



DW03D5LC-E ESD Protection Diode

Feature

- Uni-directional ESD protection of one line
- 60Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 3.3V
- Junction Capacitance: 0.4pF(Typ)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 $\pm 8kV$ contact $\pm 15kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 4A (8/20 μs)

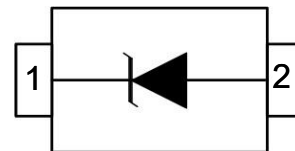
Application

- Serial ATA
- Desktops, Servers and Notebooks
- Cellular Phones
- MDDI Ports
- USB2.0 Power and Data Line Protection
- Display Ports
- Digital Visual Interfaces (DVI)

Mechanical Data

- Package: SOD-523
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	QTY per Reel	Reel Size
DW03D5LC-E	SOD-523	3L	3000 pcs	7 inches



Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P_{PK}	60	W
Peak Pulse Current (8/20 μs)	I_{PP}	4	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 15 ± 8	kV
Operating Temperature Range	T_{opt}	-55 to $+125$	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 to $+150$	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				3.3	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	4.2			V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3\text{V}$			100	nA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse)			10	V
Clamping Voltage	V_C	$I_{PP} = 4\text{A}$ (8 x 20 μs pulse)			15	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		0.4	0.7	pF



Typical Characteristics

Fig 1 Power Derating Curve

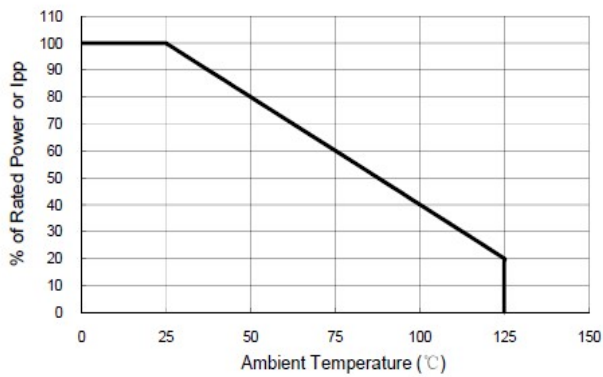


Fig 2 Clamping Voltage vs Peak Pulse Current

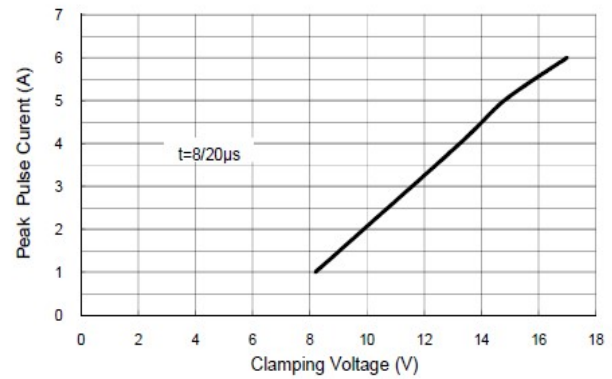


Fig 3 Voltage Sweeping

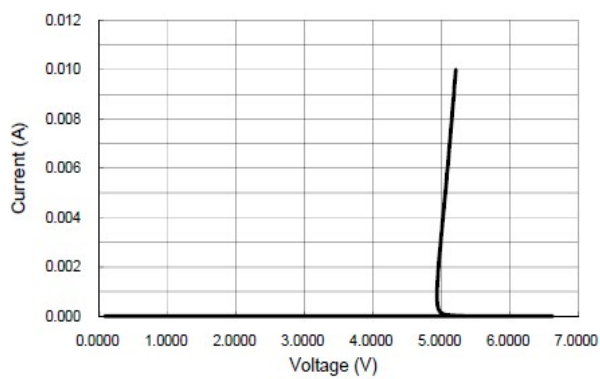


Fig 4 Voltage vs Capacitance

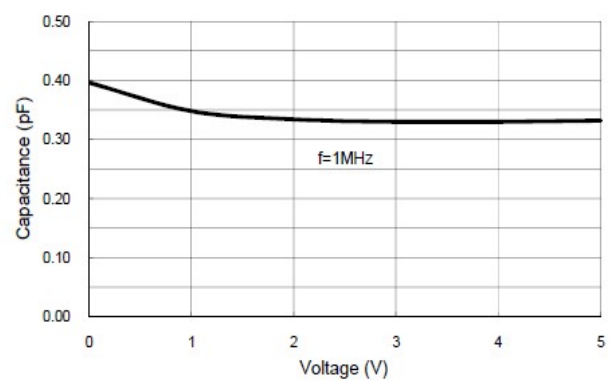


Fig 5 ESD Clamping
(+8kV Contact per IEC 61000-4-2)

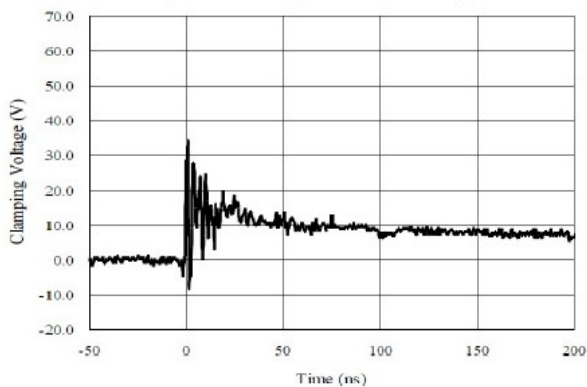
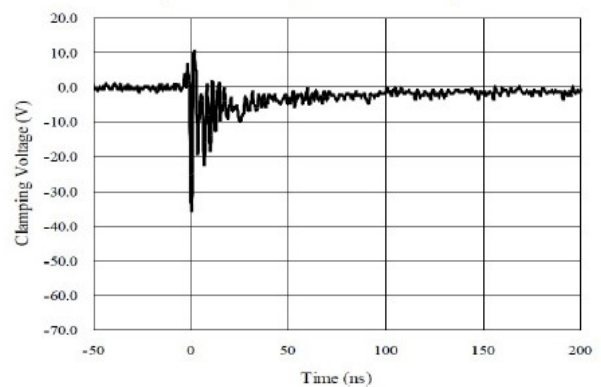
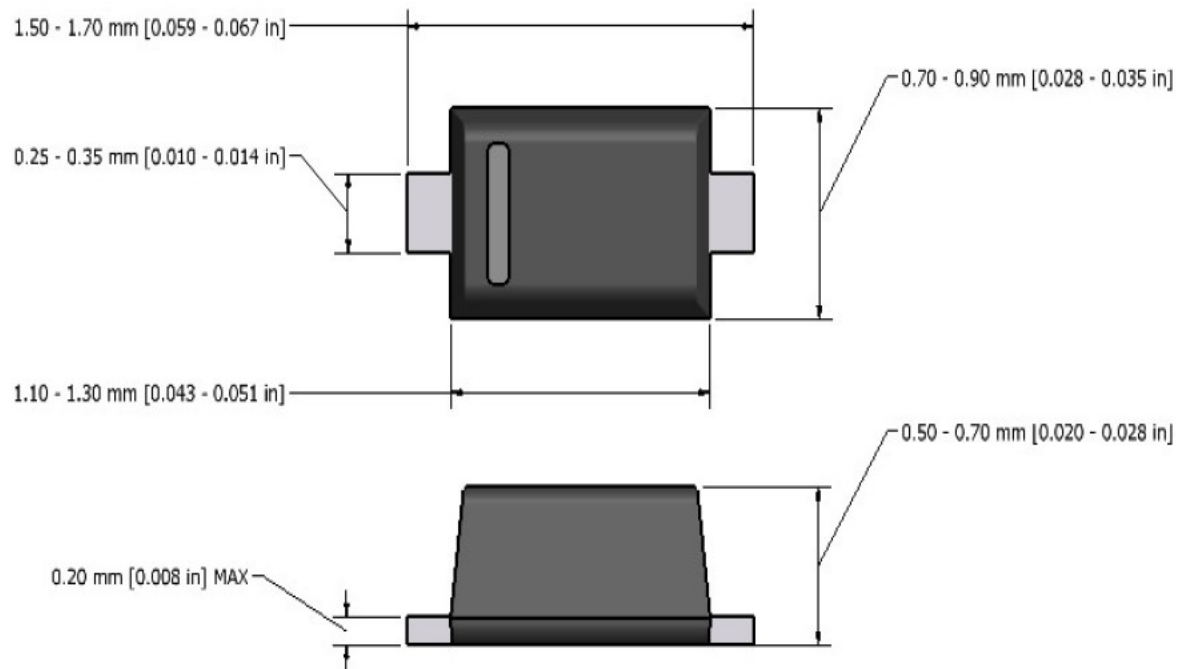


Fig 6 ESD Clamping
(-8kV Contact per IEC 61000-4-2)





SOD-523 Outline Drawing



Note: Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.