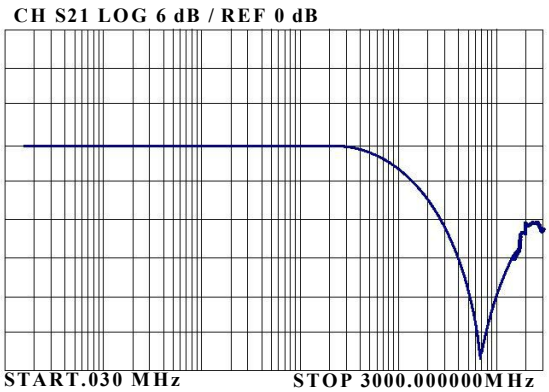


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

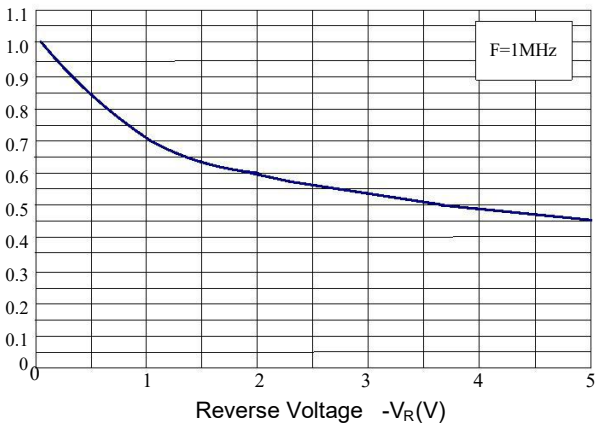
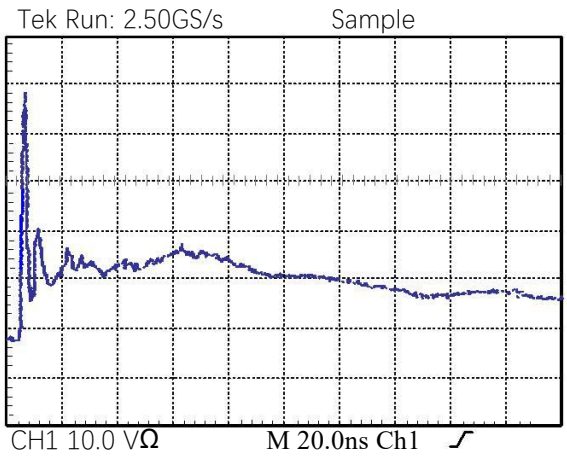
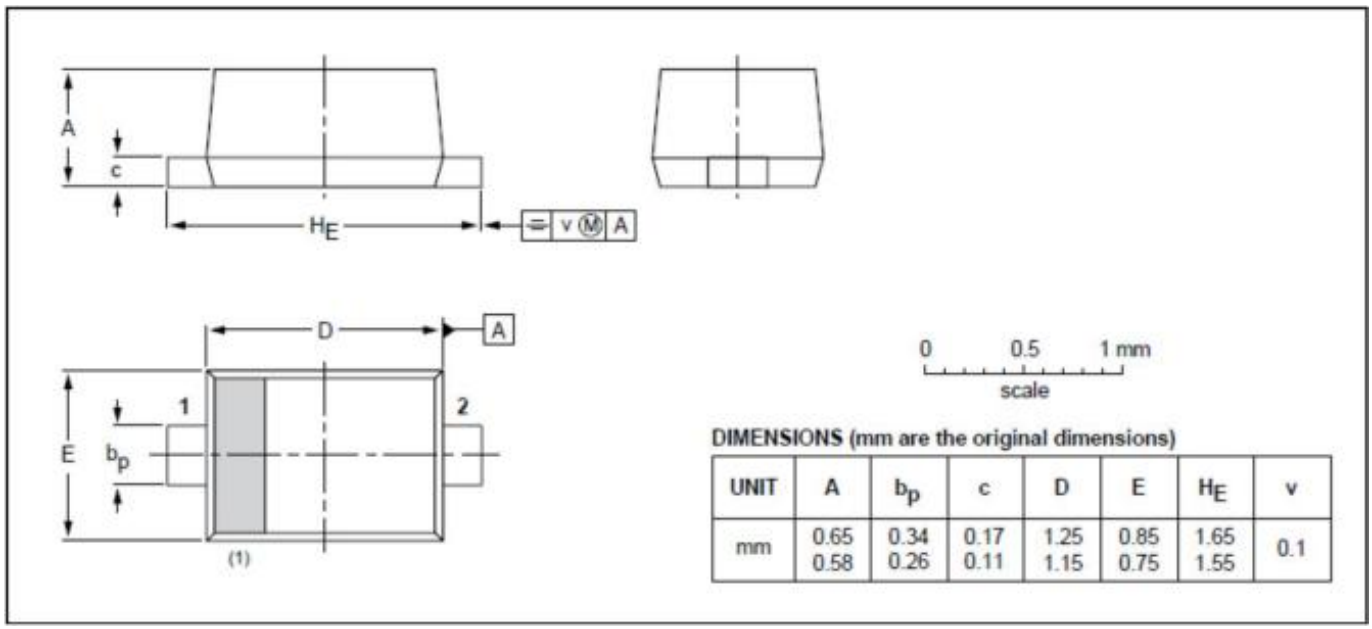


Figure 5: ESD Clamping(8kV Contact per IEC 61000-4-2)



Package Outline

Plastic surface mounted package SOD523



DIMENSIONS (mm are the original dimensions)

UNIT	A	b_p	c	D	E	H_E	v
mm	0.65 0.58	0.34 0.26	0.17 0.11	1.25 1.15	0.85 0.75	1.65 1.55	0.1

Package And Marking Information

Device	Package	Shipping	Reel Size
CSE5.0ULS523	SOD523	3000/Reel	7 inch

Notice

Specifications of the products displayed herein are subject to change without notice. CCS or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in CCS terms and conditions of sale for such products, CCS assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of CCS products including liability or warranties relating to fitness for a particular purpose, merchant ability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications.

Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify CCS for any damages resulting from such improper use or sale.